7/1/02

AT: JS Quest

Change Mgt. Process

Response Brief

Workshop

07/01/02 - Midcontinent's Post Hearing Brief;
07/01/02 - AT&T's Brief Regarding Public Interest;
07/01/02 - AT&T's Brief Regarding Qwest's Change Management Process;
07/01/02 - Response Brief of AT&T Regarding Paper Workshop Issues;
07/01/02 - AT&T's Responsive Post-Hearing Brief to Qwest's Post-Hearing Brief in Support of the QPAP and Request for Additional Supplementation of the Record;
07/01/02 - AT&T's Response to Qwest's Opening Post-Hearing Brief on Emerging Services;
07/01/02 - AT&T's Brief Regarding Qwest's Interconnection Obligations;
07/01/02 - AT&T's Brief on Checklist Items 2, 5 and 6 and Section 272 Compliance;
07/01/02 - Response Brief of AT&T Regarding Checklist Item 4 - Unbundled Loops and Checklist Item 11 - Local Number Portability;
07/02/02 - Intervenor Black Hills FiberCom's Response to Qwest's Post-Hearing Brief;
07/03/02 - AT&T's Comments on the ROC OSS Final Report;
07/03/02 - Qwest's Verified Comments;
07/03/02 - Request for Confidential Treatment;
07/03/02 - Staff's Comments;
07/10/02 - Midcontinent's Joinder in Staff's Position on Public Interest;
07/15/02 - Transcript of Hearing held 7/11/02;
07/17/02 - Qwest's Overview Reply Brief;
07/17/02 - Qwest's Post-Hearing Reply Brief on Compliance with the 14-Point Competitive Checklist;
07/17/02 - Qwest's Reply Brief in Support of the QPAP;
07/17/02 - Qwest's Post-Hearing Reply Brief on General Terms and Conditions, Section 272, and Track A;
07/17/02 - Qwest's Post-Hearing Reply Brief on the Public Interest;
07/17/02 - Qwest's Post-Hearing Reply Brief Regarding Change Management;
07/17/02 - Qwest's Exhibit 92;
07/17/02 - Qwest's Exhibit 93;
07/17/02 - Certificate of Service;
07/22/02 - Motion for Withdrawal of Counsel (Gregory J. Bernard);
07/22/02 - Request for Confidential Treatment of Information;
08/12/02 - Qwest Performance Results - Regional and South Dakota - July 2001 - June 2002;
09/19/02 - Procedural History; Order Regarding Checklist Items 3, 7, 8, 9, 10 and 12;
09/19/02 - Order Regarding Checklist Items 1, 11, 13 and 14;
09/25/02 - Qwest's Notice of Updated Statement of Generally Available Terms and Conditions;
09/27/02 - AT&T's Motion to Reopen and Supplement the Record;
09/30/02 - Qwest's Request for Acceptance of PO-20 for Inclusion in the QPAP;
09/30/02 - Memorandum in Support of Qwest's Request for Acceptance of PO-20 for Inclusion in the QPAP;
10/07/02 - Certificate of Service;
10/10/02 - AT&T and WorldCom's Comments on Qwest's Proposed PO-20 Measurement;
10/10/02 - Opposition of Qwest to AT&T's Motion to Reopen and Supplement the Record;
10/16/02 - AT&T's Notice of Supplemental Authority Regarding PO-20;
10/24/02 - Notice of Supplemental Authority Denying AT&T's Motion to Reopen the Record;
10/25/02 - Notice of Supplemental Authority Denying AT&T's Motion to Reopen the Record;
11/12/02 - Order Regarding General Terms and Conditions and Track A;
11/12/02 - Order Regarding Checklist Items 2, 4, 5, and 6;
11/18/02 - Qwest's Notice of Updated Statement of Generally Available Terms

RECEIVED

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

IN THE MATTER OF THE PETITION	
FOR ARBITRATION OF	
INTERCONNECTION AGREEMENTS	Docket No. TC01-165
BETWEEN QWEST CORPORATION	
AND THE TELECOMMUNICATIONS ACT	
OF 1996	

AT&T'S BRIEF REGARDING QWEST'S CHANGE MANAGEMENT PROCESS

AT&T Communications of the Midwest, Inc. ("AT&T") hereby submits this Brief regarding Qwest Corporation's ("Qwest") change management process ("CMP").

I. INTRODUCTION

According to the Federal Communications Commission ("FCC"), the change management process refers to the methods and procedures that the Regional Bell Operating Company ("RBOC") employs to communicate with competing carriers regarding the performance of, and changes to, the RBOC's Operational Support Systems ("OSS").[1] The FCC has established four criteria for evaluating whether an RBOC's change management process is adequate for § 271 approval:

> (1) that information relating to the change management process is clearly organized and readily accessible to competing carriers; (2) that competing carriers had adequate input in the design and continued operation of the change management process; (3) that the change management plan defines a procedure for the timely resolution of change management disputes; (4) the availability of a stable testing environment that mirrors production;

[1] *See, e.g.*, Memorandum Opinion and Order, *Application of Verizon Pennsylvania Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc. for Authorization To Provide In-Region, InterLATA Services in Pennsylvania*, Memorandum Opinion and Order, CC Docket No. 01-138, FCC 01-269 (released Sept. 19, 2001) at ¶ 69 (hereinafter "*Verizon PA 271 Order*").

[redacted] [redacted] [redacted] [

In an effort to remedy this problem, Qwest requested that the CLECs agree to take the CICMP temporarily out of the § 271 workshop investigations and place CICMP in the change management process itself for "redesign" by Qwest and the CLECs outside the regulatory arena.[6] One important goal of the redesign process was to create an initial change management process document that describes how Qwest would administer changes to its OSS, products and processes and how Qwest would communicate those changes to CLECs. Qwest held is first CLEC/Qwest redesign meeting in mid-July of 2001.

Since its commencement in July of 2001, Qwest and CLECs have met roughly four full days each month to negotiate processes and language to reflect those processes for a redesigned Qwest CMP. The group started with the draft CMP document prepared by the Ordering and Billing Forum (OBF Issue 2233, Version 2). The CLECs and Qwest have used that document as a starting point for negotiations, but have made changes based on the discussions in redesign. The CMP redesign group refers to this draft as the "Master Red-Lined CLEC-Qwest CMP Re-Design Framework Interim Draft" (hereafter referred to as the "CMP Master Redline").[7] In the course of these discussions, Qwest and the CLECs maintained a running log of issues to address during the course of CMP Redesign.

The deficiencies in Qwest's newly redesigned CMP fall into two categories: (1) Qwest has not demonstrated a pattern of compliance or adherence to its CMP over time (this is necessarily so because the CMP Master Redline is not complete and ROC

[6] See e.g., 6/28/01 Multi-State Tr. at 6.
[7] The Master Red-Lined Agreement, dated June 18, 2002 is attached as.

exceptions have been closed unresolved or inconclusive); and (2) Qwest does not provide a stable testing environment that mirrors production.

A. Qwest Must Supply Objective Evidence that Qwest has Actually Implemented and Adhered to the Redesigned Process over Time.

"After determining whether the [RBOC's] change management plan is adequate, [the FCC] evaluate[s] whether the [RBOC] has demonstrated a pattern of compliance with this plan."[8]

While proof of complete compliance with every detail of the redesigned process is preferable, AT&T has never asked that Qwest provide such proof. Rather, AT&T is asking that the Commission ensure that Qwest is complying with all of the "core" requirements contained in the redesigned CMP, once the redesign is complete. Anything less would be unfair to the CLEC community that has not only given Qwest innumerable hours on a regular basis working on this process, but also deserves Commission support in demanding that Qwest actually does what it has promised to do, before it obtains the § 271 rewards.

B. Evidence of Actual Adherence Requires that Qwest Address and Adequately Resolve all Outstanding Exceptions and Observations of the Third Party Tester Before Commissions can Find Compliance. In addition, Qwest must be found to "Satisfy" the Evaluation Criteria for CMP in the ROC Test.

Throughout its review of the CMP, KPMG, the third party tester for the Regional Oversight Committee ("ROC") issued what are called "Exceptions" and "Observations" on various components of the ROC Test, including CMP. The CMP exceptions and observations serve as notice to Qwest of the various deficiencies and concerns the tester has in regard to Qwest's CMP. At the end of the ROC Test, three CMP Exceptions were

[8] *SWBT Texas 271 Order* at ¶ 108 (judging adherence over time); *BANY 271 New York Order* at ¶ 113 (judging adherence over time); *Verizon Mass. 271 Order* at ¶ 105 (judging adherence over time).

closed as unresolved or unresolved. In the Qwest Communications OSS Evaluation Final Report Version 2.0, Submitted May 28, 2002 (the "Final Report"), KPMG was unable to determine" seven out of the eighteen CMP evaluation criteria.[9] These findings directly relate to AT&T's concern that Qwest has not demonstrated adherence to the redesigned CMP over a period of time and that Qwest's request to have Commissions review its CMP is premature.

The three CMP Exceptions from the ROC Test referenced above are 3094, 3110 and 3111, which are discussed below in turn.

1. Exception 3094 Describing Lack of Adherence to CMP Remains Unresolved[10]

Exception 3094 stated that, "Qwest did not adhere to its established change management process for notifying CLECs about a proposed process change, and allowing input from all interested parties." After initial testing and then retesting, KPMG recommended on May 21, 2002, that this Exception be closed unresolved and stated supporting reasons:

> The procedures for Qwest-initiated Product/Process changes underwent considerable revision in April 2002. Since the inception of the interim process on April 1, 2002, Qwest and CLECs changed the number of Qwest-initiated Product/Process change categories from four to five, and revised the criteria for categorizing such changes within defined levels. Qwest documented the revised process in the *Master Redlined CLEC-Qwest CMP Redesign Framework* document.
>
> KPMG Consulting confirmed that Qwest initiated seven changes between April 1, 2002, and April 26, 2002. KPMG Consulting reviewed the relevant Qwest notifications and found that five of the changes were initiated after April 16, 2002, the date on which Qwest and CLECs reached agreement about the revised process. These five notifications include four Level 1 changes and one Level 2 change. Since the draft

[9] Attached as Exhibit CMP-1 is Section 23 of the Final Report, Test Results: Change Management Test (Test 22).
[10] See Exception 3094.

> CMP document specifies that Level 1 changes are effective immediately upon notice to CLECs, there was no change implementation interval associated with this type of notification. KPMG Consulting verified that the one Level 2 change followed the 21-day advance notification interval. *Due to the relatively few notifications issued since April 16, 2002 under the new process, KPMG Consulting was unable to make a conclusive determination that Qwest adheres to the process for Qwest-initiated Product/Process changes.*
>
> *Qwest and CLECs will continue discussions about the process for postponing a Product/Process change on May 21, 2002. This component of the Product/Process CMP is relevant to this Exception, which concerns the "notice-and-go" nature of the Product/Process CMP and lack of CLEC input for Product/Process changes. Based on this unresolved component, it appears that Qwest and CLECs have not developed all pertinent components of the Product/Process CMP.*

As the above indicates, there were not enough examples of Qwest's following the process for Qwest initiated product/process changes for KPMG to determine that Exception 39M was resolved. This is likely due to the fact that little more than a month passed from the time the process was adopted on April 16, 2002 to the date of the report on May 21, 2002.

Since this report was issued, the CLECs and Qwest have concluded the negotiations on the postponement process for Qwest initiated product/process changes. These negotiations concluded on June 5, 2002. This new process must now be implemented and Qwest's adherence over time must be observed.

Based on KPMG's findings and the very recent completion of the postponement process referenced above, the Commission does not have objective evidence showing Qwest's adherence over time concerning the portions of Qwest's CMP referenced in Exception 39M. Qwest has simply failed to prove a necessary element of the FCC's criteria required for an adequate CMP.

3. Exception 3110 Describes Qwest's Further Lack of Adherence to CMP.[11]

Exception 3110 stated that, "Qwest did not adhere to its Change Management Process document management standards and tracking of CLEC notifications through the Mailout Notification System." After initial testing and then retesting, KPMG recommended on May 21, 2002, that this exception be closed as inconclusive and stated [illegible] stated:

> KPMG Consulting identified a total of eight software release notifications distributed between April 4, 2002 and May 3, 2002. These notifications included release updates for five different Qwest OSS interfaces and the deployment of IMA Release 9.0. *Because of the relatively few notifications available for review, KPMG Consulting was unable to fully validate Qwest's adherence to the specified intervals.*
>
> KPMG Consulting found that Qwest appeared to have missed the distribution date for IABS Release 84. Qwest attributed this discrepancy to the lack of any CLEC-impacting changes in this particular OSS release. Qwest also stated that it had removed this IABS release from the OSS Release Calendar Version 9.0. Although KPMG Consulting understands that changes in release schedules occur, it considers consistency in the flow and distribution of information to be an important element in managing the Qwest-CLEC business relationship. KPMG Consulting, therefore, would expect the published OSS Release Calendar[12] to include the previously scheduled version of IABS in the list of interfaces for "No Planned Releases" section of the document.
>
> KPMG Consulting noted that Qwest frequently applied changes to the notification dates and content in the OSS Release Calendar. During the period January 2002 through May 2002, Qwest issued ten versions of the OSS Release Calendar but did not immediately or consistently notify CLECs of all changes applied. CLECs are likely to face difficulties in coordinating the necessary resources for a new or upgraded system release if the published release dates frequently change.
>
> *Based on the observations noted during re-testing, KPMG Consulting was unable to conclusively verify Qwest's consistent adherence to stated CMP intervals for software release notifications.* KPMG Consulting concluded its retest period on May 17, 2002.

[11] See Exception 3110.

[12] The OSS Release Calendar is located at http://www.qwest.com/wholesale/cmp/osscalendar.html.

This Exception is another example of a lack of objective evidence that Qwest has consistently adhered over time to the processes set forth in the CMP.

3. Exception 3111 Describing Lack of Clarity for Prioritization of CLEC Requested Changes.[13]

Exception 3111 was opened on January 30, 2002, after Observation 3067 was converted to an Exception, and stated that "Qwest Systems Change Management Process (CMP) lacks guidelines for prioritizing and implementing CLEC-initiated systems Change Requests (CRs); criteria are not defined for developing the scope of an OSS Interface Release Package."

On April 4, 2002, KPMG recommended that this Exception be closed "inconclusive" stating (emphasis added):

> Summary of KPMG Consulting's Retest Results:
>
> KPMG Consulting reviewed various internal documents, verifying that Qwest had adequately addressed each of the five issues raised in this Exception through documentation modifications and enhancements to the process. However, KPMG Consulting observed that Qwest and CLECs had not finalized the prioritization and packaging processes before prioritization for IMA Release 10.0 took place. *Therefore, adherence to the new process was unable to be confirmed for at least two of the original issues raised in Exception 3111 - issue reference numbers (2) and (5).*
>
> Exception 3111 was the subject of the Focus Call on March 21, 2002. Qwest requested that KPMG Consulting review IMA Release 10.0 to test its applicability to the current processes since packaging for IMA Release 11.0 is not scheduled to occur until after the conclusion of OSS 271 Third Party Testing. *KPMG Consulting stated in its March 27, 2002 response that there are several areas where the new prioritization and packaging process was either not established, or not followed, for IMA 10.0. Since the process was not completely established and followed for IMA Release 10.0, and packaging and prioritization for Release 11.0 is scheduled to occur beyond the completion of this Test, KPMG Consulting was unable to test adherence to the complete prioritization and packaging process for a new IMA Release.*

[13] *See* Exception 3111

the job by allowing KPMG to conclude its testing or re-testing, as the case may be, before attempting to judge Qwest's redesigned CMP.

C. The CMP Must Have Agreed Upon Language With Respect To Voting Before The Commission Approves It.

Although the parties have agreed on language for the critical issues, one open topic that has taken on greater significance is the procedure the CMP participants will use for voting. Originally, the CMP document contained only a single reference to voting. In the past several months, the number of references to voting (or the number of items on which CMP participants will vote) has increased to seven, including changes to the CMP itself (Section 2.1), exception requests (Section 16.4.1) and prioritization of change requests (Section 10.2.3) – all critical areas. Presently, there is no agreed upon language for the voting process (Sections 2.2, 2.3, 16.0-16.4.2). Several recently held CMP meetings, in which the parties attempted to memorialize this very important process, have allowed the parties to move forward, but not complete the process.

Until the parties reach agreement on voting procedures and language, critical aspects of the CMP cannot be implemented. Therefore, this Commission should not approve the CMP until this issue has been resolved.

D. Qwest Must Prove It Has A Stable Testing Environment That Mirrors Production.

One of the FCC's requirements relating to the RBOC's CMP is the availability of a stable testing environment that mirrors the production environment. Qwest attempts to meet this requirement by cobbling together its Stand Alone Test Environment ("SATE") and its Interoperability Test. Nevertheless, KPMG found deficiencies in both.

To address the deficiencies, Qwest refers the Commission to, among other things, the "interoperability test"[15] and its enhancement to the Virtual Interconnect Center Knowledge Initiator ("VICKI").[16] Starting with the interoperability test, this test is and was an inferior testing environment. KPMG pointed out, and Qwest admits,[17] that the interoperability test's shortcomings are and were problematic; in fact, it is fair to say that the failings of the interoperability test gave rise to the need for SATE.[18]

KPMG examined Qwest's interoperability test and issued Exception 3029. Exception 3029 states, among other things, Qwest's Interconnect Mediated Access ("IMA") and its Electronic Data Interchange ("EDI") "Interoperability Testing environment *does not offer* Co-Provides with sufficient testing capabilities."[19] KPMG noted further that "the interoperability test environment does not provide the testing capabilities for a CLEC to sufficiently test the IMA EDI interface prior to connecting to Qwest's production systems ... ,"[20] and it went on to list the various limitations associated with interoperability testing. In short, the Exception made clear that the limitations associated with interoperability testing could "hinder" a CLEC's ability to test.[21]

Furthermore, on March 14, 2002, KPMG stated in its Disposition Report for Exception 3029, in pertinent part, that:

> Qwest indicated in its December 21, 2001 response that it would begin allowing CLECs to use a combination of Interop and SATE to test EDI transactions during an implementation of IMA. By asserting that CLECs may use a combination of the environments for EDI implementation,

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[15] *See generally*, Qwest April 26th Comment at 53 – 68 and the Affidavit of Ms. Lynn Notarianni.
[16] 6/14/02 Wyoming Oral Argument Transcript at 214, lns. 1- 6.
[17] *See* Qwest's White Paper, attached hereto as **Exhibit CMP-2**, at 4.
[18] *Id.*
[19] Exception 3029 at 1.
[20] Exception 3029 Disposition Report 3/14/02.
[21] *Id.*

> KPMG Consulting believes that each of the issues raised in this Exception is addressed by SATE functionality and its proposed enhancements. The issues of manual handling of post order responses and lack of flow through capabilities in SATE are further documented and addressed in Exception 3077.[22]

A review of this Exception and Qwest's responses reflect that KPMG envisioned that a functional SATE would relieve the problems associated with the interoperability test. Finally, Qwest has made no improvements to its interoperability test, but rather it has focused on upgrading its documentation.[23] Clearly, the interoperability test is not a substitute for a fully functional SATE, and such test—even in combination with SATE—does not meet the FCC's fourth criteria.

Turning to the Exceptions 3077 and 3095, and in particular their discussion of VICKI, AT&T points out that, contrary to Mr. Crain's statement to the Wyoming Commission that "[y]ou shouldn't really have any concern about SATE," the CLEC's certainly are concerned, and the Commission should be as well. VICKI was generated to overcome SATE's limitations related to mirroring of post-order production transactions, order rejections, and order completions. It provides CLECs with automated post-order responses in the test environment based upon the CLEC's specific request. While VICKI is an important addition to SATE, it falls short of meeting the mirroring objective in several key areas. For example, it does not support the provision of a complete electronic response, as would a production transaction; instead it provides only portions of the response. Also it fails to provide response data in the test environment that mirrors the response data provided in the production environment.

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[22] *Id.* at 3.
[23] Qwest March 25, 2002, Response to Exception 3029.

Qwest has admitted these shortcomings in its responses to KPMG Exception 3077, but Qwest has—nevertheless—demanded that KPMG close the Exception. As stated, KPMG closed Exception 3077, "Unresolved" meaning that the deficiencies are not going to be re-evaluated by KPMG or apparently anyone ever.

The status of Exceptions 3077 and 3095 remains unchanged. KPMG made important statements regarding these Exceptions. For example, on April 15, 2002, KPMG stated in regard to Exception 3077:[24]

> ***Summary of KPMG Consulting's Retest Activities and Results:***
>
> *(1)* *SATE does not generate post-order responses in the same manner as they are created in the production environment.*
> With the implementation of VICKI, KPMG Consulting acknowledged that Qwest provided CLECs with a method for receiving automated responses, but noted that VICKI had certain limitations. One of the identified issues was that VICKI does not support "real world scenario testing." Without this capability, KPMG Consulting does not believe that VICKI provides CLECs an understanding of how different types of transactions will react in the production environment. Although VICKI helps CLECs to understand the EDI mapping structure and to determine if their systems can accept certain types of responses for the orders submitted, by design, it does not support complete interface testing capabilities. KPMG Consulting considers the real world scenario testing an essential element to a complete EDI testing environment.
>
> *(2)* *Flow through orders are not supported in SATE*
> Based on the proposed flow through enhancements, KPMG Consulting acknowledged that Qwest plans to address the issue of flow through capabilities within SATE. However, until the proposed enhancements are fully implemented, KPMG Consulting does not believe that the current test environment provides a CLEC with an accurate representation of the production environment's flow through capabilities. Based on its review and the timeline for implementation, KPMG Consulting was unable to assess this proposed SATE enhancement.
>
> *(3)* *The volume of order responses supported in SATE is restricted due to manual response handling.*

[24] Exception 3077 Disposition Report (4/15/02).

KPMG Consulting acknowledged that the VICKI and flow through enhancements would diminish Qwest's use of human resources to support the test environment. By minimizing reliance on manual handling, Qwest could release the restrictions on the number of post order transactions that a CLEC could receive. KPMG also noted that Qwest had revised the documentation to remove any references to response generation limits and considers this issue to be resolved.

(4) *The data contained within the order responses is not consistent, and may not mirror the data that would be found in production responses.*

KPMG Consulting provided Qwest documentation and EDI transaction responses that indicated that post order response data may not be consistent with production. Qwest stated that manual handling caused many of the discrepancies and that the proposed SATE enhancements should rectify that issue. Qwest also affirmed that known differences are documented in the SATE Data Document. KPMG Consulting believes that documentation of known differences does not substitute for a test environment that mirrors the transactional behavior of the production environment.

KPMG Consulting was only able to observe limited commercial activity for SATE and only prior to the implementation of the VICKI and flow through enhancements. KPMG Consulting was unable to determine whether or not SATE produced consistent post order responses that accurately reflected the behavior and content expected for the same transactions in the production environment.

KPMG Consulting recommends that Exception 3077 be closed unresolved.

Like Exception 3077, KPMG made important comments regarding Exception 3095.[25] Relevant excerpts include the following:

Summary of KPMG Consulting's Retest Activities and Results:

KPMG Consulting acknowledged that Qwest had worked in collaboration with the CLEC community when initially developing SATE and setting up user group meetings to enhance SATE. Although Qwest committed to working with CLECs, KPMG Consulting noted that the test environment does not *precisely and accurately* reflect the offerings of either the production environment or of a new release of the production environment. Additionally, the process for adding new functionality to

[25] Exception 3095 – Disposition Report (4/11/02) at 2 – 3.

SATE is onerous and untimely for a CLEC expecting to test unsupported functionality during its EDI implementation. KPMG Consulting cited examples of new SATE functionality requests from CLECs to show that CLECs may need to test products that are not included in the current version of SATE. KPMG Consulting also indicated that the Bona Fide Request process proposed by Qwest through the Redesign process would not be finalized or available until the Redesign efforts had been completed.

KPMG Consulting stated that the use of the Interoperability environment for testing products not currently supported in SATE *did not sufficiently address the issues raised in this Exception.* Several limitations had been identified regarding the Interoperability environment in Exception 3029. Additionally, Qwest had stated that it would only invest resources to further develop SATE, and that SATE would overcome the deficiencies of Interop as a testing environment. Based on these facts, KPMG Consulting did not believe that Interop provided CLECs with a suitable alternative for testing products not supported in SATE.

KPMG Consulting reviewed Qwest's April 5, 2002 supplemental response and data items, and acknowledges the request to close this Exception and categorize it as "Closed/Unresolved".

KPMG Consulting recommends that Exception 3095 be closed unresolved.

Similarly, KPMG discussed SATE in its Final Report evaluation and noted instances where SATE tests are "Not Satisfied."[26] How can Qwest claim anything other than Interoperability Testing, VICKI and SATE are incomplete and the evaluation not fully satisfied?

III. CONCLUSION

For the foregoing reasons, AT&T's requests that the Commission withhold any findings of CMP compliance until Qwest provides actual, demonstrable and verifiable evidence showing:

(1) that the SATE is, in fact, a stable testing environment that mirrors production;

[26] KPMG Final Report, Version 2.0 (May 28, 2002) at 580 & 597; *see* Test 24.6-1-8 (A functional test environment is made available to customers for all supported interfaces = "Not Satisfied") and Test 24.6-3-9 (Carrier-to-carrier test environments are available and segregated from Qwest production and development environments = "Not Satisfied").

(2) that Qwest has adhered to the redesigned CMP over time, including all the core requirements contained in the CMP Master Redline, once it is completed, and satisfaction of the ROC OSS test criteria for CMP;

(3) the parties have reached agreement on voting language and procedures.

In fairness to the parties that have to use Qwest CMP system and compete against Qwest in the local market, this Commission should not approve Qwest's CMP until Qwest demonstrates a pattern of compliance with the redesigned core requirements. Moreover, until Qwest (which this Commission explicitly stated bears the burden of proof in this proceeding)[27] has demonstrated that it has a viable CMP to which it adheres, it should not be permitted to enter the in-region market for long distance services.

Respectfully submitted this 28th day of June 2002.

AT&T COMMUNICATIONS OF THE MIDWEST, INC.

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[27] *See* Order at 95.

23. Test Results: Change Management Test (Test 23)

1.0 Description

The Change Management Test evaluated Qwest's change management process used by Competitive Local Exchange Carriers (CLECs) engaged in the Qwest-CLEC business relationship. The objectives of the test were to determine the adequacy and completeness of procedures for developing, publicizing, evaluating, and implementing changes to Qwest's Wholesale Operational Support System (OSS) interfaces and business processes. The test also focused on the tracking mechanisms of proposed changes and adherence to established change management intervals.

2.0 Method

This section summarizes the test execution method.

2.1 Business Process Description

The Qwest change management process provides Qwest and CLECs with the means and framework to initiate, evaluate, and prioritize desired changes to OSS interfaces, products, or processes. Qwest also uses the change management process to communicate changes that affect one or more CLECs. The process supports the pre-order, order, provisioning, maintenance and repair, and billing capabilities, as well as associated documentation and production support.

The Qwest change management process was established in September 1999. In July 2001, Qwest initiated a series of meetings with interested CLECs to address, through discussion and negotiation, a number of CLEC concerns with the then operational process, the Co-provider Industry Change Management Process (CICMP). Qwest and participating CLECs held bi-weekly collaborative work sessions to negotiate the scope and components of the change management process. Qwest has implemented incremental changes resulting from these work sessions, and has replaced CICMP with a revised Change Management Process (CMP). Qwest and participating CLECs continue to negotiate in the CMP Redesign work sessions, and have not completed documenting all components of CMP. The draft CMP document, *Master Redlined CLEC-Qwest CMP Redesign Framework*, is open to continuing CMP Redesign discussions.[1]

Qwest and CLEC representatives jointly manage the CMP. Each participant has distinct roles and responsibilities. The Qwest change management staff includes the Director of Change Management, CMP Managers, and Change Request Project Managers, all of whom are responsible for coordinating activities within CMP.

Qwest and CLECs meet monthly to review and discuss proposed changes and associated issues. Qwest may, as part of CMP, propose additional *ad hoc* meetings to discuss specific topics or issues. Qwest must notify CLECs of its desire to have an *ad hoc* meeting at least five business days in advance.

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[1]The current version of the *Master Redlined CLEC-Qwest CMP Redesign Framework* is accessible on the CMP Redesign Web site, located at http://www.qwest.com/wholesale/cmp/redesign.html.

Qwest has proposed an Exception Process to expedite a Qwest or CLEC request. This Exception Process remains subject to the outcome of continuing Qwest-CLEC negotiations. In addition, either Qwest or a CLEC may utilize an escalation and dispute resolution process to address issues in disagreement.

The CMP consists of Systems CMP and Product/Process CMP. Each of these components is described in more detail below.

2.1.1 Systems CMP

The Systems CMP distinguishes among four types of changes:

- Regulatory;
- Industry guideline;
- Qwest-originated; and
- CLEC-originated.

Regulatory changes are those required to bring systems into compliance with legal and regulatory requirements, or state and federal court rulings. Industry guideline changes are those required to bring the OSS used between Qwest and CLECs into compliance with new industry standards. Either Qwest or a CLEC may initiate a regulatory or industry guideline change with substantiating material. Qwest-originated changes are those that Qwest desires to implement on its own accord. CLEC-originated changes are those initiated by CLECs that do not fall into another change category.

The above four change types became effective in late 2001. However, until March 2002, Qwest and CLECs remained at impasse over the definition of regulatory change. Based on a decision made by the Colorado Public Utilities Commission on March 13, 2002, Qwest accepted the requirement that regulatory changes should exclude changes related to the Performance Indicator Definitions (PIDs) and Performance Assurance Plans (PAPs).

The Systems CMP requires that either Qwest or a CLEC submit a Change Request (CR) for a desired change that will affect the OSS functionality. An electronic copy of the CR Form, along with instructions, is available on the CMP Web site[2]. Either Qwest or a CLEC may complete the CR Form, and submit it to a designated Qwest Change Management email account. A tracking number is required for every CR that is submitted through the CMP.

Qwest and CLECs hold monthly Systems CMP meetings to discuss CRs, and exchange information about the status of open CRs. At the meeting, Qwest may either decline a CR, or attempt to reach consensus about requirements and expectations. If Qwest declines a CLEC-initiated CR, the CMP stipulates that Qwest will contact the CLEC that submitted the CR, in writing, and provide the rationale for the decision. Qwest is required to communicate any CR denials only after it has held a Clarification Meeting with the CR Originator (within eight days of CR receipt), and prior to the next Systems CMP meeting. In addition, Qwest will conduct a walk through of the response, and

[2] The Qwest CMP Web site is located at http://www.qwest.com/wholesale/cmp/

present the underlying reasons for the rejection at the following monthly meeting. A CLEC may utilize the escalation and dispute resolution process if it does not accept Qwest's response to a CR.

The prioritization process is designed to select CRs for implementation when demand exceeds capacity for an upcoming OSS interface or test environment release. Prioritization is expected to allow CMP participants to provide input as to the relative importance that CLECs and Qwest assign to each CR. The prioritization process consists of a CR ranking exercise, and a possible follow-up vote of CR packaging options.

As defined by the process, prior to CR ranking, Qwest informs CLECs of the total capacity of a release, as well as the estimated person hours required to complete each CR. The CMP calls for Qwest and CLECs to jointly rank the priority of Qwest- and CLEC-initiated CRs for that particular software release.

As per the documented process, regulatory and industry guideline changes are subject to the prioritization process only if the mandated or recommended implementation dates can be met by following the usual procedure, otherwise these changes must be expedited. Qwest and CLECs are required to discuss any regulatory or industry guideline CRs at the next monthly Systems CMP meeting if there is any objection to the initial classification of the CR.

The Special Change Request Process (SCRP) is another exception to the prioritization process whereby either Qwest or a CLEC may choose to financially sponsor the implementation of a CR.

After Qwest and CLECs have conducted CR ranking, per the process, Qwest informs CLECs of the recommended packaging options, and conducts a follow-up vote at a later monthly CMP meeting. The outcome of the CR packaging vote is intended to determine changes for implementation in the upcoming software release.

The CMP includes software release intervals for the introduction, improvement, and retirement of OSS interfaces. In July 2001, Qwest proposed to improve the existing notification process for changes to OSS interfaces. During CMP Redesign work sessions, Qwest and CLECs reached consensus on the intervals related to both Electronic Data Interchange (EDI) and the Graphic User Interface (GUI) interfaces. These intervals include timelines for the distribution of release documentation, a walk-through of technical specifications with CLECs, CLEC comments on draft technical specifications, Qwest's response, and a specified period for conducting CLEC testing.

For changes to an existing EDI interface, the CMP stipulates that Qwest provide CLECs with draft technical specifications at least 73 calendar days in advance of scheduled implementation, and final technical specifications at least 45 calendar days in advance. For changes to an existing GUI interface, Qwest is to provide CLECs with draft release notes at least 28 calendar days in advance, and final release notes and a user guide at least 21 calendar days before the scheduled deployment.

Qwest implements changes to an existing OSS interface through scheduled major and point releases. Major releases are the primary vehicle for implementing regulatory, industry guideline, Qwest-originated, and CLEC-originated CRs. Point releases, by

definition, do not require CLECs to make changes to their OSS, and are used primarily to implement changes already disclosed, but not delivered, in a major release.

The CMP does not have a specific category for production support changes. The Qwest IT Wholesale System Help Desk (WSHD) is responsible for event notification, and resolution of severe defects in the testing and production versions of an OSS interface. However, CMP includes the notification and resolution intervals that the WSHD is required to follow to address known system defects. As described by CMP, Qwest implements software patches to resolve WSHD trouble tickets that are deemed critical. Qwest either instructs CLECs to issue CRs through Systems CMP, or fixes the trouble tickets at an unspecified future date for less severe issues.

2.1.2 Product/Process CMP

CLEC-initiated Changes

A CLEC may request changes to Qwest wholesale products or processes, such as changes to the manual processing of orders and other transactions, by submitting a completed CR Form to Qwest. The CR submission form and initiation process are identical for CLEC-initiated Systems and Product/Process CRs.

Qwest and CLECs hold monthly Product/Process CMP meetings to discuss CRs and exchange information about the status of open CRs. At the meeting, Qwest may either deny a CLEC-initiated CR or propose options for CLEC comments. If Qwest declines a CLEC-initiated CR, it also presents the underlying reasons.

Qwest will implement a CR after Qwest and CLECs have agreed to the requirements and expectations at the meeting. Qwest may revise its response and issue a modified response at the next monthly CMP meeting. In such cases, Qwest must notify CLECs of its intent to modify its response within ten business days after holding the first meeting. A CLEC may utilize the escalation and dispute resolution process if it does not accept Qwest's response.

Qwest-initiated Changes

The Product/Process CMP separates Qwest-initiated changes into five categories (Levels 0 to 4), with each higher level representing increasing impact to CLEC business operations. Before Qwest implements a change, it determines the appropriate category of change based on a set of criteria that Qwest and CLECs jointly developed in CMP Redesign. Except for Level 0, initiation, evaluation, and notification intervals are defined for each category. Qwest and CLECs continue to discuss a special process for a CLEC to postpone a Qwest-initiated Product/Process change.

2.2 Scenarios

Scenarios were not applicable to this test.

2.3 Test Targets & Measures

The test target was the Qwest CMP. Processes, sub-processes, and evaluation measures are summarized in the following table. The last column, "Test Cross-Reference,"

indicates where the particular measures are addressed in section 3.1, "Results & Analysis."

Table 23-1: Test Target Cross-Reference

Process	Sub-Process	Evaluation Measure	Test Cross-Reference
Change Management	Change Request Implementation	Completeness and consistency of change request process	23-1-1 – 23-1-6, 23-2-1 – 23-2-6
	Prioritization and Escalation Process	Completeness and consistency of prioritization and escalation guidelines and process	23-1-3, 23-1-4, 23-1-6, 23-1-8, 23-2-3, 23-2-4, 23-2-6, 23-2-8
	Developing Change Proposals	Completeness and consistency of change development process	23-1-2, 23-1-4, 23-2-2, 23-2-4
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	23-1-3, 23-1-8, 23-2-3, 23-2-8
	Severity Levels	Completeness and reasonableness of levels and process	23-1-8, 23-2-8
	Notification Schedules	Reasonableness of notification schedules and completeness of process	23-1-5, 23-1-7, 23-1-9, 23-2-5, 23-2-7, 23-2-9
	Implementing Change	Completeness and consistency of change implementation process	23-1-5, 23-1-8, 23-1-9, 23-2-5, 23-2-8, 23-2-9
	Intervals	Reasonableness of change interval	23-1-5, 23-1-7, 23-1-9, 23-2-5, 23-2-7, 23-2-9
	Documentation	Timeliness of documentation and notification updates	23-1-5, 23-1-6, 23-1-9, 23-2-5, 23-2-6, 23-2-9
	Tracking Change Proposals	Adequacy and completeness of change management tracking process	23-1-7, 23-2-7

2.4 Evaluation Methods

The sources of data for this test included reviews of Qwest notifications, Qwest documentation, the Qwest Wholesale Web site[3], and the CR database. In addition, KPMG Consulting attended the monthly CMP meetings and CMP Redesign work sessions as an observer.

KPMG Consulting conducted a series of interviews with managers of the Qwest change management team and five CLECs that volunteered to share their experiences and feedback about the Qwest change management process. KPMG Consulting also

[3] The Qwest Wholesale Web site is located at http://www.qwest.com/wholesale/.

interviewed Hewlett-Packard Consulting (HPC) representatives who were knowledgeable about the Qwest CMP.

2.5 *Analysis Methods*

The Change Management Review included a checklist of evaluation criteria developed by KPMG Consulting during the initial phase of the Qwest OSS Evaluation. To conduct the analysis for this evaluation, KPMG Consulting used data obtained via interviews with Qwest personnel, as well as reviews of Qwest documentation and analysis of data, to compare information gathered to a pre-determined framework of evaluation criteria. This analysis focused on the existence and adequacy of, as well as adherence to, defined processes to determine a 'satisfied' or 'not satisfied' result for each discrete evaluation criterion.

3.0 Results Summary

This section identifies the discrete evaluation criteria and test results.

3.1 *Results & Analysis*

The results of this test are presented in the table below. Definitions of evaluation criteria, possible results, and Exceptions are provided in Section II.

Table 23-2: Evaluation Criteria and Results

Test Cross-Reference	Evaluation Criteria	Result	Comments
Systems CMP			
23-1-1	The change management process responsibilities and activities are defined.	Satisfied	Responsibilities and activities are defined for Systems CMP. The *Master Redlined CLEC-Qwest CMP Redesign Framework*, dated May 2, 2002 (hereafter "draft CMP document"), defines and describes the roles, responsibilities, and activities of the Qwest change management staff, other relevant Qwest employees, and CLEC representatives who participate in Systems CMP. Qwest internal methods and procedures (M&P) documentation contains information about the roles and responsibilities of the change management staff and relevant Qwest IT groups. KPMG Consulting reviewed both the draft CMP document and the internal M&P documentation to confirm that the Systems CMP roles and responsibilities are defined and documented. The draft CMP document specifies that CLECs designate representatives as their respective points-of-contact (POCs). The POCs are responsible for submitting CRs,

Test Cross-Reference	Evaluation Criteria	Result	Comments
			attending relevant Systems CMP meetings, participating in the prioritization process, and providing feedback about proposed changes and CMP issues in accordance with specified processes and intervals. The draft CMP document is accessible on the Qwest CMP Web site. The Web site also includes a POC update form and current POC information.
23-1-2	The change management process is in place and documented.	Satisfied	The Systems CMP is in place and documented. The draft CMP document defines the following four types of system changes: • Regulatory; • Industry guideline; • Qwest-originated; and • CLEC-originated. The draft CMP document describes the change request process, including the steps that Qwest and CLECs follow to initiate, evaluate, prioritize, and implement system changes. The document specifies the software release intervals for the introduction, improvement, and retirement of all OSS interfaces. It also defines the notification and resolution intervals that WSHD follows in addressing known system defects in the testing and production versions of an OSS interface. KPMG Consulting observed all four types of system changes through CRs submitted by both Qwest and CLECs.
23-1-3	The change management process has a framework to evaluate, categorize, and prioritize proposed changes.	Satisfied	The Systems CMP has a framework to evaluate, categorize, and prioritize proposed changes. The draft CMP document describes the process for evaluating, categorizing, and prioritizing proposed system changes. Qwest assigns a tracking number to every CR that is submitted through CMP. Qwest reports Systems CRs on the CMP Web site. Qwest and CLECs meet monthly to discuss CRs and exchange information about the status of open CRs. Both Qwest and CLECs participate in the prioritization process to select CRs for implementation. KPMG Consulting attended and observed

Test Cross-Reference	Evaluation Criteria	Result	Comments
			the monthly CMP meetings to verify that both Qwest and CLECs followed the CMP framework to evaluate, categorize, and prioritize proposed changes. During testing, KPMG Consulting formally identified that Qwest did not consistently exclude CLEC-impacting changes from point release versions of Interconnect Mediated Access (IMA). Qwest subsequently developed internal process documentation to identify changes that have an impact on the OSS or CLEC business operations. The documentation requires Qwest personnel to follow CMP for CLEC-impacting changes. The draft CMP document specifies that Qwest submit CLEC-impacting system changes to CMP, and provide CLECs with release documentation for both major and point software releases. KPMG Consulting reviewed the internal process documentation to confirm that Qwest had developed procedures to address this issue. KPMG Consulting also found that Qwest's internal OSS interface change management documentation was inconsistent, and lacked process flows and process descriptions. As a result of these deficiencies, KPMG Consulting issued Exception 3102. Qwest subsequently revised its internal process documents. KPMG Consulting reviewed the revised documents and verified inclusion of information about the initiation, scheduling, analysis, design, software development, and closure of changes. Exception 3102 is closed. See Exception 3102 for additional information on this issue. Further KPMG Consulting testing revealed that Qwest did not have a comprehensive, and fully documented, production support process. KPMG Consulting issued Exception 3112. Qwest subsequently revised its process documentation to eliminate inconsistencies. KPMG Consulting reviewed the revised documents, noting that Qwest clarified that it would notify CLECs of defects in

Test Cross-Reference	Evaluation Criteria	Result	Comments
			backend systems that affect OSS functionality. KPMG Consulting also reviewed one example in which Qwest distributed the notification of a backend system defect. Exception 3112 is closed. See Exception 3112 for additional information on this issue. KPMG Consulting determined that Qwest did not have clearly defined criteria for determining whether a proposed change was out of the scope of CMP. KPMG Consulting issued Exception 3118. In response, Qwest indicated that, although Qwest and CLECs had not developed a comprehensive list of issues that define the CMP scope, Qwest had previously denied relatively few CLEC-initiated CRs. Qwest also stated that, going forward, it would assign a tracking number to every CLEC-initiated change, would respond in writing to the initiating CLEC with the reasons for which a proposed CR is considered out of scope, and would discuss a CR considered to be out of CMP scope with CLECs at the monthly CMP meeting. KPMG Consulting reviewed revised process documentation and verified the inclusion of the above procedures. KPMG Consulting found that the new process and accompanying documentation sufficiently addressed the identified issues. Exception 3118 is closed. See Exception 3118 for additional information on this issue.
23-1-4	The change management process includes procedures for allowing input from all interested parties.	Satisfied	The Systems CMP allows for input from interested parties. Qwest and CLECs attend monthly Systems CMP meetings to discuss proposed changes and exchange information about change status. Qwest also conducts additional meetings to discuss specific topics or issues. CLECs may provide input through email directly to Qwest, or share comments at Systems CMP meetings. KPMG Consulting attended the monthly CMP meetings, monitored *ad hoc* CR meetings, and reviewed the meeting minutes to observe how CLECs were able to provide input into proposed changes. From July 11, 2001 through May 2, 2002, Qwest and CLECs held bi-weekly

Test Cross-Reference	Evaluation Criteria	Result	Comments
			collaborative CMP Redesign work sessions to address CLEC concerns with the Qwest change management process. Qwest and CLECs have conceptually agreed that: • Qwest will discuss all Qwest-initiated CLEC-impacting system changes in CMP; and • Either Qwest or a CLEC may initiate the escalation and dispute resolution process by completing a Web-based form. During testing, HPC formally identified that Qwest had not defined the parameters for the CR clarification meeting. Qwest subsequently responded that the CR clarification meeting is confined to Qwest and the CLEC that originated the CR. HPC reviewed relevant meeting minutes and confirmed the CMP policy.
23-1-5	The change management process defines intervals for considering and notifying customers about proposed changes.	Satisfied	The Systems CMP defines intervals for considering and notifying customers about proposed changes. The draft CMP document specifies the timelines for the initiation, evaluation, prioritization, and documentation of Systems CRs. For example, for changes to an existing EDI interface, Qwest provides CLECs with draft technical specifications at least 75 calendar days in advance of scheduled implementation, and final technical specifications at least 45 calendar days in advance. For changes to an existing GUI interface, Qwest provides CLECs with draft release notes at least 28 calendar days in advance of the release. Final release notes and a user guide are issued at least 21 calendar days before the scheduled deployment. KPMG Consulting reviewed the draft CMP document to verify that notification intervals are documented and defined for the various interfaces.
23-1-6	Documentation regarding proposed changes is distributed to wholesale customers.	Satisfied	Qwest distributes documentation regarding proposed system changes to CLECs. Such documentation includes: • Information about open CRs; • Software release notes; and • Qwest responses to escalated CRs.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			The Interactive Systems CR Status Report contains information about existing system CRs. The report is available on the CMP Web site, and included in the monthly CMP distribution package. Information about ongoing escalations is available on the CMP Web site. The Ongoing Escalations and Disputes Web site contains relevant correspondence and documentation. Qwest utilizes both emails and the Wholesale Web site to distribute documentation for releases and updates. KPMG Consulting monitored the distribution of CLEC notifications during the testing period, and attended change management meetings to observe the information that Qwest communicated to CLECs. In addition, KPMG Consulting confirmed that HPC received relevant Qwest notifications. During testing, KPMG Consulting formally identified that Qwest had not consistently informed CLECs of CLEC-impacting changes in the point release versions of IMA. Qwest subsequently developed internal process documentation to identify changes that have an impact on OSS or CLEC business operations. The documentation requires Qwest personnel to follow CMP for changes that affect OSS interfaces or CLEC business operations. The draft CMP document specifies that Qwest submit CLEC-impacting system changes as CRs, and provide CLECs with software release documentation. The document release dates are included in the Web-based OSS Release Calendar. KPMG Consulting also formally identified that Qwest did not adhere to the Systems CMP for notifying CLECs, and distributing information about changes that resulted from bill rate validation. Qwest subsequently developed a new notification process that informs CLECs in advance of the implementation of proposed corrective changes and provides CLECs with detailed information about bill validation results. KPMG Consulting also found that Qwest lacked uniform standards and processes

Test Cross-Reference	Evaluation Criteria	Result	Comments
			for document management. KPMG Consulting issued Exception 3093. Qwest subsequently developed internal processes to ensure that the documents that it distributes to CLECs contain essential document management information, such as author, version control, business unit, page numbers, and change log. KPMG Consulting's retesting confirmed that Qwest personnel followed the documented processes. Exception 3093 is closed. See Exception 3093 for additional information on this issue. During testing, HPC formally identified that the *CEMR User Guide* did not reflect documentation updates described in a Qwest notification. In response to the identified discrepancies between notification and document update, Qwest suggested that HPC might have mistakenly downloaded an earlier version of the *CEMR User Guide* due to Web browser configuration, and stated that future notifications would include a reminder of Web site reloading, whenever it was deemed appropriate. In addition, HPC formally identified that Qwest lacked a public level of version control for CEMR GUI. HPC experienced difficulty in coordinating the CEMR application with relevant documentation. Qwest subsequently implemented version control on the *CEMR User Guide* and *Release Notes* to reflect the version requirements of software development.
23-1-7	Procedures and systems are in place to track information such as descriptions of proposed changes, key notification dates, and change status.	Unable to Determine	The Systems CMP has procedures and systems to track CRs prior to change implementation. However, KPMG Consulting was not able to validate the procedures and systems for tracking release documentation requirements. Qwest utilizes a Microsoft Access database to track Qwest- and CLEC-initiated Systems CRs. The interactive status report generated from this database is available on the CMP Web site, and is included in the monthly CMP distribution package. The draft CMP document specifies that Qwest provide CLECs with a list of changes scheduled for implementation in

Test Cross-Reference	Evaluation Criteria	Result	Comments
			an upcoming software release. Qwest provides CLECs with release documentation requirements in accordance with the intervals in the draft CMP document. If Qwest determines that it will not be able to implement a CR as scheduled, Qwest will discuss options at the next monthly CMP meeting. KPMG Consulting was not able to verify Qwest's compliance with the complete notification processes. During testing, KPMG Consulting identified that Qwest lacked proper tools to track notifications, and to ensure that information was distributed to CLECs in accordance with the intervals specified in the draft CMP document. KPMG Consulting issued Exception 3110. Qwest subsequently provided KPMG Consulting with documents describing Qwest's internal procedures that individual software release teams use to comply with CMP requirements. However, Qwest confirmed that change management staff did not have a centralized mechanism to track and ensure that documentation release intervals for all upcoming software releases were followed. Although the documentation provided sufficient evidence that tracking procedures exist, the information was not sufficient for KPMG Consulting to determine that Qwest adheres to the documented process. Near the end of the retest, Qwest provided a confidential database report method for tracking IT and PMO milestones, including CMP milestones, across a variety of releases. However, KPMG Consulting did not receive any supporting documentation, and did not perform an on site review of the database. KPMG Consulting closed Exception 3110 as inconclusive. See Exception 3110 for additional information on this issue.
23-1-8	Criteria are defined for the prioritization system and for severity coding.	Unable to Determine	The Systems CMP defines the criteria for the prioritization of CRs and for severity coding of trouble tickets. KPMG Consulting was not able to observe the prioritization of a major release in accordance with the documented process.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			The Systems CMP requires both Qwest and CLECs to participate in the prioritization process. A prioritization vote is necessary when the available capacity of an OSS interface or test environment release is unable to accommodate all outstanding CRs. Qwest and CLECs jointly rank the priority of Qwest- and CLEC-originated CRs for that particular software release by using a quantitative evaluation method. Regulatory and industry guideline changes, however, are subject to the prioritization process only if the mandated or recommended implementation dates can be met by following the usual procedure. Another exception to the prioritization process takes the form of a Special Change Request Process (SCRP), utilized by either Qwest or CLECs, to financially sponsor a CR and bypass the prioritization process. The prioritization process for IMA 10.0 was the first time that Qwest had submitted Qwest-originated CRs to CMP. Due to delays in the deployment schedule, Qwest conducted the prioritization process vote for IMA 10.0 twice, first in August 2001, and again in October 2001. The second IMA 10.0 prioritization process included five Qwest-originated PID/PAP-related CRs. Qwest classified these CRs as regulatory changes and bypassed the CR ranking vote. CLECs subsequently disputed this classification, objected to the preferential treatment of these Qwest-initiated CRs, and requested that Qwest reallocate resources to implement other prioritized CRs. Qwest proceeded to schedule the implementation of four of these CRs in IMA 10.0 over CLEC objections. The prioritization for IMA 10.0 was also the first time that the process included the concept of CR packaging options. After the initial prioritization vote had taken place, Qwest IT personnel performed detailed analysis of some of the prioritized CRs, and recommended that certain CRs be implemented together so that Qwest IT would realize cost-savings from identified system and functional dependencies.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			Qwest subsequently informed CLECs of the recommended CR packaging options, and conducted another vote to decide which CR packaging options should be included in the upcoming software release. KPMG Consulting recognizes that the prioritization for IMA 16.0, and IMA 11.0, took place when Qwest and CLECs were at impasse over the definition of regulatory change. Qwest conducted CR ranking for IMA 11.0 in February 2002, and included two PID/PAP-related CRs as regulatory changes over CLEC objections. The Colorado Public Utilities Commission decided on March 13, 2002 that regulatory changes should exclude PID/PAP-related changes. Due to the test schedule, KPMG Consulting was not able to observe the prioritization of a major software release in accordance with the documented process. Additionally, KPMG Consulting was unable to observe use of SCRP. With respect to production support, the draft CMP document defines four severity levels, and the related notification and resolution intervals for production support issues. Qwest implements patch releases for Severity 1 or 2 tickets, but advises CLECs to issue CRs via CMP to resolve Severity 3 or 4 issues. The draft CMP document specifies that WSHD staff communicate to CLECs about the severity assignment of a trouble ticket. KPMG Consulting monitored System Event Notifications during the testing period, and confirmed that the notifications contained severity information. The Systems CMP employs a different process flow to accommodate changes that either Qwest or a CLEC requests be implemented on an expedited basis. The Exception Process remains subject to continuing Qwest-CLEC negotiation in CMP Redesign. During testing, KPMG Consulting identified that Qwest Systems CMP lacked guidelines for prioritizing CLEC-initiated system CRs, and criteria for developing the scope of an OSS Interface Release Package. KPMG Consulting issued

Test Cross-Reference	Evaluation Criteria	Result	Comments
			Exception 3111. Qwest subsequently developed internal M&P documentation that contains information about elements that constitute level of effort (LOE) and capacity information, as well as the process Qwest staff follows in determining release packaging options. The draft CMP document states that Qwest provides CLECs with LOE and release capacity information, in terms of person hours, during the prioritization process. KPMG Consulting observed that Qwest and CLECs had not finalized discussions about the prioritization process before prioritization for IMA Release 10.0 occurred. KPMG Consulting was not able to evaluate adherence to the process during this test and closed Exception 3111 as inconclusive. See Exception 3111 for additional information on this issue. Also during initial testing, HPC formally identified that Qwest did not publish the defects and implementation dates identified during the Interoperability or Certification testing portion of the EDI implementation process, and that Qwest assigned severity rankings to the issues without input from CLECs. In response, Qwest extended production support functions to include the 30-day testing window prior to the EDI implementation process. This issue was subsequently closed.
23-1-9	Qwest complies with notification intervals and documentation release requirements.	Unable to Determine	During the course of this evaluation, KPMG Consulting was not able to verify Qwest's adherence to Systems CMP software release notification intervals and documentation release requirements. The draft CMP document defines software release documentation intervals for the introduction of, as well as changes to, IMA interfaces. For example, for changes to an existing EDI interface, Qwest provides CLECs with draft technical specifications at least 75 calendar days in advance of scheduled implementation, and final technical specifications at least 45 calendar days in advance. For changes to an existing GUI interface, Qwest provides CLECs with draft release notes at least 28 calendar days in advance, and final release

Test Cross-Reference	Evaluation Criteria	Result	Comments
			notes and user guide at least 21 calendar days before the scheduled deployment. Qwest utilizes both email and the Wholesale Web site to distribute notifications and documentation release requirements. KPMG Consulting monitored CLEC Notifications during the testing period. During testing, KPMG Consulting formally identified that System Event Notifications were improperly formatted for distribution to CLECs. As a result, CLECs were unable to obtain information from these notifications. Qwest subsequently implemented a new process at the WSHD to ensure that all notifications include attachments in the Microsoft Word format. In addition, KPMG Consulting formally identified that System Event Notifications contained discrepancies related to: • Notification date inaccuracies; • Inaccurate time-stamps; and • Lateness in distribution. Qwest subsequently conducted internal training to ensure that Qwest staff follows the notification intervals set forth in the draft CMP document. Due to the test schedule, KPMG Consulting was not able to evaluate Qwest's adherence to the steps that Qwest took to address the above issues, and the subsequent outputs. Further testing activities determined that Qwest did not distribute the outage notifications in a timely manner, and did not follow the 48-hour interval for planned outages. KPMG Consulting also identified that Qwest had not adhered to the software release notifications intervals. KPMG Consulting issued Exception 3110. During re-testing, KPMG Consulting was unable to observe adherence to the documented software release notification intervals. As a result, Exception 3110 was closed as inconclusive. See Exception 3110 for additional information on this issue.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			During testing, HPC formally identified an issue that Qwest provided CLECs with inadequate advance notice regarding changes to its IP addresses for Street Address Guide (SAG) and Feature Availability Matrix (FAM) files. Qwest subsequently updated process documentation to specify that Qwest would notify CLECs of changes in connectivity requirements at least five business days in advance. In addition, HPC formally identified that Qwest did not address the inaccurate and incomplete information in IMA disclosure documents in a timely manner. Qwest implemented changes to the subsequent release documentation. In addition, HPC formally identified in Exception 2003 that Qwest did not follow its established release notification schedule when implementing IMA releases, and did not provide complete and accurate information in its release notifications to prepare CLECs for certification and implementation of new releases. Qwest subsequently indicated that it would follow the intervals specified in the draft CMP document. Exception 2003 is closed. See Exception 2003 for additional information on this issue.
Product/Process CMP			
23-2-1	The change management process responsibilities and activities are defined.	Satisfied	Responsibilities and activities are defined for Product/Process CMP. The draft CMP document defines and describes the roles, responsibilities, and activities of the Qwest change management staff, other relevant Qwest employees, and CLEC representatives who participate in Product/Process CMP. Qwest internal M&P documentation contains information about the roles and responsibilities of the change management staff and relevant Qwest product and process groups. KPMG Consulting reviewed both the draft CMP document and the internal M&P documentation to confirm that the Product/Process CMP roles and responsibilities are defined and documented.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			The draft CMP document specifies that CLECs designate representatives as their respective POCs. The POCs are responsible for submitting CRs, attending relevant Product/Process CMP meetings, commenting on Qwest process documents, and providing feedback about proposed changes and CMP issues in accordance with specified processes and intervals. The draft CMP document is accessible on the Qwest CMP Web site. The Web site also includes a POC update form and current POC information.
23-2-2	The change management process is in place and documented.	Unable to Determine	Due to continuing Qwest-CLEC negotiations in CMP Redesign, the Product/Process CMP is not fully implemented or documented. At the conclusion of the Qwest OSS Evaluation, KPMG Consulting observed that Qwest and CLECs continued discussion about relevant issues in CMP Redesign, including: • The process for postponing or stopping a Qwest-initiated Product/Process change; and • The Exception Process. Qwest will finalize the draft CMP document after it has reached agreement with CLECs on the remaining issues. In KPMG Consulting's professional opinion, the draft CMP document does not include all of the components that constitute a well-formed and complete Product/Process CMP. Although Qwest and CLECs have made significant progress in CMP Redesign, the parties have not completed discussions about Product/Process CMP, and have not documented all activities within CMP. For example, Redesign discussions continue for the definition of a CR Postponement Request and the Exception process. The CMP Redesign Project itself is scheduled through June 2002.
23-2-3	The change management process has a framework to evaluate, categorize, and prioritize proposed changes.	Satisfied	The Product/Process CMP has a framework to evaluate, categorize, and prioritize proposed changes. Qwest assigns a tracking number to every Product/Process change that is submitted through CMP. Qwest reports Product/Process CRs on the CMP Web

Test Cross-Reference	Evaluation Criteria	Result	Comments
			site. Qwest and CLECs meet monthly to discuss CRs and exchange information about Product/Process changes. The draft CMP document describes the process for evaluating Qwest- and CLEC-initiated Product/Process changes. The Product/Process CMP separates Qwest-initiated changes into five categories (Levels 0 to 4), with each higher level representing increasing impact to CLEC business operations. Before Qwest implements a change, it determines the appropriate category of the change based on a set of criteria that Qwest and CLECs jointly developed as part of CMP Redesign. KPMG Consulting reviewed the draft CMP document that defines the initiation, evaluation, and notification intervals for each of the five change categories. During testing, KPMG Consulting determined that Qwest did not have clearly defined criteria for determining whether a proposed change was out of the scope of CMP. KPMG Consulting issued Exception 3118. In response, Qwest indicated that, although Qwest and CLECs had not developed a comprehensive list of issues that define the CMP scope, Qwest had previously denied relatively few CLEC-initiated CRs. Qwest also stated that, going forward, it would assign a tracking number to every CLEC-initiated change, would respond in writing to the initiating CLEC with the reasons for which a proposed CR is considered out of scope, and would discuss any CRs considered to be out of CMP scope with CLECs at the monthly CMP meeting. KPMG Consulting reviewed the revised process documentation, and verified the inclusion of the above procedures. KPMG Consulting found that the new process and accompanying documentation sufficiently addressed the identified issues. Exception 3118 is closed. See Exception 3118 for additional information on this issue.
23-2-4	The change management process includes procedures for allowing input from all	Satisfied	The Product/Process CMP allows for input from all interested parties. Qwest and CLECs attend monthly

Test Cross-Reference	Evaluation Criteria	Result	Comments
	interested parties.		Product/Process CMP meetings to discuss proposed changes. Qwest also conducts additional meetings to discuss specific topics or issues. CLECs may provide input through email directly to Qwest, or share comments at Product/Process CMP meetings. KPMG Consulting attended the monthly CMP meetings and some *ad hoc* CR meetings, and reviewed the meeting minutes to observe how CLECs were able to provide input into proposed changes. From July 11, 2001 through May 2, 2002, Qwest and CLECs held bi-weekly, collaborative CMP Redesign work sessions to address CLEC concerns with the Qwest change management process. Qwest and CLECs have conceptually agreed that: • Qwest will discuss all Qwest-initiated CLEC-impacting Product/Process changes in CMP; and • Either Qwest or a CLEC may utilize the escalation and dispute resolution process to address issues by completing a Web-based form. During testing, HPC formally identified that Qwest did not distribute adequate advance notification of product-related meetings held to allow CLECs to provide input. Qwest subsequently implemented improvements to existing notification processes, and addressed remaining issues in CMP Redesign. Also during initial testing, HPC formally identified that Qwest had not defined the parameters for the CR clarification meeting. Qwest subsequently responded that the CR clarification meeting is confined to Qwest and the CLEC that originated the CR. HPC reviewed relevant meeting minutes and confirmed the CMP policy.
23-2-5	The change management process defines intervals for considering and notifying customers about proposed changes.	Satisfied	The Product/Process CMP defines intervals for considering and notifying customers about proposed changes. The draft CMP document specifies the timelines for the initiation, evaluation, and notification of Qwest- and CLEC-initiated

Test Cross-Reference	Evaluation Criteria	Result	Comments
			Product/Process changes. Level 0 changes, such as minor documentation changes, are made without notice to CLECs and become effective immediately. Level 1 changes are effective immediately upon notice, though CLECs may provide feedback through the CMP managers. Qwest notifies CLECs of a Level 2 change at least 21 calendar days prior to scheduled implementation. Qwest then responds to CLEC comments within seven calendar days of receiving the CLEC comments. For a Level 3 change, Qwest informs CLECs at least 31 calendar days before scheduled implementation, and implements the change at least 15 calendar days after completion of the CLEC comment cycle. Qwest submits a CR for a Level 4 change at least 14 calendar days prior to the monthly CMP meeting. The interval for implementing the change depends on the comments received from the CLEC community. KPMG Consulting reviewed the draft CMP document to verify that notification intervals are documented and defined for Product/Process changes.
23-2-6	Documentation regarding proposed changes is distributed to wholesale customers.	Satisfied	Qwest distributes documentation regarding proposed Product/Process changes to CLECs. Such documentation includes: • Information about open CRs; • Process document releases and updates; and • Qwest responses to escalated CRs. The Interactive Product/Process CR Status Report contains information about existing Product/Process CRs. The report is available on the CMP Web site, and is included in the monthly CMP distribution package. Information about ongoing escalations is available on the CMP Web site. The Ongoing Escalations and Disputes Web site contains relevant correspondence and documentation. Qwest utilizes both emails and the Wholesale Web site to distribute documentation for releases and updates.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			KPMG Consulting monitored the distribution of CLEC notifications during the testing period, and attended change management meetings to observe the information that Qwest communicated to CLECs. In addition, KPMG Consulting confirmed that HPC received relevant Qwest notifications. During testing, KPMG Consulting found that Qwest lacked uniform standards and processes for document management. KPMG Consulting issued Exception 3093. Qwest subsequently developed internal processes to ensure that the documents that it distributes to CLECs contain essential document management information, such as author, version control, business unit, page numbers, and change log. KPMG Consulting's retesting confirmed that Qwest personnel followed the documented processes. Exception 3093 is closed. See Exception 3093 for additional information on this issue.
23-2-7	Procedures and systems are in place to track information such as descriptions of proposed changes, key notification dates, and change status.	Unable to Determine	Qwest had not fully implemented Product/Process CMP at the conclusion of the Qwest OSS Evaluation. KPMG Consulting was unable to confirm that Qwest has procedures and systems to track all proposed Product/Process changes. Qwest utilizes a Microsoft Access database to track CLEC-initiated Product/Process CRs and Qwest-initiated Level 4 changes. The interactive status report generated from this database is available on the CMP Web site, and is included in the monthly CMP distribution package. Qwest utilizes a Web-based Customer Notification Letter Archive (CNLA), available at the following Web site: http://www.qwest.com/wholesale/notices/cnla/, for CLECs to search and retrieve past notification. Although this mechanism provides external reporting for Qwest notifications, it does not serve as an internal tracking system for proposed Product/Process changes.
23-2-8	Criteria are defined for the prioritization system and for severity coding.	Unable to Determine	The Product/Process CMP defines the criteria for categorizing Qwest-initiated changes on the basis of perceived impact to CLEC business operations. Qwest had

Test Cross-Reference	Evaluation Criteria	Result	Comments
			not fully implemented Product/Process CMP at the conclusion of the Qwest OSS Evaluation. KPMG Consulting, therefore, was unable to observe the complete implementation of this process. The draft CMP document describes the initiation, evaluation, and notification of Qwest- and CLEC-initiated Product/Process CRs. The document defines five categories of Qwest-initiated Product/Process changes (Levels 0 to 4), with each higher level representing increasing impact to CLEC business operations. At the conclusion of the Qwest OSS Evaluation, Qwest had just begun to categorize all of its Product/Process changes in accordance with the documented process. KPMG Consulting, therefore, was unable to observe sufficient evidence to verify that the process had been fully implemented. The Product/Process CMP employs a different process flow to accommodate changes that either Qwest or a CLEC requests be implemented on an expedited basis. The Exception Process remains subject to ongoing Qwest-CLEC negotiation in CMP Redesign. During testing, KPMG Consulting observed that Qwest implemented a desired process change over CLEC objections. KPMG Consulting issued Exception 3094. In response to Exception 3094, Qwest indicated that Qwest and CLECs disagreed about the process governing Qwest-initiated Product/Process changes. In April 2002, Qwest and CLECs agreed to the process for Qwest-initiated Product/Process changes. During retesting, Qwest clarified that not all Qwest-initiated changes issued via CMP notifications in April and May 2002 could be implemented under the new process. Due to a limited sample size and representation of only two categories of Qwest initiated Product/Process changes during the retest period, KPMG Consulting was unable to verify that the process had been fully implemented, and closed Exception 3094 unresolved. See Exception 3094 for additional information.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			on this issue.
23-2-9	Qwest complies with notification intervals and documentation release requirements.	Unable to Determine	Because Qwest had not fully implemented the Product/Process CMP, KPMG Consulting was unable to observe adherence to notification intervals and documentation release requirements for Qwest-initiated changes. The draft CMP document defines five categories of Qwest-initiated Product/Process changes (Levels 0 to 4), with each higher level representing increasing impact to CLEC business operations. The document also specifies the comment and implementation intervals for each of the five categories. However, KPMG Consulting was not able to validate compliance with the documented process.

A White Paper

on

The IMA EDI Stand-Alone Test Environment

June 18, 2001
Version 1.01

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Introduction

Purpose of the Document
This document provides a high-level history and definition of the IMA EDI Stand-Alone Test Environment (SATE) project. The document is made of five key sections, each of which highlights a certain aspect of the project:

- Business Drivers and Purpose
- High-Level Definition
- Development Process
- System Maintenance Plan
- Co-Provider Process

Intended Audience
This document is intended for anyone with a desire to understand the scope, purpose, and status of the IMA EDI Stand-Alone Test Environment.

Business Drivers and Purpose

Business History and Need
Interconnect Mediated Access (IMA) is the software tool used by Competitive Local Exchange Carriers (CLECs) to order Qwest local loop and resale products. These products range from POTS resale lines to various flavors of Unbundled and Shared Loop. IMA receives Local Service Requests (LSRs) and the pre-order queries needed to support those LSRs from CLECs. IMA then replies back with detailed data, status updates, errors, notices of completion, and more.

CLECs, referred to here as Co-Providers, can access IMA functionality in two ways:

- Via a web-based GUI
- Via Electronic Data Interchange (EDI)

To use IMA via EDI, Co-Providers go through two stages of testing to insure their software's compatibility with IMA and to insure they understand the basics of performing each function they wish to do in Production. (A function is defined as a pre-order query for information, an order for a given product, or a post-order query for information.) These stages of testing are:

- Interoperability Testing
- Controlled Production Testing.

During Interoperability Testing, Co-Providers send paper versions of IMA data transactions, testing scenarios, to Qwest representatives. These scenarios include the exact data sent by the Co-Provider and the expected response from IMA if an EDI transaction were to take place. The scenarios must include successful orders and pre-orders, as well as attempts that result in Business Process Layer (BPL) errors.

After receiving these paper scenarios, the Qwest representatives review them and make corrections. For example, an invalid USOC or an omitted, yet required, field will be manually corrected. The Co-Provider receives the corrected scenario, fixes any errors and resubmits the paper scenario to Qwest for review. This process continues until the paper transactions are correctly formatted with valid data and all required fields entered for the given order or pre-order function. Qwest validates every transaction on paper.

Once validated, the Co-Provider sends the transactions via EDI to the Interoperability Environment. This environment retrieves data from actual production accounts and, in most cases, uses real production legacy systems. The only difference between these transactions and actual IMA transactions is that no actual orders are sent to the Service Order Processor (SOP).

After an order is entered, Qwest representatives send Interconnect Service Center (ISC) Errors, Jeopardy Responses, and Order Completions to the Co-Provider in order to insure their software is fully compatible with IMA.

In order to complete Interoperability Testing, Co-Providers must successfully complete a minimum set of test scenarios for all functions they wish to perform in the actual production environment.

After successfully completing Interoperability Testing, Co-Providers then complete a Controlled Production Test before being fully certified for EDI use. This process is similar to that of Interoperability testing with one major difference. In controlled production testing, service orders are actually created and processed.

Qwest recognizes that Co-Providers feel that their market entry is delayed by limitations of the current EDI Interoperability test process:

- Paper versions of orders must always be sent to Qwest prior to testing. Co-Providers cannot attempt a function and get an immediate response. Therefore, the learning process can be time consuming, and both Qwest and the Co-Providers must have staff to fully review these paper transactions.
- Co-Providers must maintain production accounts for testing as real production systems are called upon during testing. Some providers do not have end-user accounts within Qwest's network. Others are hesitant to run tests on their end-user's accounts.
- Additionally, Interoperability testing has an impact on Qwest's production environment as well, such as the reservation of real telephone numbers and appointments during the testing process.

As a result, Qwest is currently developing a stand-alone test environment that may be used for Co-Provider testing in place of Interoperability Testing. This environment will be available for Co-Provider use in 3Q2001.

Project Objective

The goal of this project is to supply a test environment to Co-Providers that can be used to:

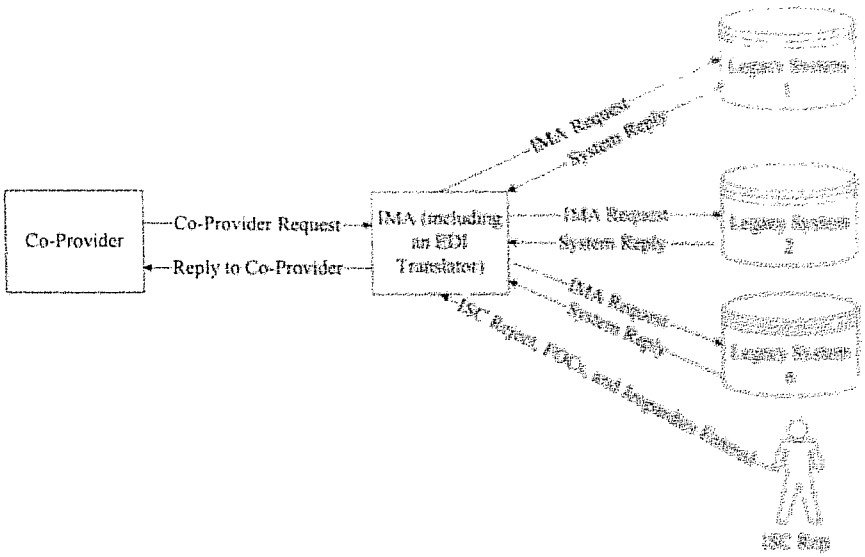
- Test a Co-Provider's EDI application against real IMA functionality. Co-Providers need an unsupervised test environment that does not rely on real production accounts and does not run the risk of interfering with production, but at the same time, interacts with their application as IMA does. Furthermore, this environment must be static, returning the same response every time on a given request, thus making testing easier.
- Run pre-order, order, and post-order scenarios in order to master writing LSRs and other IMA functions. In order to understand IMA functionality, Co-Providers need practice. This environment must provide Co-Providers the opportunity to run functions and get realistic errors and responses as a result.

Working in this environment will allow Co-Providers to test on their own, learn how functions work, and therefore bypass Interoperability testing.

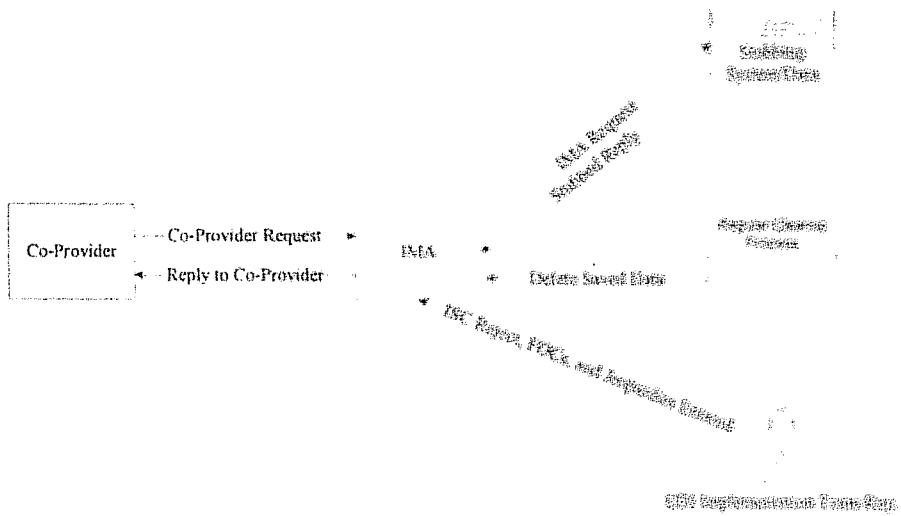
High-Level Definition

High-Level Definition

The IMA EDI Stand-Alone Test Environment (SATE) 'stubs' the back-end calls made by IMA therefore allowing Co-Providers access to IMA and its various features. Transactions in the Production version of IMA that communicate with back-end systems instead communicate with a system of data-driven data responses. This system is called the Stubbing System. From a logical standpoint, not from a physical one, one could view IMA's current architecture as below:



The EDI Stand-Alone Test Environment will, however, look something like this:



The core components of SATE are therefore as follows:

IMA (including an EDI Translator): This is an actual version of IMA configured to direct requests to the Stubbing System instead of the back-end systems it normally calls. It runs all the edits to determine whether the detailed fields within a transaction are valid. The only modifications made especially for this version are listed below:

- Certain edits are turned off. These edits in no way affect acceptance of a function performed by a Co-Provider. These edits are most often used to determine whether an LSR requires Manual Handling before service orders are sent.
- The SATE uses generic Co-Providers that can be used by different actual Co-Providers over time. The SATE version of IMA is therefore configured to hold identification information for these generic Co-Providers.

Stubbing System: IMA will be accessing this system using the same Application Programming Interfaces (APIs) that the Production version of IMA uses when calling back-end systems.

The system, in most cases, returns responses to IMA using data-driven stubs. For example, Co-Providers send requests to IMA to find the address associated with a given telephone number. In Production, IMA sends a request to the Fetch 'n' Stuff system, which in turn sends a request to PREMIS to gather such information. In the SATE however, the request is sent from IMA to the Stubbing System. There, the request is parsed and the telephone number is looked up in a database. If the number is found, the preset response specified for that number is sent back to IMA. If it is not, a generic "No Match " response is sent to IMA.

This basic stub process is replicated for calls to most of the stubbed back-end systems. In some cases, however, an external system is not called, but instead a database is accessed. For instance, in Production, calls to the Loop Qualification Database (one of the systems that is stubbed) are made via SQL Query. Therefore, for this case, the Stubbing System simply has a database view which matches the view called in production and the underlying tables are populated with SATE specific data.

By using this approach, the Stand-Alone Test Environment back-end systems differ from Production only in the data returned on various requests.

Regular Cleanup Process: Since Co-Provider IDs can be passed from one Co-Provider to another in the SATE, the environment is flushed of all transactional data on a monthly basis. This data includes reserved appointments, telephone numbers, and the LSRs entered by Co-Providers.

Development Process

The SATE Development Team

The SATE team was brought together in April 2001. Team Leads were brought from each of the systems to be stubbed. Resources were procured to write System Requirements, to write design documents, and to develop the system.

Although each stubbed system has its own organization, a single system and set of data tables to support stubbed responses is truly being created. Each stubbed system is often referred to as a "component" of the entire stubbing system. The team as a whole, therefore has the following key players in addition to those for each stubbed system:

Title	Role
Technical Project Manager	The Technical Project Manager is responsible for the successful development and launch of the entire project.
Lead Architect	The Lead Architect is responsible for the overall technical solution design and each component of it.
Data Modeling Lead	The Data Modeling Lead is responsible for the data architecture and data model. Her role is to insure uniformity across all stubs and insure that new Co-Provider scenarios can be added to the system without code changes.

Other shared resources across all teams include System Testers (note these are not "component" testers), Data Team members, Database Administrators, and Infrastructure Team Members. In order to complete the team, numerous IMA representatives were needed such as resources from IMA EDI development.

The RAD Process

The high-level definition and project direction for SATE were determined in March of 2001. In order to meet the required 3Q2001 Launch Date, a Rapid Application Development (RAD) process was selected.

Qwest follows a standard methodology for Information Technology projects. SATE is following a RAD modified version of this process. This means the standard deliverables will still be developed, but some of these deliverables will be developed concurrently, rather than sequentially. It also means that additional documentation will be done early in the process to insure the projects' early direction is correct.

The table below lists each of the major Qwest internal documentation deliverables within the RAD-modified methodology. For each of the deliverables, there is a summary of the purpose, contents, authors and reviewers.

As a further note, as part of the RAD process, a phased development approach is being used. The first release, the one targeted for release on July 25, was broken into 3 phases, each made up of a set of IMA functions.

Document	Purpose	Contents	Author	Reviewers
Scope Statement	To insure company-wide acceptance of the project's strategy.	This document stated the high-level technical solution to be used and which exact functions would be supported by 3Q2001. The supported functions were presented to Co-Providers on May 7, 2001The document also states which versions of IMA have to be supported.	Wholesale Business Area Partner (Wholesale BAP)	Business Stakeholders (including EDI Implementation), Development Leads, Technical Project Manager
Project Plan	To identify all the tasks to be completed in order for SATE to be completed.	The Project Plan includes tasks, resources, and milestone dates.	SATE Technical Project Manager	Development Leads, Wholesale BAP, IMA Infrastructure, EDI Implementation
Business Requirements	Specifies business functional requirements. Supports business confirmation of requirements, and used by the IT development team to develop system requirements	Business Requirements for SATE contain the data driven logic for each transaction. The document also includes the first set of test data to be included in the system. Furthermore, they set requirements for uptime, availability, support, and adding	Wholesale Business Area Partner	Business Stakeholders (including EDI Implementation), Development Leads, Technical Project Manager, Test Lead

Document	Purpose	Contents	Author	Reviewers
		new data. Separate Business Requirement Documents are being produced for each phase.		
System Requirements	Specifies system approach for developing the business requirements. Validated to business requirements, and used by development team for detailed design and system test	System Requirements are produced by each component of the stubbing system and by IMA. These requirements breakdown the Business Requirements data driven logic and apply it to how each call is stubbed. It also specifies how Business Requirements for adding new data and scenarios will be supported. The IMA System Requirements includes further detail on blocking unsupported functions and unused IMA transactions. Each component is creating one System Requirements document. An interim signoff of these documents will take place after each phase.	Various System Requirement Groups	Wholesale Business Area Partner, Development Leads, Test Lead
Logical Architecture Diagram	Document SATE's architecture for development	Defines end-to-end IT architecture for SATE. Lists and describes system components, functional interfaces, technical configuration, and where appropriate, technical specifications. Architecture Diagrams will be produced after each phase.	Architecture Lead	Development Leads and System Requirement Leads, Test Lead
Logical Data Model	Document SATE's common data model for development	Specifies data elements, descriptions, and relationships to other data elements for the system. Iterations of this document will be completed for each	Data Modeling Lead	Development Leads and System Requirement Leads, Test Lead

Document	Purpose	Contents	Author	Reviewers
		phase.		
System Test Strategy	Defines how system test will be conducted. Supports business confirmation of test approach	Lists approach for testing, key milestones and dates, and special testing requirements/conditions	System Test Lead	Development Leads and System Requirement Leads, Test Lead
Installation Guide	An installation guide for the Stubbed System	Contains details on how to configure Stubbed System software and database	Documentation Lead	Development Leads, System Administrators
Approval for Production Implementation	To insure company-wide agreement of SATE's preparedness for launch.	A brief launch statement, test results, a recommendation from test lead, and a compilation of other previously referenced documentation.	SATE Technical Project Manager	Business Stakeholders (including EDI Implementation), Development Leads, Wholesale BAP, IMA Infrastructure, Test Lead
Deployment Plan	To document the final steps required to launch the IMA EDI Stand-Alone Test Environment and to insure that roles and Responsibilities are clearly defined.	Detailed steps required launch the environment.	SATE Technical Project Manager	Development Leads, EDI Implementation, IMA Infrastructure
Post Deployment Co-Provider Support Plan	To ensure that any issues are quickly rectified during the days following launch;	staffing plans, on-call numbers, and other logistics designed to ensure a successful launch.	BAP Project Manager, Technical Project Manager	Business Stakeholders, EDI Implementation, IMA Infrastructure, Development Leads

Environment Maintenance

The IMA Infrastructure and EDI teams that currently maintain the Interoperability Environment will maintain the SATE. This group will receive significant support from the SATE team, the IMA team, and teams from each of the stubbed systems.

The SATE development team is responsible for producing the following Qwest internal documentation that would be shared across all stubbed systems:

Document	Purpose	Contents	Author	Reviewers
System Administration Guide	A guide to administering the stubbing system.	Detail on how to maintain the SATE stubbing system.	Documentation Lead	Development Leads, System Administrators

Please note that such documentation is only needed for the Stubbing System, as this documentation already exists for other parts of the system.

The EDI Implementation Process

The Stand Alone Test Environment will significantly impact the IMA EDI Implementation Process. Controlled Production testing will still be required of all Co-Providers, but, after the launch of SATE, Co-Providers will have two paths to reach this Controlled Production test.

All Co-Providers will still have the option of completing the first stage of certification via the current Interoperability Environment process. They may also, however, test in the IMA EDI Stand-Alone Test Environment. If Co-Providers choose to test using SATE, Qwest will still require a minimum set of test transactions be completed by the Co-Provider. Qwest representatives will monitor and review activity on the system to insure a Co-Provider completes the minimum set of transactions for a given function before being allowed to move onto Controlled Production.

Qwest is in the process of detailing the new processes needed to effectively allow Co-Providers to utilize this environment. The same resources and teams that currently run the IMA EDI Implementation Process will manage processes around this new environment.

These teams are currently planning to produce the following documents to be published to the Co-Providers:

Document	Purpose	Contents
IMA Stand Alone Test Environment Data Document	To provide the Co-Provider with data available for use in the environment.	Detailed Data stored within SATE stubs that can be used for testing.
IMA Stand Alone Test Environment Overview	To provide an overview of Stand Alone Test Environment and the processes to allow existing Co-Providers to easily understand how to use the Stand Alone Test Environment.	A basic overview of SATE and how it works.
Updated IMA EDI Implementation Guide	To provide a Co-Provider reference document on the IMA EDI Implementation processes.	This document will be updated to include the processes for using the Stand Alone Test Environment.

A meeting with Co-Providers will be held to explain all new external documentation and processes.

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JUL 31 2002
SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE INVESTIGATION INTO QWEST CORPORATION'S COMPLIANCE WITH SECTION 271(C) OF THE TELECOMMUNICATIONS ACT OF 1996	))))	**Docket No. TC 01-165**

RESPONSE BRIEF OF AT&T REGARDING PAPER WORKSHOP ISSUES

AT&T Communications of the Midwest, Inc. ("AT&T") submits the following Response Brief of AT&T Regarding Paper Workshop Issues with the South Dakota Public Utilities Commission ("Commission").

A. CHECKLIST ITEM 3 – ACCESS TO POLES, DUCT, CONDUIT AND RIGHTS-OF-WAY.

1. Access to ROW Agreements.

Section 271(c)(2)(B)(iii) requires BOCs to provide "nondiscriminatory access to the poles, ducts, conduits, and rights-of-way owned or controlled by the [BOC] at just and reasonable rates in accordance with the requirements of section 224."[1]

AT&T has raised concern regarding the sections of the Qwest SGAT that Qwest purports will provide access to Qwest's ROW agreements. Access to such agreements is vital to ascertaining what ROW Qwest owns or controls and the terms and conditions upon which Qwest has been afforded access.

Qwest agreed to provide access to any publicly recorded ROW agreements. However, for ROW agreements that are not recorded, rather than freely making these

[1] Applications of BellSouth Corporation pursuant to Section 271 of the Communications Act of 1934, as amended, to provide in region-inter LATA services in Louisiana, *CC Docket No. 98-121, FCC 98-271, released October 13, 1998, ¶ 171* ("BellSouth Second Louisiana 271Order").

agreements available to CLECs, Qwest proposed terms and conditions in the Access Agreement (which was to be appended to the SGAT as and Exhibit) that require CLECs to go through the unnecessary and burdensome effort of gaining 1) the landowner's consent to such access before access to the agreements will be afforded, and 2) the landowner's agreement to provide notice and opportunity to cure before it will afford CLECs access to ROW agreements. Qwest's basis for these onerous provisions is some purported "expectation" of the landowner that these "dealings are private." Qwest has never presented any evidence to support this contention in any workshop in any other state. In fact, when AT&T requested discovery on this very point in Minnesota, Qwest objected to AT&T's discovery, claiming that Qwest could not speculate on what the expectations of third parties might be. *See* Exhibit 1. Qwest also refused to produce any ROW agreements in response to AT&T's discovery request in Minnesota, hiding behind its assertion that it could not produce contracts that have confidentiality provisions. It made this same assertion in the Section 271 workshop in Washington and the parties agreed that Qwest would produce sample agreements with certain information that would render the agreement identifiable redacted (pricing, name, addresses, etc.). Even then, in Washington, Qwest could not produce a single ROW agreement that had a confidentiality provision that ran to the benefit of a third-party. The sample agreements produced by Qwest had no confidentiality provision running to the benefit of the property owner.[2] The only confidentiality provision in the Qwest standard form agreement protected Qwest information from disclosure by the third party. Accordingly Qwest has never

[2] See Wilson Affidavit KLW-3, *Sample Telephone License Agreement and* KLW-4, *Agreement for New Multi-Tenant Residential Properties*..

established any basis for the consent or indemnification obligation it seeks to impose on CLECs.

Qwest continues to assert that the Facilitator's compromise language does not violate the Checklist. AT&T has objected to the Facilitator's compromising approach for several reasons. He developed this compromise without finding that Qwest had demonstrated that its agreements contained a confidentiality provision. The Facilitator would have CLECs negotiating indemnification agreements with Qwest even where none would be needed. The simple fact remains that in the absence of an express provision restricting disclosure of a ROW agreement, there is no duty to not disclose the agreement, and CLEC's indemnification of Qwest is meaningless. In short, there is no risk, and because there is no risk, CLEC's agreement to indemnify is pointless.

AT&T contends that the Facilitator's compromise will impede CLEC's access to ROW. The FCC has stated that Qwest must establish nondiscriminatory processes to expedite access to ROWs, stating that such "procedures for an attachment application should ensure expeditious processing so that no [BOC] can use its control of the enumerated facilities and property to impede, inadvertently or otherwise, the installation and maintenance of telecommunications . . . equipment by those seeking to compete in those fields."[3] In addition, the FCC has required RBOCs to provide access to its maps, plats and *other relevant data* to avoid "the need for costly discovery in pursuing a claim of improper denial of access."[4] Qwest agreement access procedure impedes the CLECs access to Qwest's ROW, by imposing unnecessary and burdensome procedures form

[3] BellSouth Second Louisiana 271 Order, ¶ 176.
[4] Local Competition Order, ¶1223 (*emphasis added*).

CLECs to gain access to the very documents which would allow them to determine whether the ROW in question falls within the scope of Qwest' legal obligation.

The Utah Commission, a multistate participant, recognized the deficiencies in the Facilitator's Order and required, in order for Qwest to impose these onerous access requirements when Qwest asserts that the ROW agreement contains a confidential provision running to the benefit of the landowner, Qwest must provide a photocopy of the specific provision that grants the landowner confidentiality rights, with a verification by a Qwest employee, stating that the employee knows it be a true and correct copy of the relevant provision of the Agreement in question.[5]

Since the issuance of the Utah Order, AT&T and Qwest have engaged in further negotiations and on June 6, 2002, Qwest filed consensus revisions to Section 10.8.2.27 and Exhibit D to the SGAT. AT&T has attached a copy of Qwest's filing for the Commission's convenience.[6] For purposes of resolving this issue in this proceeding, AT&T would accept the revisions to Section 10.8 and Exhibit D to the SGAT that were filed in Utah.

The revisions made in Utah, and agreed to by Qwest, address the issues raised by AT&T on access to ROW agreements and many discrepancies and ambiguities in the language Qwest has filed in South Dakota. For example, the Utah language incorporates the processes ordered by the Utah Commission. In addition, Qwest has indicated that it will provide CLECs with publicly recorded ROW agreements, but this commitment and the process for CLECs gaining access to the publicly recorded ROW agreements is not found in Qwest's SGAT. Second, Qwest limits access to agreements to MTE/MDU

[5] See Exhibit 2, Utah April 26 Order, p. 3
[6] See Exhibit 3, Qwest's filing of consensus language in Utah.

agreements. While most of the non-recorded agreements may relate to MTEs (although even here Qwest could not confirm that was the case), CLEC should have access to all ROW agreements, publicly recorded or non-recorded in order to ascertain whether, in fact, Qwest owns or controls the ROW at issue. Third, since the CLEC's rights in the ROW are defined by these ROW agreements, it should be made clear that these access and use restrictions only apply where the CLEC is seeking to ascertain Qwest's ownership or control of the ROW at issue. Once, the CLEC enters into the Access Agreement, the CLEC needs to know the full scope of Qwest's rights and obligations under these ROW agreements, since the CLEC's rights of access and use of the ROW are subject to, subordinate to, and limited by the ROW. Without such access, the CLEC could be exposed to liability from the underlying landowner or Qwest if it conducts itself in a manner inconsistent with the rights and obligations set forth in the ROW agreement. Indeed, in the Form of Access Agreement (Attachment 4 to Exhibit D), Qwest requires the CLEC to agree not to interfere with Qwest's or an authorized users's use of the ROW and seeks to impose upon the CLEC an indemnification obligation for improper use or a use inconsistent with the rights afforded to Qwest. If the CLEC does not have access to the ROW agreements, it cannot fully ascertain what Qwest's rights and obligations are under these ROW agreements and it cannot ensure that is use of the ROW is consistent with the rights afforded to Qwest. All of these language discrepancies have been cured in the consensus SGAT language filed in Utah.

Accordingly, AT&T urges the Commission to adopt the revisions to Section 10.8 and Exhibit D that Qwest agreed to in Utah.

2. **45-Day Response To ROW Requests.**

The FCC Rules are clear and unambiguous. Qwest is required to grant or deny all requests for access to ROW within 45 days. Section 47 CFR 1.1403(b) provides in pertinent part:

> Requests for access to a utility's poles, ducts, conduits or rights-of-way by a telecommunications carrier or cable operator must be in writing. If access is not granted within 45 days of the request for access, the utility must confirm the denial in writing by the 45th day. The utility's denial of access shall be specific, shall include all relevant evidence and information supporting its denial, and shall explain how such evidence and information relate to a denial of access for reasons of lack of capacity, safety, reliability or engineering standards.

The FCC rule is unequivocal. Rule 1.1403(b) contains no exception based on the size of the order, nor does it authorize state commissions to alter this requirement.

In its SGAT, Qwest includes a provision that, in the event that Qwest believes that circumstances require a longer duration to undertake the activities reasonably required to deny or approve a request, allows Qwest to petition for relief before the state commission.

In its brief, Qwest argues that a state commission has the ability to grant a variance of the FCC's rule and that there may be circumstances where such a variance is necessary.

Qwest's position is contrary to law. The FCC vests no discretion with state commission's to alter the FCC rule. State commissions are bound to apply FCC rules and

orders and such rules and orders cannot be challenged in this proceeding.[7] The Hobbs Act vests exclusive jurisdiction in the courts of appeals to review FCC rules and orders. See 28 U.S.C. § 2342 (granting the court of appeals exclusive jurisdiction to determine the validity of FCC Orders).[8] To the extent Qwest or a state commission takes issue with rulings of the FCC, they must do so pursuant to the Hobbs Act. Alternatively, if Qwest seeks relief from the FCC rule, it must seek a waiver of the FCC rule from the FCC, not the state commission. Therefore, state commissions may not alter the 45-day response period established by the FCC Rule. Qwest's interconnection agreement provisions that suggest otherwise are contrary to law.

Moreover, nothing in the *Cavalier Telephone* decision indicates any flexibility in dealing with very large orders under the 45-day deadline. *See, In the Matter of Cavalier Telephone, LLC v. Virginia Electric and Power Company*; 15 FCC Rcd. 9563, June 7, 2000. First, AT&T would note that the issue of the scope of Rule 1.1403 was presented to the FCC, not a state commission, thus lending support for AT&T's jurisdictional argument set forth above. Second, nothing in the *Cavalier Telephone* decision indicates that the FCC will vary the 45-day rule, let alone permit state commissions to do so.

In *Cavalier*, the FCC was asked to address the numerous delays a particular company had encountered in obtaining an electric utility's approval to attach to its poles.

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[7] *See also Wilson v. A.H. Belo Corp., 87 F.3d 393, 397-400 (9th Cir. 1996)*, 87 F.3d at 396-98 (holding that all FCC rulings, whether in the form of rules, orders, or otherwise, are insulated from collateral attack under the Hobbs Act). Indeed, on this very point, the Eighth Circuit concluded that the "fact that the FCC assert[ed] . . . its authority in the commentary section of its First Report and Order as opposed to stating its position as a rule is immaterial." *Iowa Utils. Bd. v. FCC, 120 F.3d 753, 816 (8th Cir. 1997), aff'd in part and rev'd in part*, 119 S. Ct. 721 (1999).

[8] *See U S WEST Communications v. MFS Intelenet, Inc.*, 193 F.3d 1112, 1120 (9th Cir. 1999) (citations omitted) ("The FCC order [i.e., the *Local Competition Order*] is not subject to collateral attack in this proceeding. The Hobbs Act grants exclusive jurisdiction to courts of appeals to determine the validity of all final orders of the FCC. An aggrieved party may invoke this jurisdiction only by filing a petition for review of the FCC's final order in a court of appeals naming the United States as a party.")

In answer to the electric utility's claim that Rule 1.1403 only required it to respond within 45 days if it were going to deny the application, the FCC concluded that under its rules, the responding utility must grant or deny all requests for access to poles within 45 days.

The FCC reinforced its rule, stating:

> We have interpreted the Commission's Rules, 47 CFR §1.1403(b), to mean that a pole owner "must deny a request for access within 45 days of receiving such a request or it will otherwise be deemed granted." **We conclude that Respondent is required to act on each permit application submitted by Complainant within 45 days of receiving the request.** To the extent that a permit application includes a large number of poles, respondent is required to approve access as the poles are approved, so that complainant is not required to wait until all poles included in a particular permit are approved prior to being granted any access at all. Respondent shall immediately grant access to all poles to which attachment can be made permanently or temporarily, without causing a safety hazard, for which permit applications have been filed with Respondent for longer than 45 days.

The FCC granted no variance from the 45-day time period, but rather directed the electric utility to provide immediate access to all poles for which permit applications had been pending for greater than 45 days.

The FCC's interpretation of its rules in the *Cavalier* case is controlling here. Neither Qwest, nor this Commission may extend the time it has to respond to large orders beyond the 45-day response time permitted by the FCC's Rules. This is the conclusion reached by the Arizona, Colorado and Washington Commissions.[8] Indeed, each of these Commissions explicitly rejects Qwest's reading of the *Cavalier* case. Each of these Commissions has required Qwest to strictly adhere to the FCC's rule.

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[8] Arizona Docket No. T-00000A-97-0238, Decision No. 64300, dated December 20, 2001, p. 9 (Exhibit 4); Washington Docket No. UT-003022, Commission Order Addressing Workshop One Issues: Checklist Items No. 3, 7, 8, 9, 10, 12 and 13, dated June 11, 2001, ¶¶ 21-34 (Exhibit 5); Colorado Docket No. 97I-198T, Decision No R01-651-I, dated June 22, 2001, pp. 11-14 (Exhibit 6).

Because Qwest's SGAT regarding the time it has to respond to large orders beyond the 45-day response time are contrary to law, Qwest is not in compliance with § 251 and 271 of the Act and, therefore, Checklist Item No. 3 has not been fully satisfied.

Respectfully submitted this 28th day of June, 2002.

AT&T COMMUNICATIONS
OF THE MIDWEST, INC.

By: Rebecca B. DeCook /AW

Mary B. Tribby
Rebecca B. DeCook
Steven H. Weigler
AT&T Law Department
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Denver, Colorado 80202
(303) 298-6357

Exhibit 1

Qwest Corporation
Law Department
200 South Fifth Street, Room 395
Minneapolis, Minnesota 55402
Telephone (612) 672-8905
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Jason D. Topp
Attorney

ride the light
Qwest.

December 28, 2001

Rebecca B. DeCook
Senior Attorney
AT&T
1875 Lawrence Street, Room 1575
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Re: In the Matter of a Commission Investigation into Qwest's Compliance with Section 271(c)(2)(B) of the Telecommunications Act of 1996; Checklist Items 3, 7, 8, 9, 10 and 12
Docket No. P421/CI-01-1370

Dear Ms. DeCook:

Enclosed are Qwest Corporation's responses to AT&T's Information Requests Nos. 1-8 along with an Affidavit of Service

Sincerely,

Jason Topp/KRS

Jason D. Topp

Enclosures
Cc: Sharon Ferguson

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Gregory Scott	Chair
Marshall Johnson	Commissioner
LeRoy Koppendrayer	Commissioner
Edward A. Garvey	Commissioner
Phyllis Reha	Commissioner

Re: In the Matter of a Commission Investigation into Qwest's Compliance with Section 271(c)(2)(B) of the Telecommunications Act of 1996; Checklist Items 3, 7, 8, 9, 10 and 12
Docket No. P421/CI-01-1370

AFFIDAVIT OF SERVICE

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

Duane Scherr, being first duly sworn, deposes and says;

That on the 28th day of December, 2001, at the City of Minneapolis, State of Minnesota, he served the attached annexed filing on the parties on the attached letter, by either delivery in person or mailing to them a copy thereof, enclosed in an envelope, postage prepaid, and by depositing same in the post office at Minneapolis, Minnesota, directed to said addressees at their last known addresses.

Duane Scherr

Subscribed and sworn to before me
this 28th day of December, 2001.

Notary Public

LISA M. HIGGINS
NOTARY PUBLIC-MINNESOTA
My Commission Expires Jan 31, 2005

State Of Minnesota
AT&T Communications of the Midwest, Inc., TCG Minnesota, Inc. and AT&T Broadband Phone of Minnesota, Inc.
INFORMATION REQUEST

P421/CI-01-1370

Information Requested From:	Qwest Corporation
Information Requested By:	DeCook, Rebecca
Date Requested:	12/05/2001
Date Response Due:	12/11/2001

REQUEST:

Please produce all non-recorded right-of-way or property agreements, including Multiple Tenant Environments or Multiple Dwelling Units agreements in Minnesota, between Qwest and third-party owners, which permit Qwest to access, or that convey Qwest an ownership or control interest in the ROW, MTE or MDU and which Qwest claims contain provisions that reflect an expectation by the Landowner that these agreements will be kept confidential.

RESPONSE:

Qwest objects to this request on grounds that it is vague, ambiguous, unintelligible, and improperly calls for Qwest to speculate regarding the "expectations" of third parties. Qwest does not know what is meant by the requests reference to all agreements that "contain provisions that reflect an expectation by the landowner that these agreements will be kept confidential." However, to the extent that this request seeks the production and disclosure of agreements that in fact contain binding nondisclosure and/or confidentiality provisions, Qwest objects to this request on grounds that by its terms the request calls for the production documents and disclosure of information protected from disclosure under those same nondisclosure and/or confidentiality provisions.

Exhibit 2

- BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH -

In the Matter of the Application of QWEST CORPORATION, fka U.S. West Communications, Inc., for Approval of Compliance with 47 U.S.C. § 271(d)(2)(B)	))))	DOCKET NO. 00-049-08 ORDER

ISSUED: April 26, 2002

By The Commission:

This Order addresses two outstanding issues in this Docket. The first regards our grant of reconsideration of our May 25, 2001 Order. The issue involved compensation for CLEC interconnection facilities. After examining the record and applicable law the Commission finds that our original decision was correct. Therefore, no changes to existing SGAT language are required with respect to that issue. The second issue relates to our Order of September 18, 2001, that provided direction to the parties in resolving outstanding issues under Checklist item three, disputed issue number three (access to right-of-way or landowner agreements).

Despite the direction provided in our earlier Orders the parties (Qwest and AT&T) have failed to reach agreement regarding access to the right-of-way (landowner) agreements. As a result, the Commission is issuing additional directions in this Order to bring closure to this Checklist item. We note that the protective agreement language the parties have presented appears to be acceptable to both parties. Therefore, we will accept it without further review. There appears to still be four remaining areas of dispute.

First, should the process contemplated in the September 18th Order be the sole process for resolving access to confidential landowner agreements (AT&T's preference), or

simply one of many options (Qwest's preference)? The Commission will not limit the ability of parties to agree to other options not specified in the Commission's Orders as a part of their individual interconnection agreements. Consequently, we will not require that the information reporting process our September 18th Order contemplates be the sole option available. We do wish to make it clear however, that a CLEC has the right to specify in advance (as part of their interconnection agreement, or at any other time) that the information exchange process is the default method by which they wish to receive the information in the case where an agreement is found to give confidentiality rights to a landowner. Further, as part of that process the SGAT must delineate the time period that Qwest has to respond to an information request. Most likely, the time it takes Qwest to determine if the Agreement in question is a confidential agreement should concurrently be the same time period that Qwest compiles and returns the requested information to the CLEC; or alternatively, if the agreement is not confidential the period in which Qwest would return the actual agreement. The SGAT may not include any language which obligates a CLEC to try other methods first before availing themselves of this option, nor may Qwest require a separate election of method for each request.

Second, with respect to any other confidentiality rights Qwest may have in the agreement, Qwest has agreed to accept AT&T's proposed changes in language regarding this issue. Qwest stated in its reply to AT&T's motion: "Qwest is willing to incorporate AT&T's suggested approach in Sections 10.8.2.27.2 and 10.8.2.27.3 on this limited issue." Qwest also agreed in its reply comments to adopt the suggested language in paragraph 12 of the Access

Agreement, Attachment 4 to Exhibit D of the SGAT, Therefore the Commission adopts the suggested language.

Third, the parties dispute whether information or the agreement itself is sufficient in cases where the agreement grants confidentiality to the landowner rather than to Qwest. Our earlier Order is clear on this point. We directed the parties to draw up an explicit list of the information required that would be provided instead of the confidential agreement . In the materials submitted to the Commission we did not see such a list. We clarify that provision of information is sufficient, and direct the parties to specify the type of information to be provided. As noted above, the parties must also agree on a time limit for the provision of this information from the date of the initial (not a follow-up) request.

A related point that AT&T raises is verification that the agreement actually grants confidentiality to the landowner. For cases where Qwest asserts that the agreement is confidential, we direct Qwest to provide a photocopy of the specific provision that grants the landowner confidentiality rights. This photocopy should be returned to the requesting CLEC when Qwest informs the CLEC that the agreement is confidential. Qwest should also provide the alternative information in lieu of the agreement at that same time. The photocopy of the agreement provision must be signed by a Qwest employee verifying that the employee knows it be a true and correct copy of the relevant provision of the Agreement in question. Fourth, we address AT&T's suggested text for section 10.8.4. These changes propose providing the actual

confidential agreement to the CLEC, something our September Order does not require. Hence, the Commission rejects these changes.

ORDER

NOW, THEREFORE, IT IS HEREBY ORDERED, that:

1. The parties submit the information and required language detailed above.

2. Pursuant to Section 63-46b-13, Utah Code Ann. (2000), any person aggrieved by this Order may petition the Commission in writing for reconsideration within 20 days of the date of this Order. Pursuant to Section 54-7-15, Utah Code Ann. (2000), failure to file such a request will result in the forfeiture of the right to appeal to the Utah Supreme Court. If the Commission fails to issue an order within 20 days after the filing of such a request, the request shall be considered denied.

DATED at Salt Lake City, Utah, this 26th day of April, 2002.

s/ Stephen F. Mecham, Chairman

/s/ Constance B. White, Commissioner

/s/ Richard M. Campbell, Commissioner

Attest:

/s/ Julie Orchard

CONTINUATION

[1]

Scan ~ ~ # Pgs [ ]

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Attorneys for Qwest Corporation

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of QWEST CORPORATION for Approval of Compliance with 47 U.S.C. § 271(d)(2)(B)	: : :	Docket No. 00-049-08

QWEST CORPORATION'S NOTICE OF UPDATED SECTION 10.8 AND EXHIBIT D TO STATEMENT OF GENERALLY AVAILABLE TERMS AND CONDITIONS TO COMPLY WITH COMMISSION ORDERS

Qwest Corporation ("Qwest") submits this notice in support of its updated Section 10.8 and Exhibit D to its Statement of Generally Available Terms and Conditions ("SGAT") developed in compliance with orders issued on May 25, 2001, September 18, 2001, and April 26, 2002, by the Public Service Commission of Utah ("Commission") in this Docket relating to Disputed Issue Number Three (Access to Landowner Agreements) under Checklist Item 3 (Access to Poles, Ducts, Conduits and Rights-of-Way) under section 271 of the Telecommunications Act of 1996, 47 U.S.C. §§ 151, *et seq.* (the "Act").

As explained below, all of the revisions to Section 10.8 and Exhibit D to the SGAT set forth in the attached exhibits comply with the Commission's Orders and represent consensus language of the parties. With these revisions, there are no outstanding issues relating to Checklist Item 3 in the state of Utah. Accordingly, the Commission should adopt the revisions and conclude that Qwest satisfies all requirements of Checklist Item 3 under the Act.

I. BACKGROUND

The SGAT modifications set forth in the attached exhibits (the "landowner agreement access package" or "package") relate to CLEC access to non-recorded right-of-way agreements, including agreements relating to multiple tenant environments ("MTEs"), between Qwest and third-party property owners in Utah. The Commission has issued three orders addressing issues relating to this issue – May 25, 2001, September 18, 2001, and April 26, 2002 (collectively, the "MTE/ROW Orders").

Through their good faith discussions, the parties have been able to agree on all aspects of the landowner agreement access package to comply with the Commission's MTE/ROW Orders. The revisions set forth in the attached exhibits reflect the parties' agreement and include changes made to Section 10.8 and Exhibit D of the SGAT to comply with the latest of the MTE/ROW Orders[1] and to standardize usage throughout Section 10.8 and Exhibit D.

[1] The highlighted and annotated revisions reflect changes made to the SGAT from the SGAT currently on file with the Commission – the "Fifth Revision" dated April 10, 2002. That version of the SGAT already incorporated changes made to comply with the first two (May 25 and September 18, 2001) of the MTE/ROW Orders.

II. DISCUSSION

In addition to those changes made to the SGAT to comply with the Commission's May 23, 2001 and September 18, 2001 orders, in the April 26, 2002 Order, the Commission ordered further revisions relating to four issues. As explained below, the parties have agreed on language implementing each of these four areas of changes.

First, the Commission directed the parties to include language in the SGAT to allow CLECs in Utah to choose in advance as a "default" which of three available "methods"[2] to use in order to have access to non-recorded agreements between Qwest and third-party owners of multiple tenant environments ("MTEs") in Utah which contain confidentiality provisions in favor of the landowner.[3] In addition, the Commission concluded that CLECs should be required to satisfy only one of those conditions.[4] The agreed-to language of Section 10.8.2.27.2 implements the Commission's directives on this issue. It provides:

> CLEC must satisfy only one of the conditions set forth in this Section. CLEC's election of the specific condition to satisfy remains at all times within its sole discretion. CLEC may specify at the time it executes this Agreement its election of the means by which it chooses to satisfy the conditions of this Section for all agreements CLEC may request during the term of this Agreement.[5]

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[2] The three possible "methods" of access are: (1) consent from the property owner; (2) indemnification of Qwest; and (3) execution of a form protective agreement. *See* SGAT § 10.8.2.27.2.

[3] *See* April 26, 2002 Order at 1-2.

[4] *See id.* at 2.

[5] *See also* SGAT Exhibit D § 2.1.

Second, the Commission ordered the inclusion of language in the SGAT "delineat[ing] the time period that Qwest has to respond to an information request."[6] Section 10.8.2.27.1.2 provides that to the extent the CLEC has already satisfied one of the conditions of disclosure (consent, indemnification, or protective agreement), the information regarding the agreement at issue will be provided "at the time Qwest provides the MTE Matrix or ROW Matrix, as applicable."[7] Under Section 10.8.2.27.1, the matrices are to be provided within ten days of receipt of a completed Attachment 1.A. To the extent that a CLEC has not previously elected and satisfied one of the conditions, the information will not be supplied with the matrices but will be supplied "within three business days after the CLEC satisfies one of the conditions."[8]

Third, the Commission directed the parties to "specify the type of information" to be provided to CLECs in cases where the agreement between Qwest and the MTE "grants confidentiality to the landowner."[9] Section 10.8.2.27.1.2 provides the list of information to be supplied to CLECs under such circumstances:

> (a) the ownership or control over ducts, conduits, or rights-of-way within the property described in the agreement, including provisions which define the scope of Qwest's ownership or control of the ducts, conduits or rights-of-way; (b) the ownership of wire within the property described in the agreement; (c) the demarcation point between Qwest facilities and the property owner's facilities in the property described in the agreement; (d) to the extent the agreement affects any property interest of a third-party owner, any provision(s) that describe the property, including any metes and bound or other legal

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[6] April 26, 2002 Order at 2.

[7] *See also* SGAT Exhibit D § 2.1.

[8] *See* SGAT § 10.8.2.27.1.2; *see also* SGAT Exhibit D § 2.1.

[9] April 26, 2002 Order at 3.

> description of the property; (e) the term of the agreement; and (f) the parties to the agreement.[10]

Fourth, the Commission ordered that the SGAT obligate Qwest to "provide a photocopy of the specific provision that grants the landowner confidentiality rights."[11] Section 10.8.2.27.1.2 complies with this provision of the Commission's order:

> Qwest shall also provide a copy of the specific provision from such agreement affording the third party property owner confidentiality together with a written statement signed by a Qwest employee verifying that such employee knows such provision to be a true and correct copy from the agreement.[12]

In sum, the attached SGAT language for Section 10.8 and Exhibit D fully complies with all of the Commission's MTE/ROW Orders. The language is consensus language agreed to by the parties and should be adopted. With these changes, the Commission should make a finding that Qwest satisfies the requirements of Checklist Item 3 under section 271 of the Act.

III. CONCLUSION

For the foregoing reasons, it is respectfully submitted that the Commission should adopt the revised SGAT language filed with this notice and conclude that Qwest has complied with all of the Commission's orders relating to Checklist Item 3 and, therefore, satisfies all of the requirements of the checklist item under the Act.

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[10] *See also* SGAT, Exhibit D § 2.1.

[11] April 26, 2002 Order at 3.

[12] *See also* SGAT Exhibit D § 2.1.

SGAT Exhibit D

Date General Information Provided by Qwest:_____
General Agreement :_____
BAN Number(must be assigned before processing):_____

REVISED QWEST RIGHT OF WAY, POLE ATTACHMENT, INNERDUCT OCCUPANCY GENERAL INFORMATION: EFFECTIVE 6/29/01

1. **PURPOSE**. The purpose of this General Information document is to share information and provide or deny permission to attach and maintain CLEC's facilities ("Facilities") to Qwest Corporation's ("Qwest") Poles, to place Facilities on or within Qwest's Innerduct (collectively "Poles/Innerduct") and to obtain access to Qwest's private right-of-way duct/conduit or ROW, including duct/conduit or ROW within a specific multiple tenant environment ("ROW"), to the extent Qwest has the right to grant such access. This General Information is necessary to determine if Qwest can meet the needs of the CLEC's request but does not guarantee that physical space or access is currently available. Permission will be granted on a first-come, first-serve basis on the terms and conditions set forth in the appropriate agreement pertaining to "Poles/Innerduct".[1]

2. **PROCESS**. The Qwest process is designed to provide the CLEC the information so as to assist CLEC and Qwest to make Poles, Innerduct and ROW decisions in a cost-efficient manner. The Process has these distinct steps:

2.1 Inquiry Review - Attachment 1.A (Database Search). The CLEC is requested to review this document and return Attachment 1.A along with two copies of a map and the nonrefundable Inquiry Fee, calculated in accordance with Attachment 1.A hereto. These fees are intended to cover Qwest's expenses associated with performing an internal record (database) review, preparing a cost estimate for the required field survey, setting up an account, and determining time frames for completion of each task to meet the CLEC's Request. Be sure a BAN number is assigned by the Qwest Service Support Representative for each request before sending an Attachment 1.A. To request a BAN number send an email requesting one to: wsst@qwest.com. Include your name, company, phone number, email address, city and state of our inquiry. A BAN number will be assigned to your inquiry and will be emailed to you along with other materials.

As indicated on Attachment 1.A, a copy of the signed Attachment and maps of the desired route must be emailed to wsst@qwest.com while the fee must be sent to the Qwest CLEC Joint Use Manager with the original signed Attachment 1.A. The map should clearly show street names and highways along the entire route, and specific locations of entry and exit of the ROW/duct/pole system. Area Maps should be legible and identify all significant geographic characteristics including, but not limited to, the following: Qwest central offices, streets, cities, states, lakes, rivers, mountains, etc. Qwest reserves the right to reject illegible or incomplete maps. If CLEC wishes to terminate at a particular manhole (such as a POI) it must be indicated on the maps. For ROW: Section, Range and Township, to the ¼ section must also be provided.

Qwest will complete the Inquiry review and prepare and return a Poles/Innerduct Verification/ROW Access Agreement Preparation Costs Quotation (Attachment 1.B) to the CLEC generally within ten (10) days of receipt of Attachment 1.A or the applicable federal or state law, rule or regulation that governs this Agreement in the state in which Innerduct attachment is

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[1] This change reflects post-workshop consensus language that complies with orders of the Utah Public Service Commission issued on April 26, 2002, September 18, 2001, and May 25, 2001, in *In the Matter of the Application of Qwest Corporation, fka US WEST Communications, Inc., for Approval of Compliance with 47 U.S.C. § 271 (d)(2)(B)*, Docket No. 00-049-08 (collectively "Utah MTE/ROW Orders").

requested. In the case of poles, Qwest will assign a Field Engineer and provide his/her name and phone number to the CLEC. The Field Engineer will check the local database and be available for a joint verification with the CLEC. The Poles/Innerduct Verification/ROW Access Agreement Preparation Costs Quotation will be valid for thirty (30) calendar days from the date of quotation. The inquiry step results only in the location and mapping of Qwest facilities and does not indicate whether space is available. This information is provided with Attachment 1.B.[2]

In the case of ROW, Qwest will prepare and return a ROW ~~information matrix~~Matrix and a copy of agreements listed in the ROW Matrix, within ten (10) days. The ROW Matrix will identify (a) the owner of the ROW as reflected in Qwest's records, ~~and~~ (b) whether or not Qwest has a copy of the agreement between Qwest and the owner of the ROW, and (c) the nature of each ROW (i.e., publicly recorded and non-recorded). The ROW ~~information matrix~~Matrix will also indicate whether or not Qwest has a copy of the ROW agreement in its possession. Qwest makes no representations or warranties regarding the accuracy of its records, and CLEC acknowledges that, to the extent that real property rights run with the land, the original granting party may not be the current owner of the property.[3]

In the case of MTEDUs, Qwest will prepare and return an MTE~~DU~~ ~~information matrix~~Matrix, within ten (10) days, which will identify (a) the owner of the MTE~~DU~~ as reflected in Qwest's records, and (b) whether or not Qwest has a copy of the agreement between Qwest and the owner of a specific MTE ~~multi-dwelling unit~~ that grants Qwest access to the MTE ~~multi-dwelling unit~~ in its possession, and (c) the nature of each ROW (i.e., publicly recorded and non-recorded). Qwest makes no representations or warranties regarding the accuracy of its records, and CLEC acknowledges that the original landowner may not be the current owner of the property.[4]

If Qwest has a copy of such ROW agreement (whether publicly recorded or not) and there is no specific provision affording the third party property owner confidentiality, Qwest will provide the agreement to the CLEC when it provides the MTE Matrix or ROW Matrix, as applicable, to CLEC. If Qwest has a copy of such ROW agreement, the agreement is not publicly recorded and the agreement contains a specific provision affording the third party property owner confidentiality, then at the time Qwest provides CLEC the MTE Matrix or ROW Matrix, as applicable, Qwest shall also provide a copy of the specific provision from such agreement affording the third party property owner confidentiality together with a written statement signed by a Qwest employee verifying that such employee knows such provision to be a true and correct copy from the agreement. If CLEC has already satisfied one of the conditions set forth in Section 10.8.2.27.2, Qwest will provide CLEC with the following information from such agreement at the time Qwest provides the MTE Matrix or ROW Matrix, as applicable, and confidentiality provision: (a) the ownership or control over ducts, conduits, or rights-of-way within the property described in the agreement, including provisions which define the scope of Qwest's ownership or control of the ducts, conduits or rights-of-way; (b) the ownership of wire within the property described in the agreement; (c) the demarcation point between Qwest facilities and the property owner's facilities in the property described in the agreement; (d) to the extent the agreement affects any property interest of a third-party owner, any provision(s) that describe the property, including any metes and bound or other legal description of the property; (e) the term of the agreement; and (f) the parties to the agreement. If CLEC has not already satisfied one of the conditions set forth in Section 10.8.2.27.2, Qwest will provide CLEC with the foregoing information (items (a) through

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[2] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[3] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[4] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

~~6. Absent from such agreement within three (3) business days after CLEC satisfies one of the conditions.~~[4]

~~Qwest will provide to CLEC a copy of~~ an agreements listed in the MTE Matrix or ROW Matrix, as ~~applicable. Matrices~~ that hasve not been publicly recorded and that contains a specific provision ~~limiting the~~ third party property owner confidentiality, upon satisfaction by CLEC of any one of ~~the following conditions: (1) if~~ CLEC obtains authorization for such disclosure from the third party ~~owner(s)~~ of the real property at issue by presenting to Qwest an executed version of the Consent ~~to Disclosure form that,~~ which is included in Attachment 4 to Exhibit D of this Agreement; (2) ~~CLEC provides Qwest will redact all dollar figures from copies of agreements listed in the Matrices that have not been publicly recorded that Qwest provides to CLEC. Alternatively, in order to secure any agreement that has not been publicly recorded, a CLEC may provide~~ a ~~legally binding and satisfactory~~ agreement to indemnify Qwest in the event of any legal action ~~arising out of~~ Qwest's provision of such agreement to CLEC; or (3) CLEC ~~must~~ agrees to be ~~bound by the terms and conditions of~~ and executes the Form Protective Agreement set forth in ~~Attachment 5 to Exhibit D of this Agreement hereto.~~ CLEC must satisfy only one of the conditions ~~set forth~~ in this section. CLEC's election of the specific condition to satisfy remains at all times ~~within its sole discretion.~~ CLEC may specify at the time it executes this Agreement its election of ~~the means by which it chooses to satisfy the conditions of this Section for all agreements CLEC may request during the term of this Agreement. In that event, the CLEC shall not be required to execute the Consent to Disclosure form.~~[5]

~~Without waiving any right it may have to confidentiality in an agreement that provides Qwest access to a MTE that Qwest provides to CLEC or that CLEC obtains from the MTE owner or operator, Qwest shall redact all dollar figures from copies of agreements that have not been publicly recorded that Qwest provides to CLEC and shall require that the MTE owner or operator make similar redactions prior to disclosure of the agreement.~~[6]

~~If there is no other effective~~ agreement (*i.e.*, an Interconnection Agreement) between CLEC and ~~Qwest concerning~~ access to Poles, Ducts and ROW, then Attachment 3 must be executed by ~~both parties~~ in order to start the Inquiry Review and in order for CLEC to obtain access to Poles, ~~Ducts and/or~~ ROW.

~~2.2~~ Attachment 1.B (Verification) & Attachment 4 (Access Agreement Preparation). With ~~respect to Poles~~ and Innerduct, upon review and acceptance of signed Attachment 1.B and ~~payment of the estimated~~ verification costs by the CLEC, Qwest will conduct facilities verification ~~and provide the requested~~ information which may or may not include the following: a review of ~~public and/or internal~~ Qwest right-of-ways records for restrictions, identification of additional ~~rights-of-way required;~~ a field survey and site investigation of the Innerduct, including the ~~preparation of distances~~ and drawings, to determine availability on existing Innerduct; ~~identification of any~~ make-ready costs required to be paid by the CLEC, if applicable, prior to ~~installing its facilities.~~ In the case of Poles, Attachment 1.B orders the field verification which may ~~be done jointly.~~ A copy of the signed Attachment 1.B should be emailed to wsst@qwest.com ~~while the appropriate~~ fees should be sent to the Qwest-CLEC Joint Use Manager with the original ~~signed Attachment 1.B.~~ Upon completion of the verification, Attachment 2 will be sent to the ~~CLEC by Qwest.~~

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[4] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[5] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[6] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

With respect to ROW, upon review and acceptance of signed Attachment 1.B and payment of the ROW conveyance consideration, Qwest will deliver to the CLEC an executed and acknowledged Access Agreement to the CLEC in the form attached hereto as Attachment 4 (the "Access Agreement"). In the event that ~~the ROW in question was created by a publicly recorded document and~~ Qwest has a copy of the Right-of-Way Agreement ~~such document~~ in its files, a copy of the Right-of-Way Agreement, as defined in the Access Agreement, will be attached to the Access Agreement and provided to the CLEC at the time of delivery of the Access Agreement. ~~If the ROW was created by a document that is not publicly recorded, or if~~ Qwest does not have a copy of the Right-of-Way Agreement in its possession, the Access Agreement will not have a copy of the Right-of-Way Agreement attached. ~~If the ROW was created by a non-publicly recorded document, but~~ Qwest does not have a copy of the Right-of-Way Agreement in its possession, the CLEC must obtain a copy of the Right-of-Way Agreement or other suitable documentation reasonably satisfactory to Qwest to describe the real property involved and the underlying rights giving rise to the Access Agreement.[8]

Although Qwest will provide the identity of the original grantor of the ROW, as reflected in Qwest's records, the CLEC is responsible for determining the current owner of the property and obtaining the proper signature and acknowledgement to the Access Agreement. If Qwest does not have a copy of the Right-of-Way Agreement in its records, it is the responsibility of the CLEC to obtain a copy of the Right-of-Way Agreement. If the ROW was created by a publicly recorded document, the CLEC must record the Access Agreement (with the Right-of-Way Agreement attached) in the real property records of the county in which the property is located. If the ROW was created by a grant or agreement that is not publicly recorded, CLEC must provide Qwest with a copy of the properly executed and acknowledged Access Agreement ~~and, if applicable, properly executed Consent Regarding Disclosure form or letter of indemnification or must agree to be bound by the terms and conditions of the Form Protective Agreement set forth in Attachment 5 hereto.~~[9]

Qwest is required to respond to each Attachment 1.B. submitted by CLEC within 35 days of receiving the Attachment 1.B. In the event that Qwest believes that circumstances require a longer duration to undertake the activities reasonably required to deny or approve a request, it may petition for relief before the Commission or under the escalation and dispute resolution procedures generally applicable under the interconnection agreement, if any, between Qwest and CLEC.

2.3 Poles/Duct Order Attachment 2 (Access). In the case of Poles and Innerduct, upon completion of the inquiry and verification work described in Section 2.2 above, Qwest will provide the CLEC a Poles/Innerduct Order (Attachment 2) containing annual recurring charges, estimated Make-ready costs. Upon receipt of the executed Attachment 2 Order form from the CLEC and applicable payment for the Make-Ready Fees identified, Qwest will assign the CLEC's requested space; Qwest will also commence the Make-ready work within 30 days following payment of the Make-Ready Fees. Qwest will notify CLEC when Poles/Innerduct are ready for attachment or placement of Facilities. A copy of the signed Attachment 2 form should be emailed to wsgt@qwest.com while the payment should go to the Joint Use Manager along with the original signed Attachment 2.

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[8] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[9] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

NOTE: Make-ready work performed by Qwest concerns labor only. For Poles it involves rearrangement to accommodate the new attachment. For Innerduct, it involves placing the standard three innerducts in the conduit to accommodate fiber cable where spare conduit exists. Segments without conduit space are considered "blocked". Qwest will consider repair or clearing damaged facilities, but may not construct new facilities as part of Make-ready work.

Construction work to place conduit or replace poles may be required where facilities are blocked. The CLEC may contract separately with a Qwest-approved contractor to complete the construction provided a Qwest inspector inspects the work during and after construction. If other parties benefit from construction, the costs may be divided among the beneficiaries. Construction costs are not included in Attachment 2. The CLEC is not encouraged to sign the Poles/Innerduct Order (Attachment 2) until provisions have been made for construction.

2.4 Provision of ROW/Poles/Innerduct. Qwest agrees to issue to CLEC for any lawful telecommunications purpose, a nonexclusive, revocable Order authorizing CLEC to install, maintain, rearrange, transfer, and remove at its sole expense its Facilities on Poles/Innerduct to the extent owned or controlled by Qwest. Qwest provides access to Poles/Innerduct/ROW in accordance with the applicable federal, state, or local law, rule, or regulation, incorporated herein by this reference, and said body of law, which governs this Agreement in the state in which Poles/Innerduct is provided. Any and all rights granted to CLEC shall be subject to and subordinate to any future federal, state, and/or local requirements. Nothing in this General Information shall be construed to require or compel Qwest to construct, install, modify, or place any Poles/Innerduct or other facility for use by the CLEC.

The costs included in the Poles/Innerduct Verification Fee are used to cover the costs incurred by Qwest in determining if Poles/Innerduct space is available to meet the CLEC's request; however, the CLEC must agree and will be responsible for payment of the actual costs incurred if such costs exceed the estimate. If the actual costs are less than the estimate, an appropriate credit can be provided upon request. If Qwest denies access, Qwest shall do so in writing, specifying the reasons for denial within 45 days of the initial inquiry.

Likewise, the fees included in the ROW processing costs quotation are used to cover the costs incurred by Qwest in searching its databases and preparing the Access Agreement. In the event that complications arise with respect to preparing the Access Agreement or any other aspect of conveying access to Qwest's ROW, the CLEC agrees to be responsible for payment of the actual costs incurred if such costs exceed the standard fees; actual costs shall include, without limitation, personnel time, including attorney time.

3. DISPUTE RESOLUTION

3.1. Other than those claims over which a federal or state regulatory agency has exclusive jurisdiction, all claims, regardless of legal theory, whenever brought and whether between the parties or between one of the parties to this Agreement and the employees, agents or affiliated businesses of the other party, shall be resolved by arbitration. A single arbitrator engaged in the practice of law and knowledgeable about telecommunications law shall conduct the arbitration in accordance with the then current rules of the American Arbitration Association ("AAA") unless otherwise provided herein. The arbitrator shall be selected in accordance with AAA procedures from a list of qualified people maintained by AAA. The arbitration shall be conducted in the regional AAA office closest to where the claim arose.

3.2. All expedited procedures prescribed by the AAA shall apply. The arbitrator's decision shall be final and binding and judgment may be entered in any court having jurisdiction thereof.

3.3. Other than the determination of those claims over which a regulatory agency has exclusive jurisdiction, federal law (including the provisions of the Federal Arbitration Act, 9 U.S.C. Sections 1-16) shall govern and control with respect to any issue relating to the validity of this Agreement to arbitrate and the arbitrability of the claims.

3.4. If any party files a judicial or administrative action asserting claims subject to arbitration, and another party successfully stays such action and/or compels arbitration of such claims, the party filing the action shall pay the other party's costs and expenses incurred in seeking such stay or compelling arbitration, including reasonable attorney's fees.

ATTACHMENT 1. A
Poles/Innerduct/ or ROW Inquiry Preparation Fee

General Agreement _____

BAN Number (one for each route must be assigned before processing):_____

Date Submitted: _____ Date Replied to CLEC: _____

CLEC Name_____Contact name:_____
Billing Address: _____
Phone Number_____ e-mail address:_____
State and city of inquiry:_____

Poles/Innerduct Permit Database Search Costs Quotation
(One Mile Minimum)

	Costs	Est. Miles		Total
1. Pole Inquiry Fee	(see attached pricing chart) X	_____	=	$_____
2. Innerduct Inquiry Fee	(see attached pricing chart) X	_____	=	$_____
3. ROW Records Inquiry	(see attached pricing chart) X	_____	=	$_____

4. Estimated Interval for Completion of Items 1, 2 or 3: 10 Days
5. Additional requirements of CLEC: _____

This Inquiry will result in (a) for Poles and Innerduct: a drawing of the duct or innerduct structure along the requested route, if available, and a quote of the charges for field verification, and/or (b) in the case of ROW, a ROW Matrix or MTE Matrix, as applicable ~~identification matrix~~, a quote of the charges for preparation of and consideration for, the necessary Access Agreements, and copies of ROW documents in Qwest's Possession. (c) For Poles, the name and telephone number of the Field Engineer are provided so that the CLEC may contact the Qwest Field engineer and discuss attachment plans. If a field verification of poles is required, Attachment 1.B must be completed and the appropriate charges paid. Innerduct verification is always required.[1]

By signing below and providing payment of the Estimated Costs identified above, the CLEC desires Qwest to proceed with the processing of its database/records search and acknowledges receipt of this General Information, including the General Terms and Conditions under which Qwest offers such Poles/Innerduct. Quotes expire in 30 days.

		Qwest Corporation
Signature		Signature
Name Typed or Printed		Name Typed or Printed
Title		Title
Date		Date

[1] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

The signed form (original) must be sent with a check for the Inquiry amount (to "Qwest") to: **Debra Marshall/Manager, Qwest Joint Use, 6912 S Quentin, Suite 101, Englewood, CO 80112 303-784-0387**[1]

A copy of this form must be sent with two acceptably-detailed maps showing the requested route to: **Qwest Service Representative at:** wsst@qwest.com. **Put "Agree" on signature line.**

[1] Employee names have been replaced with titles for clarity purposes.

ATTACHMENT 1.B

General Agreement _____
BAN Number:_____

Poles/Innerduct Verification/ROW Access Agreement Preparation Costs Quotation

Date Nonrefundable Received: Date Replied to CLEC: _____

NOTE: THIS ATTACHMENT WILL BE COMPLETED BY QWEST AND SENT TO THE CLEC FOR SIGNATURE AFTER THE DATABASE INQUIRY IS COMPLETE.

	Estimated Costs	Number	Total Charge
1. Pole Field Verification Fee (10 pole minimum)	_____	_____	$_____
2. Innerduct Field Verification Fee	_____	_____	$_____
3. Preparation of private ROW documents	_____	_____	$_____
4. Access Agreement Prep. and Consideration$10/ Access Agreement		_____	$_____

5. Estimated Interval to Complete Items 1 or2 or 3 and/or 4: _____ Working Days

Comments: _____

By signing below and providing payment of the Total Estimated Costs identified above, the CLEC desires Qwest to proceed with the processing of its field survey/preparation of Access Agreements, and acknowledges receipt of this General Information, including the General Terms and Conditions under which Qwest offers such ROW/Poles/Innerduct. The CLEC acknowledges the above costs are estimates only and CLEC may be financially responsible for final actual costs which exceed this estimate, or receive credit if requested. Quotes expire in 30 days.

		Qwest Corporation
Signature		Signature
Name Typed or Printed		Name Typed or Printed
Title		Title
Date		Date

The original signed form must be sent with a check for the verification amount to:
Debra MarshallManager, **Qwest CLEC Joint Use, 6912 S Quentin, Suite 101, Englewood, CO 80112**
An email copy of this form must be sent to: wsst@qwest.com, with "Agree" on the signature line.

ATTACHMENT 2
Poles/Innerduct Order General Agreement _____
BAN Number:_____

NOTE: THIS FORM WILL BE COMPLETED BY QWEST AND SENT TO CLEC FOR SIGNATURE
Make-ready Work required: Yes ( ) No ( ) Date Received_____

If Yes is checked, estimated Make-ready costs: $ _____

The following Attachments are hereby incorporated by reference into this Order:

1. Term - Effective Date - _____.
2. Summary of Field Results (including Make-Ready work if required).
3. When placing fiber, CLEC must:

a. provide Qwest representative, a final design of splice, racking and slack locations in Qwest utility holes.
b. tag all equipment located in/on Qwest's facilities from beginning of the route to the end, and at the entrance and exit of each utility hole with the following information: (1) CLEC's Name and Contact Number, (2) Contract Number and Date of Contract, (3) Number of Fibers in the Innerduct and Color of Occupied Innerduct.

Annual Recurring Charges for this Permit:

	Annual Charge	Quantity	Total Annual Charge
1. Pole Attachment, Per Pole	$ _____/	_____	$_____
2. Innerduct Occupancy, Per Foot	$ _____	_____	$_____
3.Request conf. call for Construction?	____ YES ____ NO		

Please check YES if construction by Qwest is needed for access to Qwest manholes (e.g. core drills, stubouts, not innerduct placement) For Poles, quantity is based on the number of vertical feet used (One cable attachment = one foot). If you do not place an order at this time, these Poles/Innerduct will be assigned on a first come-first served basis.

Additional Comments: THE ESTIMATED COSTS ARE FOR THE INSTALLATION OF INNERDUCT OR REARRANGEMENT PER THE WORK SHEETS. THE ANNUAL RECURRING CHARGE FOR YEAR 2001 HAS BEEN PRORATED TO_____ (/DAY * DAYS). PLEASE PROVIDE PAYMENT FOR THE MAKE-READY COSTS AND THE PRORATED 2001 RECURRING FEE ALONG WITH THIS SIGNED ORDER_____

By signing below and providing payment of the Make-ready costs and the first year's prorated Annual Recurring Charge (or, if CLEC requests Semiannual billing, then the first half-year's prorated Semiannual Recurring Charge), the CLEC desires Qwest to proceed with the Make-ready Work identified herein and acknowledges receipt of the General Terms and Conditions under which Qwest offers such Poles/Innerduct. By signing this document you are agreeing to the access described herein. Quotes expire in 90 days.

Return this signed form and check to: ~~Debra Marshall~~Manager, **Joint Use Supervisor, Suite 101, 6912 S. Quentin, Englewood, CO 80112.** Send a copy to: **wsst@qwest.com.**

		Qwest Corporation
Signature		Signature
Name Typed or Printed		Name Typed or Printed
Title		Title
Date		Date

General Agreement:_____

QWEST RIGHT OF WAY ACCESS, POLE ATTACHMENT AND/OR INNERDUCT OCCUPANCY GENERAL TERMS AND CONDITIONS

This is an Agreement between _____ ("CLEC") and Qwest Corporation ("Qwest"), for one or more Orders for the CLEC to obtain access to Qwest's Right-of-Way ("ROW") and/or to install/attach and maintain their communications facilities ("Facilities") to Qwest's Poles and/or placement of Facilities on or within Qwest's Innerduct (collectively "Poles/Innerduct") described in the General Information and CLEC Map, which are incorporated herein by this reference (singularly "Order" or collectively, "Orders"). If there is no other effective agreement (*i.e.*, an Interconnection Agreement) between CLEC and Qwest concerning access to Poles, Ducts and ROW, then this Agreement/Attachment 3 must be executed by both parties in order to start the Inquiry Review and in order for CLEC to obtain access to Poles, Ducts and/or ROW.

1. **SCOPE.**

1.1 Subject to the provisions of this Agreement, Qwest agrees to issue to CLEC for any lawful telecommunications purpose, (a) one or more nonexclusive, revocable Orders authorizing CLEC to attach, maintain, rearrange, transfer, and remove at its sole expense its Facilities on Poles/Innerduct owned or controlled by Qwest, and/or (b) access to Qwest's ROW to the extent that (i) such ROW exists, and (ii) Qwest has the right to grant access to the CLEC. Any and all rights granted to CLEC shall be subject to and subordinate to any future local, state and/or federal requirements, and in the case of ROW, to the original document granting the ROW to Qwest or its predecessors.

1.2 Except as expressly provided herein, nothing in this Agreement shall be construed to require or compel Qwest to construct, install, modify, or place any Poles/Innerduct or other facility for use by CLEC or to obtain any ROW for CLEC's use.

1.3 Qwest agrees to provide access to ROW/Poles/Innerduct in accordance with the applicable local, state or federal law, rule, or regulation, incorporated herein by this reference, which governs this Agreement in the state in which Poles/Innerduct is provided.

2. **TERM.** Any Order issued under this Agreement for Pole attachments or Innerduct occupancy shall continue in effect for the term specified in the Order. Any access to ROW shall be non-exclusive and perpetual, subject to the terms and conditions of the Access Agreement (as hereinafter defined) and the original instrument granting the ROW to Qwest. This Agreement shall continue during such time CLEC is providing Poles/Innerduct attachments under any Order to this Agreement.

3. **TERMINATION WITHOUT CAUSE.**

3.1 To the extent permitted by law, either party may terminate this Agreement (which will have the effect of terminating all Orders hereunder), or any individual Order(s) hereunder, without cause, by providing notice of such termination in writing and by certified Mail to the other party. The written notice for termination without cause shall be dated as of the day it is mailed and shall be effective no sooner than one hundred twenty (120) calendar days from the date of such notice.

3.2. Termination of this Agreement or any Order hereunder does not release either party from any liability under this Agreement that may have accrued or that arises out of any claim that may have been accruing at the time of termination, including indemnity, warranties, and confidential information.

3.3 If Qwest terminates this Agreement for Cause, or if CLEC terminates this Agreement without Cause, CLEC shall pay termination charges equal to the amount of fees and charges remaining on the terminated Order(s) and shall remove its Facilities from the Poles/Innerduct within sixty (60) days, or cause Qwest to remove its Facilities from the Poles/Innerduct at CLEC's expense; provided, however, that CLEC shall be liable for and pay all fees and charges provided for in this Agreement to Qwest until CLEC's Facilities are physically removed. Notwithstanding anything herein to the contrary, upon the termination of this Agreement for any reason whatsoever, all Orders hereunder shall simultaneously terminate.

3.4 If this Agreement or any Order is terminated for reasons other than Cause, then CLEC shall remove its Facilities from Poles/Innerduct within one hundred and eighty (180) days from the date of termination; provided, however, that CLEC shall be liable for and pay all fees and charges provided for in this Agreement to Qwest until CLEC's Facilities are physically removed.

3.5 Qwest may abandon or sell any Poles/Innerduct at any time by giving written notice to the CLEC. Upon abandonment of Poles/Innerduct, and with the concurrence of the other CLEC(s), if necessary, CLEC shall, within sixty (60) days of such notice, either apply for usage with the new owner or purchase the Poles/Innerduct from Qwest, or remove its Facilities therefrom. Failure to remove its Facilities within sixty (60) days shall be deemed an election to purchase the Poles/Innerduct at the current market value.

4. **CHARGES AND BILLING.**

4.1. CLEC agrees to pay Qwest Poles/Innerduct usage fees ("Fees") as specified in the Order. Fees will be computed in compliance with applicable local, state and Federal law, regulations and guidelines. Such Fees will be assessed, in advance on an annual basis. Annual Fees will be assessed as of January 1st of each year. Fees are not refundable except as expressly provided herein. CLEC shall pay all applicable Fees and charges specified herein within thirty (30) days from receipt of invoice. Any outstanding invoices will be subject to applicable finance charges.

4.2. Qwest has the right to revise Fees, at its sole discretion, upon written notice to CLEC within at least sixty (60) days prior to the end of any annual billing period.

5. **INSURANCE.** The CLEC shall obtain and maintain at its own cost and expense the following insurance during the life of the Contract:

5.1. Workers' Compensation and/or Longshoremen's and Harbor Workers Compensation insurance with (1) statutory limits of coverage for all employees as required by statute, and (2) although not required by statute, coverage for any employee on the job site, and (3) Stop Gap liability or employer's liability insurance with a limit of One Hundred Thousand Dollars ($100,000.00) for each accident.

5.2 General liability insurance providing coverage for underground hazard coverage (commonly referred to as "U" coverage), products/completed operations, premises operations, independent contractor's protection (required if contractor subcontracts the

work), broad form property damage and contractual liability with respect to liability assumed by the CLEC hereunder. This insurance shall also include: (1) explosion hazard coverage (commonly referred to as "X" coverage) if the work involves blasting and (2) collapse hazard coverage (commonly referred to as "C" coverage) if the work may cause structural damage due to excavation, burrowing, tunneling, caisson work, or underpinning. The limits of liability for this coverage shall be not less than One Million Dollars ($1,000,000.00) per occurrence combined single limit for bodily injury or property damage. These limits of liability can be obtained through any combination of primary and excess or umbrella liability insurance.

5.3 Comprehensive automobile liability insurance covering the use and maintenance of owned, non-owned and hired vehicles. The limits of liability for this coverage shall be not less than One Million Dollars ($1,000,000.00) per occurrence combined single limit for bodily injury or property damage. These limits of liability can be obtained through any combination of primary and excess or umbrella liability insurance.

5.4 Qwest may require the CLEC from time-to-time during the life of the Contract to obtain additional insurance with coverage or limits in addition to those described above. However, the additional premium costs of any such additional insurance required by Qwest shall be borne by Qwest, and the CLEC shall arrange to have such costs billed separately and directly to Qwest by the insuring carrier(s). Qwest shall be authorized by the CLEC to confer directly with the agent(s) of the insuring carrier(s) concerning the extent and limits of the CLEC's insurance coverage in order to assure the sufficiency thereof for purposes of the work performable under the Contract and to assure that such coverage as a hole with respect to the work performable are coordinated from the standpoint of adequate coverage at the least total premium costs.

5.5 The insuring carrier(s) and the form of the insurance policies shall be subject to approval by Qwest. The CLEC shall forward to Qwest, certificates of such insurance issued by the insuring carrier(s). The insuring carrier(s) may use the ACORD form, which is the Insurance Industries certificate of insurance form. The insurance certificates shall provide that: (1) Qwest is named as an additional insured; (2) thirty (30) calendar days prior written notice of cancellation of, or material change or exclusions in, the policy to which the certificates relate shall be given to Qwest; (3) certification that underground hazard overage (commonly referred to as "U" coverage) is part of the coverage; and (4) the words "pertains to all operations and projects performed on behalf of the certificate holder" are included in the description portion of the certificate. The CLEC shall not commence work hereunder until the obligations of the CLEC with respect to insurance have been fulfilled. The fulfillment of such obligations shall not relieve the CLEC of any liability hereunder or in any way modify the CLEC's obligations to indemnify Qwest.

5.6 Whenever any work is performed requiring the excavation of soil or use of heavy machinery within fifty (50) feet of railroad tracks or upon railroad right-of-way, a Railroad Protective Liability Insurance policy will be required. Such policy shall be issued in the name of the Railroad with standard limits of Two Million Dollars ($2,000,000.00) per occurrence combined single limit for bodily injury, property damage or physical damage to property with an aggregate limit of Six Million Dollars ($6,000,000.00). In addition, said policy shall name Qwest and the CLEC/SubCLEC on the declarations page with respect to its interest in these specific job. Said insurance policy shall be in form and substance satisfactory both to the Qwest and the Railroad and shall be delivered to and approved by both parties prior to the entry upon or use of the Railroad Property.

5.7 Whenever any work must be performed in the Colorado State Highway right-of-way, policies and certificates of insurance shall also name the State of Colorado as an additional insured. Like coverage shall be furnished by or on behalf of any subcontractor. Copies of said certificates must be available on site during the performance of the work.

6. CONSTRUCTION AND MAINTENANCE OF FACILITIES.

6.1 Qwest retains the right, in its sole judgment, to determine the availability of space on Poles/Innerduct. When modifications to a Qwest spare conduit include the placement of innerduct, Qwest retains the right to install the number of innerducts required to occupy the conduit structure to its full capacity. In the event Qwest determines that rearrangement of the existing facilities on Poles/Innerduct is required before CLEC's Facilities can be accommodated, the cost of such modification will be included in the CLEC's nonrecurring charges for the associated Poles/Innerduct Order.

6.2 CLEC shall be solely responsible for obtaining the necessary underlying legal authority to occupy Poles/Innerduct on governmental, federal, Native American, and private rights of way, as applicable, and Qwest does not warrant or represent that providing CLEC with access to the Poles/Innerduct in any way constitutes such legal right. The CLEC shall obtain any necessary permits, licenses, bonds, or other legal authority and permission, at the CLEC's sole expense, in order to perform its obligations under this Agreement. The CLEC shall contact all owners of public and private rights-of-way, as necessary, to obtain written permission required to perform the work prior to entering the property or starting any work thereon and shall provide Qwest with written documentation of such legal authority prior to placement of its facilities on or in the Poles/Innerduct. The CLEC shall comply with all conditions of rights-of-way and Orders.

6.3 CLEC's Facilities shall be placed and maintained in accordance with the requirements and specifications of the current applicable standards of Bellcore Manual of Construction Standards, the National Electrical Code, the National Electrical Safety Code, and the rules and regulations of the Occupational Safety and Health Act, all of which are incorporated herein by reference, and any governing authority having jurisdiction of the subject matter of this Agreement. Where a difference in specifications exists, the more stringent shall apply. Failure to maintain Facilities in accordance with the above requirements shall be Cause as referenced in Section 3 to this Agreement for termination of the Order in question. Termination of more than two (2) Orders in any twelve-month period pursuant to the foregoing sentence shall be Cause as referenced in Section 3 for termination of this Agreement. Qwest's procedures governing its standard maintenance practices shall be made available upon request for public inspection at the appropriate Qwest premises. CLEC's procedures governing its standards maintenance practices for Facilities shall be made available to Qwest upon written request. CLEC shall within thirty (30) days comply and provide the requested information to Qwest to bring their facilities into compliance with these terms and conditions.

6.4. In the event of any service outage affecting both Qwest and CLEC, repairs shall be effectuated on a priority basis as established by local, state or federal requirements, or where such requirement do not exists, repairs shall be made in the following order: electrical, telephone (local), telephone (long distance), and cable television, or as mutually agreed to by the users of the effected Poles/Innerduct.

6.5 In the event of an infrastructure outage, the CLEC should contact their Network Maintenance Center at 1-800-223-7881 or the CLEC may contact their Account Manager at the Interconnect Service Center.

7. **MODIFICATION TO EXISTING POLES/INNERDUCT.**

7.1. If CLEC requests Qwest to replace or modify existing Poles/Innerduct to increase its strength or capacity for the benefit of the CLEC and Qwest determines in its sole discretion to provide the requested capacity, the CLEC shall pay Qwest the total replacement cost, Qwest's cost to transfer its attachments, as necessary, and the cost for removal (including destruction fees) of any replaced Poles/Innerduct, if such is necessary. Ownership of new Poles/Innerduct shall vest in Qwest. To the extent that a modification is incurred for the benefit of multiple parties, CLEC shall pay a proportionate share of the total cost as outlined above, based on the ratio of the amount of new space occupied by the Facilities to the total amount of space occupied by all parties joining the modification. Modifications that occur in order to bring Poles/Innerduct into compliance with applicable safety or other requirements shall be deemed to be for the benefit of the multiple parties and CLEC shall be responsible for its pro rata share of the modification cost. Except as set forth herein, CLEC shall have no obligation to pay any of the cost of replacement or modification of Poles/Innerduct requested solely by third parties.

7.2 Written notification of modification initiated by or on behalf of Qwest shall be provided to CLEC at least sixty (60) days prior to beginning modifications if such modifications are not the result of an emergency situation. Such notification shall include a brief description of the nature and scope of the modification. If CLEC does not rearrange its facilitates within sixty (60) days after receipt of written notice from Qwest requesting such rearrangement, Qwest may perform or cause to have performed such rearrangement and CLEC shall pay for cost thereof. No such notice shall be required in emergency situations or for routine maintenance of Poles/Innerduct.

8. **INSPECTION OF FACILITIES**. Qwest reserves the right to make final construction, subsequent and periodic inspections of CLEC's facilities occupying the Poles/Innerduct system. CLEC shall reimburse Qwest for the cost of such inspections except as specified in Section 8 hereof.

8.1. CLEC shall provide written notice to Qwest, at least fifteen (15) days in advance, of the locations where CLEC's plant is to be constructed.

8.2. The CLEC shall forward Exhibit A, entitled "Pulling In Report" attached hereto and incorporated herein by this reference, to Qwest within five (5) business days of the date(s) of the occupancy.

8.3. Qwest shall provide written notification to CLEC within seven (7) days of the date of completion of a final construction inspection.

8.4. Where final construction inspection by Qwest has been completed, CLEC shall be obligated to correct non-complying conditions within thirty (30) days of receiving written notice from Qwest. In the event the corrections are not completed within the thirty (30)-day period, occupancy authorization for the Poles/Innerduct system where non-complying conditions remain uncorrected shall terminate immediately, regardless of whether CLEC has energized the facilities occupying said Poles/Innerduct system, unless Qwest has provided CLEC a written extension to comply. CLEC shall remove its facilities from said Poles/Innerduct in accordance with the provisions set forth in Section 10 of this Agreement. No further occupancy authorization shall be issued to CLEC until such non-complying conditions are corrected or until CLEC's facilities are removed from the Pole/Conduit system where such non-complying conditions exist. If agreed to in writing, by both parties, Qwest shall perform such corrections and CLEC shall pay Qwest the cost

of performing such work. Subsequent inspections to determine if appropriate corrective action has been taken my be made by Qwest.

8.5. Once the CLECs facilities occupy Qwest Poles/Innerduct system and Exhibit A has been received by Qwest, Qwest may perform periodic inspections. The cost of such inspections shall be borne by Qwest, unless the inspection reveals any violations, hazards, or conditions indicating that CLEC has failed to comply with the provisions set forth in this Agreement, in which case the CLEC shall reimburse Qwest for full costs of inspection, and re-inspection to determine compliance as required. A CLEC representative may accompany Qwest on field inspections scheduled specifically for the purpose of inspecting CLEC's Facilities; however, CLEC's costs associated with its participation in such inspections shall be borne by CLEC. Qwest shall have no obligation to notify CLEC, and CLEC shall have no right to attend, any routine field inspections.

8.6. The costs of inspections made during construction and/or the final construction survey and subsequent inspection shall be billed to the CLEC within thirty (30) days upon completion of the inspection.

8.7. Final construction, subsequent and periodic inspections or the failure to make such inspections, shall not impose any liability of any kind upon Qwest, and shall not relieve CLEC of any responsibilities, obligations, or liability arising under this Agreement.

9. UNAUTHORIZED FACILITIES

9.1 If any facilities are found attached to Poles/Innerduct for which no Order is in effect, Qwest, without prejudice to any other rights or remedies under this Agreement, shall assess an unauthorized attachment administrative fee of Two Hundred Dollars ($200.00) per attachment per Pole or innerduct run between manholes, and require the CLEC to submit in writing, within ten (10) day after receipt of written notification from Qwest of the unauthorized occupancy, a Poles/Innerduct application. Qwest shall waive the unauthorized attachment fee if the following conditions are both met: (1) CLEC cures such unauthorized attachment (by removing it or submitting a valid Order for attachment in the form of Attachment 2 of Exhibit D, within thirty (30) days of written notification from Qwest of the unauthorized attachment; and (2) the unauthorized attachment did not require Qwest to take curative measures itself (e.g., pulling additional innerduct) prior to the cure by CLEC. Qwest shall also waive the unauthorized attachment fee if the unauthorized attachment arose due to error by Qwest rather than by CLEC. If such application is not received by Qwest within the specified time period, the CLEC will be required to remove its unauthorized facility within ten (10) days of the final date for submitting the required application, Qwest may remove the CLEC's facilities without liability, and the cost of such removal shall be borne by the CLEC.

9.2 For the purpose of determining the applicable charge, the unauthorized Poles/Innerduct occupancy shall be treated as having existed for a period of five (5) years prior to its discovery, and the charges, as specified in Section 4, shall be due and payable forthwith whether or not CLEC is ordered to continue the occupancy of the Poles/Innerduct system.

9.3. No act or failure to act by Qwest with regard to an unauthorized occupancy shall be deemed to constitute the authorization of the occupancy; any authorization that may be granted subsequently shall not operate retroactively or constitute a waiver by Qwest of any of its rights of privileges under this Agreement or otherwise.

10. **REMOVAL OF FACILITIES.** Should Qwest, under the provisions of this Agreement, remove CLEC's Facilities from the Poles/Innerduct covered by any Order (or otherwise), Qwest will deliver the Facilities removed upon payment by CLEC of the cost of removal, storage and delivery, and all other amounts due Qwest. If payment is not received by Qwest within thirty (30) days, CLEC will be deemed to have abandoned such facilities, and Qwest may dispose of said facilities as it determines to be appropriate. If Qwest must dispose of said facilities, such action will not relieve CLEC of any other financial responsibility associated with such removal as provided herein. If CLEC removes its Facilities from Poles/Innerduct for reasons other than repair or maintenance purposes, the CLEC shall have no right to replace such facilities on the Poles/Innerduct until such time as all outstanding charges due to Qwest for previous occupancy have been paid in full. CLEC shall submit Exhibit B, entitled "Notification of Surrender of Modification of Conduit Occupancy License by CLEC," or Exhibit C, entitled "Notification of Surrender of Modification of Pole Attachment by CLEC," each as attached hereto, advising Qwest as to the date on which the removal of Facilities from each Poles/Innerduct has been completed.

11. **INDEMNIFICATION AND LIMITATION OF LIABILITIES.** CLEC shall indemnify and hold harmless Qwest, its owners, parents, subsidiaries, affiliates, agents, directors, and employees against any and all liabilities, claims, judgments, losses, orders, awards, damages, costs, fines, penalties, costs of defense, and attorneys' fees ("Liabilities") to the extent they arise from or in connection with: (1) infringement, or alleged infringement, of any patent rights or claims caused, or alleged to have been caused, by the use of any apparatus, appliances, equipment, or parts thereof, furnished, installed or utilized by the CLEC; (2) actual or alleged fault or negligence of the CLEC, its officers, employees, agents, subcontractors and/or representatives; (3) furnishing, performance, or use of any material supplied by CLEC under this Contract or any product liability claims relating to any material supplied by CLEC under this Contract; (4) failure of CLEC, its officers, employees, agents, subcontractors and/or representatives to comply with any term of this Contract or any applicable local, state, or federal law or regulation, including but not limited to the OSH Act and environmental protection laws; (5) assertions under workers' compensation or similar employee benefit acts by CLEC or its employees, agents, subcontractors, or subcontractors' employees or agents; (6) the acts or omissions (other than the gross negligence or willful misconduct) of Qwest, its officers, employees, agents, and representatives, except as otherwise provided in paragraphs 11.3 and 11.4 below; and/or, (7) any economic damages that may rise, including damages for delay or other related economic damages that the Qwest or third parties may suffer or allegedly suffer as a result of the performance or failure to perform work by the CLEC. If both Qwest and the CLEC are sued as a result of or in connection with the performance of work arising out of this Contract, the parties hereby agree that the defense of the case (including the costs of the defense and attorneys' fees) shall be the responsibility of the CLEC, if Qwest desires. Qwest shall give the CLEC reasonable written notice of all such claims and any suits alleging such claims and shall furnish upon the CLEC's request and at the CLEC's expense all information and assistance available to the Qwest for such defense. The parties shall employ Article 13, Dispute Resolution, to resolve any dispute concerning the proportional fault and liability after the underlying case is terminated.

11.1 IF WORK IS PERFORMED IN THE STATE OF WASHINGTON UNDER THIS GENERAL CONTRACT, THE CLEC ACKNOWLEDGES AND AGREES THAT THIS INDEMNIFICATION OBLIGATION SHALL INCLUDE, BUT IS NOT LIMITED TO, ALL CLAIMS AGAINST QWEST BY AN EMPLOYEE OR FORMER EMPLOYEE OF THE CLEC, AND THE CLEC EXPRESSLY WAIVES ALL IMMUNITY AND LIMITATION ON LIABILITY UNDER ANY INDUSTRIAL INSURANCE ACT, OTHER WORKERS' COMPENSATION ACT, DISABILITY BENEFIT ACT, OR OTHER EMPLOYEE BENEFIT ACT OF ANY JURISDICTION WHICH WOULD OTHERWISE BE APPLICABLE IN THE CASE OF SUCH A CLAIM.

11.2 Except as expressly provided herein, NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO, ANY LOSS OF USE, LOSS OF BUSINESS OR LOSS OF PROFIT; provided, however, there shall be no limitation on a party's liability to the other for any fines or penalties imposed on the other party by any court of competent jurisdiction or federal, state or local administrative agency resulting from the failure of the party to comply with any term or condition of this Contract or any valid and applicable law, rule or regulation.

11.3 FOR ANY WORK PERFORMED IN ARIZONA, IDAHO, SOUTH DAKOTA, UTAH OR WASHINGTON, SECTION 11(6) SHALL NOT EXTEND TO THE SOLE NEGLIGENCE OF QWEST BUT SHALL EXTEND TO THE NEGLIGENCE OF QWEST WHEN CONCURRENT WITH THAT OF THE CLEC.

11.4 FOR ANY WORK PERFORMED IN THE STATES OF MINNESOTA, NEBRASKA, NEW MEXICO, OR OREGON, ARTICLE 11 SHALL NOT APPLY, EXCEPT THAT SECTION 11 SHALL APPLY FOR WORK PERFORMED IN MINNESOTA FOR MAINTENANCE OR REPAIR OF MACHINERY, EQUIPMENT, OR OTHER SUCH DEVICES, USED AS PART OF A MANUFACTURING, COVERING, OR OTHER PRODUCTION PROCESS INDULGING ELECTRIC, GAS, STEAM, AND TELEPHONE UTILITY EQUIPMENT USED FOR PRODUCTION, TRANSMISSION, OR DISTRIBUTION PURPOSES.

12. FORCE MAJEURE

12.1 The CLEC shall be excused from its performance as to any Order if prevented by acts or events beyond the CLEC's reasonable control including extreme weather conditions, strikes, fires, embargoes, actions of civil or military law enforcement authorities, acts of God, or acts of legislative, judicial, executive, or administrative authorities.

12.2 If such contingency occurs, Qwest may elect:

12.2.1 To terminate this Agreement as to the Order in question; or

12.2.2 To terminate already-assigned specific work assignment(s) the CLEC is unable to perform, or any part thereof, and to assign new specific work assignments to other parties for the duration of the cause of the delay; or

12.2.3 To suspend already-assigned specific work assignment(s) the CLEC is unable to perform, or any part thereof, for the duration of the cause of the delay; and to assign new specific work assignments to other parties for the duration of the cause of the delay.

12.3 Qwest shall be deemed to have elected Section 12.2.3 above unless written notice of termination is given by Qwest after the contingency occurs. With respect to Qwest's election of Section 12.2.3 above:

12.3.1 Qwest shall give the CLEC written notice of the work to be performed by such other party prior to its performance and shall deduct from the CLEC's price the cost of the work or services actually performed by such other parties.

12.3.2 The CLEC shall resume performance, and complete any work not performed or to be performed by another party, once the delaying cause ceases.

12.3.3 If appropriate, at the Qwest's discretion, the time for completion of specific work assignment(s) shall be extended up to the length of time the contingency endured.

12.4 Qwest shall be excused from its performance if prevented by acts or events beyond the Qwest's reasonable control including extreme weather conditions, strikes, fires, embargoes, actions of civil or military law enforcement authorities, acts of God, or acts of legislative, judicial, executive, or administrative authorities.

13. **DISPUTE RESOLUTION.**

13.1. Other than those claims over which a regulatory agency has exclusive jurisdiction, all claims, regardless of legal theory, whenever brought and whether between the parties or between one of the parties to this Agreement and the employees, agents or affiliated businesses of the other party, shall be resolved by arbitration. A single arbitrator engaged in the practice of law and knowledgeable about telecommunications law shall conduct the arbitration in accordance with the then current rules of the American Arbitration Association ("AAA") unless otherwise provided herein. The arbitrator shall be selected in accordance with AAA procedures from a list of qualified people maintained by AAA. The arbitration shall be conducted in the regional AAA office closest to where the claim arose.

13.2. All expedited procedures prescribed by the AAA shall apply. The arbitrator's decision shall be final and binding and judgment may be entered in any court having jurisdiction thereof.

13.3. Other than the determination of those claims over which a regulatory agency has exclusive jurisdiction, federal law (including the provisions of the Federal Arbitration Act, 9 U.S.C. Sections 1-16) shall govern and control with respect to any issue relating to the validity of this Agreement to arbitrate and the arbitrability of the claims.

13.4. If any party files a judicial or administrative action asserting claims subject to arbitration, and another party successfully stays such action and/or compels arbitration of such claims, the party filing the action shall pay the other party's costs and expenses incurred in seeking such stay or compelling arbitration, including reasonable attorney's fees.

14. **LAWFULNESS.** This Agreement and the parties' actions under this Agreement shall comply with all applicable federal, state, and local laws, rules, regulations, court orders, and governmental agency orders. Any change in rates, charges or regulations mandated by the legally constituted authorities will act as a modification of any contract to that extent without further notice. This Agreement shall be governed by the laws of the state where Poles/Innerduct is provided. Nothing contained herein shall substitute for or be deemed a waiver of the parties' respective rights and obligations under applicable federal, state and local laws, regulations and guidelines, including (without limitation) Section 224 of the Communications Act of 1934, as amended (47 U.S.C. 224). The CLEC represents that it is a certified Competitive Local Exchange Carrier or otherwise has the legal right, pursuant to 47 U.S.C. 224 to attach to Qwest's pole pursuant to the terms thereof. The CLEC acknowledges that Qwest will rely on the foregoing representation, and that if such representation is not accurate, this Agreement shall be deemed void *ab initio*, except for Article 9 hereof, for which CLEC shall remain fully liable.

15. **SEVERABILITY.** In the event that a court, governmental agency, or regulatory agency with proper jurisdiction determines that this Agreement or a provision of this Agreement is unlawful, this Agreement, or that provision of the Agreement to the extent it is unlawful, shall terminate. If a provision of this Agreement is terminated but the parties can legally, commercially and practicably continue without the terminated provision, the remainder of this Agreement shall continue in effect.

16. **GENERAL PROVISIONS.**

16.1 Failure or delay by either party to exercise any right, power, or privilege hereunder, shall not operate as a waiver hereto.

16.2 This Agreement shall not be assignable by CLEC without the express written consent of Qwest, which shall not be unreasonably withheld. Assignment of this Agreement by CLEC to CLEC's subsidiary or affiliate shall be presumed to be reasonable; provided, however, that CLEC must obtain Qwest's consent in any event.

16.3 This Agreement benefits CLEC and Qwest. There are no third party beneficiaries.

16.4 This Agreement constitutes the entire understanding between CLEC and Qwest with respect to Service provided herein and supersedes any prior agreements or understandings.

The parties hereby execute and authorize this Agreement as of the latest date shown below:

CLEC	Qwest Corporation
Signature	Signature
Name Typed or Printed	~~JOHN CARVETH~~ Name Typed or Printed
Title	~~PRODUCT MANAGER~~ Title
Date	Date

Address for Notices	Address for Notices
	Qwest Corporation 1801 California, Rm. 2330 Denver, CO 80202
Contact: Phone: FAX:	Contact: ~~JOHN CARVETH~~ Phone: ~~303-896-0789~~ FAX: ~~303-896-9022~~

EXHIBIT A

PULLING IN REPORT

This report is to be completed by the CLEC when fiber cable is placed into innerduct.

_____20____

Send to:
Qwest Corp
200 W Mineral, Rm IAF12
Littleton, CO 80120 (303-707-7598)

This is to advise you that pursuant to General Agreement No. _____ granted to us under the terms of the Innerduct Agreement dated _____, 20__ we have completed installation of the following cable into the following ducts.

Municipality

Location

From	To	Cable and
Manhole at	Manhole at	Equipment Installed

_____
Name of CLEC

By:_____
Title:_____

Receipt of the above report is hereby acknowledged_____, 20__.

Qwest Corporation

By:_____
Title:_____

1. Reports shall be submitted in duplicate.

2. A complete description of all facilities shall be given, including a print showing the locations, quantities, sizes and types of all cables and equipment.

3. Sketch to be furnished showing duct used. Must be same duct assigned to Licensee by Licensor as shown on Exhibit ____, unless a change has been previously authorized in writing by Licensor.

[redacted]

NOTIFICATION OF SURRENDER OR MODIFICATION
OF CONDUIT OCCUPANCY ORDER BY CLEC

Return to:
Brooke BaleManager, Qwest Corp
700 W Mineral, Rm IAF12
Littleton, CO 80120

In accordance with the terms and conditions of this Agreement between us, dated _____, 20___, please be hereby given that the licenses covering occupancy of the following conduit are surrendered and/or modified as indicated in Licensee's prior notification to Licensor, dated _____, 20___, effective _____.

[redacted]	LIC. NO. & DATE	SURRENDER OR MODIFICATION	DATE FAC. RMVD. OR MODIFIED

[redacted]
Name of Licensee

_____
Name of Co- Provider

[redacted]
Date Notification Received

By_____

[redacted]
Date Notification Accepted

Title_____

[redacted]
Date Issued

Total duct footage_____

EXHIBIT C

NOTIFICATION OF SURRENDER OR MODIFICATION
OF POLE ATTACHMENT ORDER BY CLEC

CLEC _____

Return to:
Brooke BaleManager, Qwest Corp
700 W Mineral, Rm IAF12
Littleton, CO 80120

In accordance with the terms and conditions of the Agreement between Qwest and CLEC, dated _____, 20__, notice is hereby given that the licenses covering attachments to the following poles and/or anchors, and/or utilization of anchor/guy strand is surrendered (or modified as indicated in CLEC's prior notification to Qwest, dated _____, 20__) effective _____.

	POLE NO.	ASSOC. POLE NO.	LIC. NO. & DATE	SURRENDER OR MODIFICATION	DATE FAC. RMVD OR MODIFIED
1.		A A/GS -			
2.		A A/GS -			
3.		A A/GS -			
4.		A A/GS -			
5.		A A/GS -			
6.		A A/GS -			
7.		A A/GS -			
8.		A A/GS -			
9.		A A/GS -			
10.		A A/GS -			

Date Notification Received _____
Date Modification Received _____

_____

By _____

Name of CLEC

Signature _____
Name _____
Address _____

By: _____

Anchor/Guy Strands _____ Its: _____

ATTACHMENT 4
FORM OF ACCESS AGREEMENT

After recording, please return to:
[redacted]

ACCESS AGREEMENT

THIS ACCESS AGREEMENT (this "Agreement") is made as of the ___ day of _____, 20__, by and between **QWEST CORPORATION**, a Colorado corporation, successor in interest to **U S WEST COMMUNICATIONS, INC.**, a Colorado corporation ("Grantor"), whose address is _____, and _____, a _____, whose address is _____ ("Grantee").

RECITALS

A. This Agreement relates to certain real property (the "Property") located in the County of _____ (the "County"), State of _____ (the "State").

B. A copy of an agreement purporting to grant to Grantor certain rights to use the Property, as described therein (the "Easement Rights"), is attached as Exhibit A (the "Right of Way Agreement").

C. Pursuant to 472 U.S.C. §§ 224 and 251(b)(5), Grantor, as a Local Exchange Carrier, is required to provide access to rights-of-way to a requesting telecommunications carrier, as defined in 472 U.S.C. § 224. Grantee is a telecommunications carrier that has requested access to Grantor's Easement Rights. To comply with the aforementioned legal requirement, Grantor has agreed to share with Grantee its Easement Rights, if any, relating to the Property, to the extent Grantor may legally convey such an interest.*

D. Subject to the terms and conditions set forth in this Agreement, Grantor has agreed to convey to Grantee, without any representation or warranty, the right to use the Easement Rights, and Grantee has agreed to accept such conveyance.

NOW, THEREFORE, for Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Grant of Right of Access. Grantor hereby conveys to Grantee and its Authorized Users (as defined below) a non-exclusive, perpetual right to access and use the Easement Rights, which right shall be expressly (a) subject to, subordinate to, and limited by the Right of Way Agreement, and (b) subject to the terms and conditions hereof. As used in this Agreement, "Authorized Users" of Owner, Grantor and Grantee shall mean Owner, Grantor or Grantee, as applicable, their respective Affiliates and agents,

* This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[illegible], employees, and invitees, including, without limitation, contractors, subcontractors, consultants, utilities, public emergency vehicles, shipping or delivery vehicles, or construction vehicles. "Affiliates" means, with respect to any Person, any Person that controls, is controlled by or is under common control with such Person, together with its and their respective members, partners, venturers, directors, officers, shareholders, agents, employees and spouses. A Person shall be presumed to have control when it possesses the power, directly or indirectly, to direct, or cause the direction of, the management or policies of another Person, whether through ownership of voting securities, by contract, or otherwise. "Person" means an individual, partnership, limited liability company, association, corporation or other entity.

2. Grantor's Reserved Rights. Grantor reserves to itself and its Authorized Users the right to use the Easement Rights for any purpose not incompatible with the rights conveyed to Grantee by this Agreement.

3. Conditions Precedent to Effectiveness of Agreement. This Agreement is expressly conditioned on the following:

a. Recordation of Agreement. If the Right-of-Way Agreement has been publicly recorded, Grantee shall be responsible for assuring that the Agreement is in appropriate form for recording in the real property records of the County, shall pay for the recording thereof, and shall provide a copy of the recorded Agreement to Grantor at the address set forth above. A legible copy of the Right of Way Agreement must be attached to the Agreement when recorded or the Agreement shall not be effective.

b. Payment of Costs and Expenses. Grantee shall pay to or reimburse Grantor for all reasonable costs and expenses, including reasonable attorneys' fees, directly relating to Grantor's execution and delivery of this Agreement.[13]

4. Grantee's Representations and Warranties. Grantee represents and warrants to Grantor that:

a. Authority. Grantee is a _____, duly formed and validly existing under the laws of the State of _____. All necessary action has been taken by Grantee to execute and deliver the Agreement and to perform the obligations set forth hereunder. Grantee is a "telecommunications carrier" as that term is defined in 472 U.S.C. § 224.[14]

b. Due Diligence. Grantee acknowledges and agrees that neither Grantor nor any agent, employee, attorney, or representative of Grantor has made any statements, agreements, promises, assurances, representations, or warranties, whether in this Agreement or otherwise and whether express or implied, regarding the Right of Way Agreement or the Easement Rights or the assignability or further granting thereof, or title to or the environmental or other condition of the Property. Grantee further acknowledges and agrees that Grantee has examined and investigated to its full satisfaction the physical nature and condition of the Property and the Easement Rights and that it is acquiring the Easement Rights in an "AS IS, WHERE IS" condition. Grantee expressly waives all claims for damages by reason of any statement, representation, warranty, assurance, promise or agreement made, if any.

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[13] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[14] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

5. General Covenants

a. Compliance with Right of Way Agreement. Grantee agrees that the rights granted by Grantor hereunder are expressly subject to, subordinate to, and limited by the Right of Way Agreement, and Grantee further agrees to comply in all respects with the terms and conditions of the Right of Way Agreement as they apply to the holder or user of the Easement Rights. In the event Grantee fails to observe or perform any of its obligations under the Right of Way Agreement, Grantor shall have the right, but not the obligation, to perform or observe such obligation to the extent that such obligation can be observed or performed by Grantor.

b. Compliance with Laws. Grantee agrees to use the Property and the Easement Rights in compliance with all applicable laws.

c. No Further Grant. Grantee shall not grant to any Person other than Grantee's Authorized Users the right to use the Easement Rights without the prior written consent of Grantor, which consent may be granted or withheld in Grantor's sole discretion.

d. Non-Interference. Grantee agrees that it will not interfere with Grantor's or Grantor's Authorized Users' use of the Easement Rights and will not take any action or fail to take any action that would negatively affect the Easement Rights or cause or contribute to the termination of the Right of Way Agreement.

e. Indemnity. Grantee hereby agrees to indemnify, defend and hold Owner, Grantor and their respective Affiliates harmless from and against any and all claims, judgments, damages, liabilities, penalties, fines, suits, causes of action, costs of settlement, and expenses (including, without limitation, reasonable attorneys' fees) which may be imposed upon or incurred by Grantor or its Authorized Users, or any of them, arising from, relating to or caused by Grantee's breach of this Agreement or the use, or the use by any of Grantee's Authorized Users, of the Easement Rights. In addition to the indemnity obligations described above, in the event that any act or omission of Grantee or Grantee's Authorized Users causes, directly or indirectly, and without reference to any act or omission of Owner, Grantor or their respective Authorized Users, the termination or revocation of the Easement Rights, Grantee shall be liable to Grantor for all costs incurred in connection with (a) acquiring replacement Easement Rights over the Property or over other suitable Property, as determined in Grantor's sole judgment (the "Replacement Easement"), (b) the fully-loaded cost of constructing replacement facilities over the Replacement Easement, (c) the cost of removing its facilities and personal property from the Property, if required by the Right of Way Agreement, and (d) any other costs of complying with the Right of Way Agreement, including, without limitation, reasonable attorneys' fees. Grantee shall pay all such amounts within ten (10) days of receipt of any invoice for such costs delivered to Grantee by Owner, Grantor or their respective Authorized Users.

f. Condemnation. If any action is taken whereby the Right of Way Agreement or any part of the Easement Rights are terminated, relocated or otherwise affected, by any taking or partial taking by a governmental authority or otherwise, then such any compensation due or to be paid to the holder of the Easement Rights due to such occurrence shall belong solely to Grantor.

g. Severable Provisions. If any term of this Agreement shall, to any extent, be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby, and each term of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

6. Default; Remedies. (a) If Grantee files a petition in bankruptcy, or a petition is bankruptcy is filed against Grantee, which is not dismissed on or before fifteen (15) days after such filing, or (b) in the event of Grantee's breach or threatened breach of any term, covenant or condition of this Agreement, then Grantor shall have, in addition to all other legal and equitable remedies, the right to (x) terminate this Agreement, (y) enforce the provisions hereof by the equitable remedy of specific performance, or (z)

upon such breach or threatened breach by injunctive action, all without the necessity of proof of actual damages or inadequacy of any legal remedy. Grantee agrees to pay all costs of enforcement of the obligations of Grantee hereunder, including reasonable attorneys' fees and all costs of suit, in case it becomes necessary for Grantor to enforce the obligations of Grantee hereunder, whether suit be brought or not, and whether through courts of original jurisdiction, as well as in courts of appellate jurisdiction, or through a bankruptcy court or other legal proceedings.

15. Binding Effect. This Agreement shall be binding on and inure to the benefit of the parties hereto and their respective successors and assigns. This Agreement may be assigned at any time in whole or in part by Grantor.

16. No Dedication. Nothing contained in this Agreement shall constitute a gift or dedication of any portion of the Easement Rights to the general public or for any public purpose whatsoever. There are no intended third party beneficiaries to this Agreement.

17. Owner's Waiver of Confidentiality. If the Right of Way Agreement is not publicly recorded, Owner hereby waives any right it may have to keep the terms and conditions of the Right of Way Agreement confidential as in relation other than Grantee or to keep the dollar amounts in the Right of Way Agreement confidential, which rights Grantor expressly reserves grants a limited waiver of any right to keep the terms and conditions of the Right of Way Agreement confidential, except for any dollar amounts in the Right of Way Agreement, which rights Grantor expressly reserves, and subject to Grantee's and Owner's compliance with the terms and conditions in this paragraph. In all instances, Grantee will use the Right of Way Agreement only for the following purposes: (a) to determine whether Grantee has ownership or control over duct, conduits, or rights-of-way within the property described in the Right of Way Agreement and the scope of such ownership or control; (b) to determine the ownership of wires within the property described in the Right of Way agreement; (c) to determine the demarcation point between Grantee facilities and the Owner's facilities in the property described in the agreement; (d) to determine the extent of the property interest of the third-party owner, including any provisions that establish the legal description of any property interest of a third-party owner, including any metes and bounds of the property; (e) to determine the term of the agreement; and (f) to determine the parties to the agreement. Grantee further agrees that Grantee shall not disclose the contents, terms, or conditions of any agreement provided pursuant to Section 10.8 to any Grantee agents or employees engaged in sales, marketing, or product management efforts on behalf of Grantee. Grantor's waiver of rights, subject to the limitations set forth above, is intended to be effective whether or not such right to confidentiality is expressly set forth in the Right of Way Agreement or elsewhere or may have been agreed to orally, and so long as Grantee and Owner comply with the conditions set forth above, Grantor hereby covenants not to assert any claim or commence any action, lawsuit, or other legal proceeding against Owner or Grantee based upon or arising out of Grantor's alleged right to confidentiality relating to the Right of Way Agreement, except in the event of disclosure of dollar amounts in the Right of Way Agreement. Grantor's waiver is expressly conditioned on Owner's waiver of Owner's confidentiality rights, as set forth in the Consent to Disclosure form, which is a part hereof, or Grantee's provision to Owner of a legally binding and satisfactory agreement to indemnify Grantee in the event of any legal action arising out of Owner's provision of a non-recorded agreement to Grantee. In the event that the person executing the Consent to Disclosure form does not have the legal right to bind the Owner, Grantor reserves the right to maintain an action for damages, including, without limitation, consequential damages, arising from such improper execution against any Person improperly executing the Consent to Disclosure form. In any event, Grantor reserves its right to (a) to enforce the confidentiality provisions of the Right of Way Agreement as to any dollar amounts set forth in such Right of Way Agreements, and/or (b) to maintain an action for damages, including, without limitation, consequential damages, arising from

~~the Company of the other amounts in any Right-of-Way Agreement, against any party, including, without limitation, against Owner or against any Person improperly executing the Consent to Disclosure form.~~[15]

~~9. Notices.~~ All notices to be given pursuant to this Agreement shall be deemed delivered (a) when personally delivered, or (b) three (3) business days after being mailed postage prepaid, by United States certified mail, return receipt requested, or (c) one business day after being timely delivered to an overnight express courier service such as Federal Express which provides for the equivalent of a return receipt to the sender, to the above described addresses of the parties hereto, or to such other address as a party may request in a writing complying with the provisions of this Section.

~~10. Modification; Counterparts.~~ This Agreement may not be amended, modified or changed, nor shall any waiver of any provision hereof be effective, except by an instrument in writing and signed by the party against whom enforcement of any amendment, modification, change or waiver is sought. This Agreement may be executed in any number of counterparts, all of which shall constitute but one and the same document.

~~11. Governing Law.~~ This Agreement shall be governed by and construed in accordance with the laws of the State.

~~12. Waiver of Jury Trial.~~ **THE PARTIES HEREBY IRREVOCABLY WAIVE, TO THE FULLEST EXTENT OF APPLICABLE LAW, ALL RIGHT TO TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS AGREEMENT.**

[Signature pages follow]

~~[15] The Company offers this provision as consensus language that complies with Utah MTE/ROW Orders.~~

EXECUTED as of the date first written above.

GRANTOR:

[illegible]

QWEST CORPORATION, a Colorado corporation,
successor in interest to
U S WEST COMMUNICATIONS, INC.,
a Colorado corporation

By: _____
Name: _____
Title: _____

[illegible])
) ss:
[illegible])

The foregoing instrument was acknowledged before me this ___ day of _____, [illegible] by _____ as _____ of QWEST CORPORATION, a Colorado [illegible].

Witness my hand and official seal.

[illegible]

_____
Notary Public
My Commission Expires: _____

EXECUTED on the date first written above.

GRANTEE:

[redacted], a

By: _____
Name:
Title:

STATE OF _____)
) ss:
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ___ day of _____, [redacted] _____, as _____ of _____.

Witness my hand and official seal.

[redacted]

_____
Notary Public
My Commission Expires: _____

CONSENT TO DISCLOSURE

THE UNDERSIGNED, _____, a _____ ("Owner"), whose address is _____, hereby consents to the terms of the following paragraphs regarding the agreement described or entitled as _____ between Qwest Corporation, formerly U S WEST Communications, Inc. ("Qwest") and Owner for the property located at _____ ("Property") that provides Qwest with access to Owner's Property (the "Agreement").

FOR TEN DOLLARS ($10) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Owner agrees as follows:

1. **Title to Property.** Owner represents and warrants either (a) that Owner is the owner of fee title to the Property described in the Agreement or, if no description of the Property is given in the Agreement, then (b) that Owner is the grantor, or the successor to or assignee of the grantor, of the easement rights, if any, under the Agreement. Owner further represents and warrants that Owner has the legal right to execute this Consent to Disclosure, including, without limitation, the right to waive the confidentiality of the Agreement as set forth in paragraph 3 of this Consent to Disclosure.

2. **Owner's Acknowledgments.** Owner expressly acknowledges that (a) this is a legal document that may affect Owner's rights and Owner was given the opportunity to have the Agreement and this Consent to Disclosure reviewed by Owner's attorney; and (b) Owner, by signing this Consent to Disclosure, waives any rights it may have to keep the terms and provisions of the Agreement confidential.

3. **Owner's Waiver of Confidentiality.** Owner hereby waives any right it may have to keep the terms and conditions of the Agreement confidential, whether or not such right to confidentiality is expressly set forth in the Agreement or elsewhere or may have been agreed to orally, subject to the compliance of the competitive local exchange carrier ("CLEC") with the requirements of paragraph 5. Owner further covenants not to assert any claim or commence any action, lawsuit, or other legal proceeding against Qwest or CLEC preventing the Consent to Disclosure, based upon or arising out of Owner's alleged right to confidentiality relating to the Agreement. Owner's consent to disclosure applies only to the Agreement that is described in this Consent to Disclosure form and only to the undersigned CLEC.

4. **Qwest's Waiver of Confidentiality.** Qwest represents and warrants that it is granting a limited waiver of its confidentiality rights that permits CLEC to review the Agreement subject to CLEC's compliance with the requirements of paragraph 5 and Qwest's right to redact all dollar amounts set forth in the Agreement. Qwest's consent to disclosure applies only to the Agreement that is described in this Consent to Disclosure form and only to the undersigned CLEC.

5. **CLEC's Obligations.** CLEC shall use the Agreement exclusively for the following purposes and for no other purpose whatsoever:

(a) to determine whether Qwest has ownership or control over duct, conduits, or rights-of-way within the Property described in the Agreement; or

(b) to determine the ownership of wire within the Property described in the Agreement; or

(c) to determine the demarcation point between Qwest facilities and the Owner's facilities in the Property described in the Agreement.

CLEC further agrees that CLEC shall not disclose the contents, terms, or conditions of the Agreement to any CLEC agents or employees engaged in sales, marketing, or product management efforts on behalf of CLEC.

4. Acknowledgement of Limitation on Waivers. **Owner understands that Qwest does not agree to waive the confidentiality of the dollar amounts set forth in any Agreement, and acknowledges that Owner has no right to provide copies of such Agreements to any party unless Owner has completely deleted the dollar amounts. Owner shall not provide a copy of the Agreement unless Owner has completely deleted all dollar amounts. Whether provided by Owner or Qwest, CLEC shall comply with the conditions set forth in paragraph 5.**

5. Notices. All notices to be given pursuant to this Agreement shall be deemed delivered (a) when personally delivered, or (b) three (3) business days after being mailed postage prepaid, by United States certified mail, return receipt requested, or (c) one business day after being timely delivered to an overnight express courier service such as Federal Express which provides for the equivalent of a return receipt to the sender, to the above described addresses of the parties hereto, or to such other address as a party may request in a writing complying with the provisions of this Section.

EXECUTED as of the date first written above.

OWNER:

_____,

CLEC:

_____

SGAT Exhibit D

ATTACHMENT 5

FORM PROTECTIVE AGREEMENT

WHEREAS, Qwest Corporation ("Qwest") and _____ agree that the execution of a Protective Agreement will expedite and facilitate competitive local exchange carrier ("CLEC") access to Qwest's non-recorded Right-of-Way agreements (as that term is defined in the Statement of Generally Available Terms and Conditions), including agreements relating to multiple tenant environments ("MTE") (collectively, "Right-of-Way Agreements"), between Qwest and third-party property owners in _____;

AND, WHEREAS, this Protective Agreement does not affect the access to publicly recorded Right-of-Way agreements, which Qwest has agreed to provide to CLECs.

NOW, THEREFORE, IT IS HEREBY AGREED, that:

1. (a) Confidential Information. All documents, data, information, studies, and other materials relating to non-recorded MTE Right-of-wWay aAgreements between Qwest and third-party property owners in _____ furnished or made available pursuant to a CLEC's request shall be furnished subject to the terms of this Agreement, and shall be treated by all persons accorded access thereto pursuant to this Agreement as constituting trade secret, confidential commercial, and financial information (hereinafter referred to as "Confidential Information"), and shall neither be used nor disclosed except for the purposes of:[1]

   (i) the ownership or control over ducts, conduits, or rights-of-way within the property described in the agreement, including provisions which define the scope of Qwest's ownership or control of the ducts, conduits or rights-of-way;

   (ii) the ownership of wire within the property described in the agreement;

   (iii) the demarcation point between Qwest facilities and the property owner's facilities in the property described in the agreement;

   (iv) to the extent the agreement affects any property interest of a third-party owner, any provision(s) that describe the property, including any metes and bound or other legal description of the property;

   (v) the term of the agreement; and

   (vi) the parties to the agreement.

All materials claimed to be Confidential Information shall be so marked by the party or its affiliates by stamping each individual page with the designation, "CONFIDENTIAL – SUBJECT TO PROTECTIVE AGREEMENT." All copies of documents so marked will be made on yellow paper. For purposes hereof, all notes pertaining to or as the result of a review of Confidential Information shall be considered Confidential Information and subject to the terms of this Agreement. Parties filing electronically should file both a confidential and non-confidential version clearly marked as such.

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[1] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

[1] This change reflects post-workshop consensus language that complies with Utah MTE/ROW Orders.

(a) Use of Confidential Information and Persons Entitled to Review. All Confidential Information made available pursuant to this Agreement shall be given solely to CLEC employees with responsibility for network planning, engineering, and construction and shall not be used or disclosed except for the purposes set forth above. In no event shall the Confidential Information be made available to persons employed by the parties who could use the information in their normal job functions to the competitive disadvantage of the party providing the Confidential Information.

(b) Nondisclosure Agreement. Prior to giving access to Confidential Information as contemplated in paragraph 1(a) above, counsel for the party seeking review of the Confidential Information shall deliver a copy of this Agreement to such person, and prior to disclosure such person shall agree in writing to comply with and be bound by this Agreement. Confidential Information shall not be disclosed to any person who has not signed a Nondisclosure Agreement in the form which is attached hereto and incorporated herein as Appendix A. The Nondisclosure Agreement (Appendix A) shall require the person to whom disclosure is to be made to read a copy of this Protective Agreement and to certify in writing that he or she has reviewed the same and has consented to be bound by its terms. The agreement shall contain the signatory's full name, permanent address and employer, and the name of the party with whom the signatory is associated. Such agreement shall be delivered to counsel for the providing party prior to the person gaining access to the Confidential Information.

2. (a) Use in Pleadings. Where reference to Confidential Information is required in pleadings, examinations, cross-examinations, briefs, arguments, or motions, it shall be by citation of title or some other nonconfidential description. Any further use of or substantive references to Confidential Information shall be placed in a separate section of the pleading or brief and submitted to a state commission, any court, or in arbitration or mediation proceedings under seal. This sealed section shall be served only on counsel of record (one copy each), who have signed a Nondisclosure Agreement. All the protections afforded in this Agreement apply to materials prepared and distributed under this paragraph.

(b) Record into Evidence. At least ten (10) days prior to the use of or substantive reference to any Confidential Information as evidence in any proceeding, the party intending to use such Confidential Information shall make that intention known to the providing party. The requesting party and the providing party shall make a good faith effort to reach an agreement so the information can be used in a manner which will not reveal its trade secret, confidential, or proprietary nature. If such efforts fail, the providing party shall separately identify, within five (5) business days, which portions, if any, of the documents to be offered or referenced on the record containing Confidential Information shall be placed in the sealed record. Only one (1) copy of documents designated by the providing party to be placed in the sealed record shall be made and only for that purpose. Otherwise, parties shall make only general references to Confidential Information.

(c) Seal. While in the custody of a state commission, any court, or in arbitration or mediation, these materials shall be marked "CONFIDENTIAL – SUBJECT TO PROTECTIVE AGREEMENT," and due to their trade secret nature they shall not be considered as records in the possession of or retained by a state commission, any court, or in arbitration or mediation proceedings within the meaning of any open meetings or public records statutes.

(d) In Camera Hearing. Any Confidential Information which must be orally disclosed to be placed in the sealed record in a proceeding shall be offered in an *in camera* hearing, attended only by persons authorized to have access to the Confidential Information under this Agreement. Similarly, cross-examination on or making substantive reference to Confidential Information, as well as that portion of the record containing references thereto, shall be marked and treated as provided herein.

(c) Appeal. Sealed portions of the record in any proceeding may be forwarded to any court of competent jurisdiction on appeal in accordance with applicable rules and regulations, but under seal as designated herein for the information and use of the court.

(d) Return. Unless otherwise ordered, Confidential Information, including transcripts of any depositions to which a claim of confidentiality is made, shall remain under seal, shall continue to be subject to the protective requirements of this Agreement, and shall be returned to counsel for the producing party within 90 days of receipt of the Confidential Information.

3. Segregation of Files. Those parts of any writing, depositions reduced to writing, written questions, interrogatories, and answers thereto, or other written references to Confidential Information in the course of discovery, if filed with a state commission, any court, or in arbitration or mediation proceedings will be sealed, segregated in the files, and withheld from inspection by any person not bound by the terms of this Agreement, unless such Confidential Information is released from the restrictions of this Agreement either through agreement of the parties or, after notice to the parties and hearing, pursuant to an order of a state commission and/or final order of a court having jurisdiction.

4. Preservation of Confidentiality. All persons who may be entitled to receive, or who are afforded access to any Confidential Information by reason of this Agreement, shall neither use nor disclose the Confidential Information for purposes of business or competition, or any other purpose other than the purposes of preparation for and conduct of this proceeding, and then solely as contemplated herein, and shall take reasonable precautions to keep the Confidential Information secure and in accordance with the purposes and intent of this Agreement.

5. Reservation of Rights. The parties affected by the terms of this Protective Agreement retain the right to question, challenge, and object to the admissibility of any and all data, information, studies, and other matters furnished under the terms of this Protective Agreement in response to interrogatories, requests for information or cross-examination on the grounds of relevancy or materiality. This Agreement shall in no way constitute any waiver of the rights of any party to contest any assertion by a party or finding by a state commission, any court, or in arbitration or mediation proceedings that any information is a trade secret, confidential, or privileged, and to appeal any assertion or finding.

EXECUTED this ___ day of _____, _____.

[Signature pages follow]

APPENDIX A TO PROTECTIVE AGREEMENT

I have reviewed the foregoing Protective Agreement with respect to the review and use of Confidential Information (as defined therein) and agree to comply with the terms and conditions of the Protective Agreement.

Signature _____

Name (type or print): _____

Residence Address: _____

_____

_____

Employer or Business Name: _____

Business Address: _____

_____

_____

Party Represented: _____

Date Signed: _____

EXHIBIT 1

Right of Way Agreement

(This represents the ROW agreement between the Co-Provider and the property owner)

Exhibit 4

BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

DOCKETED BY

IN THE MATTER OF U. S. WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH SECTION 271 OF THE TELECOMMUNICATIONS ACT OF 1996.

DOCKET NO. T-00000A-97-0238

DECISION NO. 64300

ORDER

Open Meeting
December 20, 2001
Phoenix, Arizona

BY THE COMMISSION:

Having considered the entire record herein and being fully advised in the premises, the Arizona Corporation Commission ("Commission") finds, concludes, and orders that:

FINDINGS OF FACT

1. On March 9, 2001, the Commission issued Decision No. 63419, conditionally approving Qwest's compliance with Section 271 of the Federal Telecommunications Act of 1996 ("1996 Act") Checklist Item No. 3 – Poles, Ducts, Conduits and Rights-of-Way.

2. The 1996 Act added Section 271 to the Communications Act of 1934. The purpose of Section 271 is to specify the conditions that must be met in order for the Federal Communications Commission ("FCC") to allow a Bell Operating Company ("BOC"), such as Qwest Corporation ("Qwest" or the "Company"), formerly known as US WEST Communications, Inc. ("US WEST")[1] to provide in-region interLATA services. The conditions described in Section 271 are intended to determine the extent to which local phone service is open to competition.

3. Section 271 (c)(2)(B) sets forth a fourteen point competitive checklist which specifies the access and interconnection a BOC must provide to other telecommunications carriers in order to satisfy the requirements of Section 271. Section 271(c)(2)(B)(ii) requires a BOC desiring to make an application pursuant to Section 271 to provide or offer to provide "[n]ondiscriminatory access to

[1] For purposes of this Order, all references to US WEST have been changed to Qwest.

36. In the *Local Competition Reconsideration Order*,[3] the FCC held "because time is of the essence in access requests, a utility must respond to a written request for access within 45 days. If access is not granted within 45 days of the request, the utility must confirm the denial in writing by the 45th day." The FCC affirmed this Rule in *In the Matter of Cavalier Telephone, LLC v. Virginia Electric and Power Company*, 15 FCC Rcd. 9563, June 7, 2000. In *Cavalier*, the FCC was asked to address the numerous delays the complainant had suffered in obtaining the utility's approval to attach to its poles. The electric company had argued it was only required to respond within 45 if it were going to deny the application. The FCC directed the electric utility to provide immediate access to all poles for which permit applications had been pending for greater than 45 days. With respect to large orders, the FCC in *Cavalier* states:

> We have interpreted the Commission's Rules, 47 CFR § 1.1403(b), to mean that a pole owner "must deny a request for access within 45 days of receiving such a request or it will otherwise be deemed granted." We conclude that Respondent is required to act on each permit application submitted by Complainant within 45 days of receiving the request. To the extent that a permit application includes a large number of poles, respondent is required to approve access as the poles are approved, so that complainant is not required to wait until all poles included in a particular permit are approved prior to being granted any access at all.

FCC orders do not make a distinction based on the number of requests for access. Qwest cites no authority that would authorize its proposal.

37. In its November 15, 2001 Comments, Qwest agrees to adopt Staff's recommendation that the SGAT provide no exceptions to Qwest's obligation to respond to pole, conduit and right-of-way requests within 45 days.

38. With Qwest's concession to revise its SGAT, this impasse issue is resolved. We believe Staff's recommendation is consistent with FCC orders, is reasonable and should be adopted.

39. The parties have not identified any other impasse issues affecting Checklist Item No. 3.

CONCLUSIONS OF LAW

[3] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, CC Docket No. 96-98, 11 FCC Rcd 15499 (Aug. 8, 1996).

SERVICE DATE

JUN 1 1 2001

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Investigation Into U S WEST COMMUNICATIONS, INC.'s [1] Compliance With Section 271 of the Telecommunications Act of 1996	)	DOCKET NO. UT-003022
In the Matter of U S WEST COMMUNICATIONS, INC.'s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996	)	DOCKET NO. UT-003040 COMMISSION ORDER [2] ADDRESSING WORKSHOP ONE ISSUES: CHECKLIST ITEMS NO. 3, 7, 8, 9, 10, 12, AND 13.

I. SYNOPSIS

In this Order, the Commission determines Qwest's compliance with certain provisions of Section 271 of the Telecommunications Act of 1996. Included in this decision are issues relating to Checklist Items No. 3 (Poles, Ducts, and Rights of Way), 7 (911, E911, Directory Assistance, Operator Services), 8 (White Pages Directory Listings), 9 (Numbering Administration), 10 (Databases and Associated Signaling), 12 (Dialing Parity), and 13 (Reciprocal Compensation).

[1] Since the inception of this proceeding, U S WEST has merged and become known as Qwest Communications, Inc. For consistency and ease of reference we will use the new name Qwest in this order.

[2] This proceeding is designed, among other things, to produce a recommendation to the Federal Communications Commission regarding Qwest's compliance with certain requirements of law. This order addresses some of those requirements. The process adopted for this proceeding contemplates that interim orders including this one will form the basis for a single final order, incorporating previous orders, updated as appropriate. The Commission will entertain motions for reconsideration of this order so that issues may be timely resolved.

lease, license, or easement, and further defined the meaning of the term "right-of-way" under Section 224 of the Act.[9]

87 Under the Act, Qwest must "provide non-discriminatory access to any pole, duct, conduit, or right-of-way owned or controlled by it." 47 U.S.C. § 224. Qwest must also make available for inspection and copying all "relevant data" concerning inquiries about rights-of-way.[10] In view of the FCC's recent ruling on access to multiple tenant environments, we find persuasive the arguments of AT&T and WorldCom that Qwest's proposed terms and conditions for access to rights-of-way and multiple dwelling units would impede the ability of CLECs to obtain non-discriminatory access to poles, ducts and rights-of-way.

88 The Revised Initial Order recommended that Qwest's requirements for (1) landowner approval prior to CLEC review of an agreement in which Qwest may own or control right-of-way, and (2) CLEC negotiation of a Qwest right to cure CLEC breaches of right-of-way agreements, present significant and unreasonable burdens on CLECs when negotiating with the landowner.

89 The Commission adopts the initial order's recommendation. CLECs will have to enter into negotiations with the landowner to obtain access to a right-of-way. Qwest's proposal creates a burden for CLECs in their efforts to determine whether Qwest owns or controls a right-of-way, and in trying to negotiate an agreement with the landowner. Qwest must eliminate these terms for access to MDUs and rights-of-way before the Commission will consider Qwest in compliance with Checklist Item No. 3, and before the Commission will approve Qwest's SGAT.

90 Consistent with the parties' agreement, we defer the issue of access to multiple dwelling unit sub-loops to the workshop for Checklist Item Nos. 2 and 4.

B. Checklist Item No. 3: Time for Qwest to Respond to Requests for Access

91 Sections 2.1 and 2.2 of Qwest's SGAT state that Qwest will provide access to pole attachments, ducts, or rights-of-way, or a response to a request for access, within 45 days for "standard inquiries" of "one hundred (100) poles or fewer, thirty (30) utility hole sections or fewer, or two (2) miles of linear rights-of-way or less." *See Ex. 106, SGAT Exhibit D, Sections 2.1 and 2.2.* For larger requests, Qwest proposes response times of up to 115 days, and for requests of more than 500 poles, 150 manholes, or 10 miles of linear rights-of-way, Qwest proposes that the time limit be negotiated. *Id.* Other parties oppose the proposal, contending that Qwest's proposed response intervals for large quantity access are too long.

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[9] *Id.* at ¶¶ 82, 83.

[10] *Local Competition First Report and Order*, ¶ 1223.

22 The dispute between the parties centers on the interval in which Qwest must respond to requests for, or provide access to, poles, ducts, conduit, or rights-of-way, when a CLEC makes a request for access for more than 100 poles, ducts, conduit or rights-of-way. Both sides base their arguments on the FCC's rule and its interpretations of that rule. The Revised Initial Order recommended the Commission find Qwest out of compliance with Checklist Item No. 3 and not approve Qwest's SGAT until Qwest modified these SGAT provisions to require Qwest to allow access or respond to all requests within 45 days.

23 AT&T, WorldCom, and the Joint CLECs (NEXTLINK, ELI, and ATG) assert that the FCC's rules require BOCs to respond to requests for access to poles, ducts, conduits, and rights-of-way within 45 days, regardless of the size of the request. "If access is not granted within 45 days of the request for access, the utility must confirm the denial in writing by the 45th day." *47 C.F.R. § 1.403 (b).*

24 AT&T and WorldCom assert that the FCC has already addressed the issue of how BOCs must handle large orders in *In the Matter of Cavalier Telephone, L.L.C. v. Virginia Electric and Power Co., Order and Request for Information*, DA 00-1268, File No. PA 99-005, (rel. June 7, 2000). There, the FCC stated:

> Our rules require Respondent to grant or deny access within 45 days of receiving a complete application for a permit. . . . We have interpreted the Commission's rules, 47 CFR § 1.1403(b), to mean that a pole owner "must deny a request for access within 45 days of receiving such a request or it will otherwise be deemed granted." We conclude that Respondent is required to act on each permit application submitted by Complainant within 45 days of receiving the request. *To the extent that a permit application includes a large number of poles, respondent is required to approve access as the poles are approved, so that complainant is not required to wait until all poles included in a particular permit are approved prior to being granted any access at all.* Respondent shall immediately grant access to all poles to which attachment can be made permanently or temporarily, without causing a safety hazard, for which permit applications have been filed with Respondent for longer than 45 days.

25 *Cavalier Telephone*, ¶ 15 (emphasis added).

26 Qwest argues that the Company should be able to offer a flexible time schedule beyond a flat 45 days for granting or denying requests for access to poles, ducts, and rights-of-way based on size. Qwest argues that the FCC rule, 47 C.F.R. § 1.403(b), does not address the size of the request, and "can easily be interpreted to mean that a utility must respond to a request for access to a single pole or conduit within 45 days." *Qwest's Brief, at 14*

27 Qwest suggests as a worst-case scenario that one CLEC could request access to the 100,000 poles and 348,000 feet of duct that Qwest controls in Washington and that the company would have to respond to the request within 45 days. Qwest suggests that it would be physically impossible to evaluate the condition of all of these facilities in 45 days

28 Specifically, Qwest argues that nothing in Section 251(b)(4) or Section 271(c)(2)(B)(iii) of the Act requires Qwest to meet a 45-day threshold regardless of size of the request. Qwest argues that the FCC's *First Report and Order* states that inflexible blanket rules are inappropriate and that safety and flexibility need to be considered with decisions made on a case-by-case basis.[11] Qwest argues that the Revised Initial Order is incorrect in asserting that the FCC rule precludes Qwest from having a rolling approval schedule based on size. In comments filed with the Commission on September 12, 2000, Qwest argues that the FCC held in *Cavalier Telephone* that, for large requests, there may be a rolling response commencing no later than the 45th day. Qwest proposed revised language in its Exhibit D to the SGAT reflecting this position.

29 We believe that it is appropriate to require a 45-day response time regardless of the size of the request. While it certainly is true that neither section 251(b)(4) nor section 271(c)((2)(B)(iii) specifies a time limit for granting or denying access to poles, ducts, and rights-of-way, the FCC's rule and subsequent orders require a 45-day limit. RBOCs must comply with relevant FCC rules and orders to be compliant with Section 271.[12] While the FCC's rule is silent as to whether the response time varies depending upon the size of the request, nothing in the rule suggests that the size of the request should alter the 45-day limit. AT&T, World Com, and the Joint CLECs are correct in recognizing that the rule is explicit on the point that "If access is not granted within 45 days of the request for access, the utility must confirm the denial in writing by the 45th day."

30 The *Local Competition First Report and Order* does suggest that "in evaluating requests for access, a utility may continue to rely on such codes as the NESC

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[11] *See In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, First Report and Order, CC Docket No. 96-98, CC Docket No 95-185, FCC 96-325, ¶¶ 1143, 1151 (rel. Aug. 8, 1996) (*Local Competition First Report and Order*).

[12] *In the Matter of SBC Communications Inc., Southwestern Bell Telephone Company and Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long Distance Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas*, Memorandum Opinion and Order, CC Docket No. 00-65, FCC 00-238, ¶ 22 (rel. June 30, 2000) (*SBC Texas Order*).

[National Electric Safety Code] to prescribe standards with respect to capacity, safety, reliability, and general engineering principles."[13] However, allowing consideration of these factors in evaluating a request for access, or placing conditions on access, differs from granting or denying the request within a given 45-day period. These standards can form the basis for denying the request, but not for changing the time frame in which the evaluation takes place. The 45-day rule is intended as a "swift and specific enforcement procedure that will allow for competition where access can be provided."[14] Establishing guidelines for evaluation is not the same as having those guidelines drive the timetable for acting on a properly documented application from a CLEC.

The *Local Competition First Report and Order* also includes an expedited process for FCC review of complaints filed in response to a denial notice from the utility[15]. This further reinforces our view that the FCC considers time to be of the essence.

In its *Local Competition Reconsideration Order*, the FCC reiterated that "because *time is of the essence in access requests*, a utility must respond to a written request for access within 45 days. If access is not granted within 45 days of the request, the utility must confirm the denial in writing by the 45th day."[16] This statement recognizes that the time frame for approving or denying a request is a primary policy consideration and specifies that the appropriate time frame is 45 days. The FCC further held in its *Local Competition Reconsideration Order* that:

> Under the procedures adopted in the order, a utility must grant or deny a request for access within 45 days of a written request. If the utility denies the request, it must do so in writing, and the reasons given for the denial must relate to the permissible grounds for denying access (*e.g.*, lack of capacity, safety, reliability, or engineering concerns).[17]

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[13] *Local Competition First Report and Order*, ¶ 1151.

[14] *Id.*, ¶ 1224.

[15] *Id.*, ¶ 1225.

[16] *In the Matter of the Local Competition Provisions of the Telecommunications Act of 1996, et al.*, Order on Reconsideration, CC Docket No. 96-98, CC Docket No. 95-185, FCC 99-266 (rel. Oct. 26, 1999), ¶ 117 (Emphasis added) (*Local Competition Reconsideration Order*).

[17] *Id.* ¶ 17.

53 Again, this seems to be an affirmation of the 45-day limit. It does not preclude the utility from denying the request on reasonable grounds, but it does affirm that the 45-day time frame is appropriate for making these determinations.

54 Finally, concerning the *Cavalier Telephone* case, one of the primary issues in that case was, as Qwest notes, a utility company that delayed access to its poles due to safety and other issues. However, the FCC's decision is clear that the number of poles requested does not alter the requirement to grant or deny access to poles, ducts, or rights-of-way within 45 days.[18] The fact that the FCC goes on to require access to be provided as soon as segments of a large order are approved does not mean that the 45-day limit affirmed in *Cavalier Telephone* is somehow lengthened in those circumstances, or that approval may be made on a "rolling basis," as proposed by Qwest. The very next sentence in the order requires the utility to "*immediately* grant access to all poles . . .for which permit applications have been filed with [the utility] for longer than 45 days."[19]

C. Checklist Item No. 3: Third Party OSS Performance Testing

55 In the *Revised Initial Order* at paragraph 61, the Commission stated that Qwest's compliance with Checklist Item No. 3 would be contingent on the Commission's review and evaluation of the results of the OSS testing process review conducted by the ROC. The Commission has learned that none of the processes pertaining to Checklist Item No. 3 will be tested through the OSS testing review being conducted by the ROC.

56 The Commission recognizes that performance under this checklist item is not being measured through the Regional Oversight Committee (ROC) Operation Support System (OSS) regional testing process, and therefore Qwest's compliance with this checklist item is not contingent on the Commission's review and evaluation of audited results of relevant performance measures tested through the ROC process.

D. Checklist Item No. 13: InterLocal Calling Area Facility Proposal

57 By letter filed with the Commission on September 28, 2000, Qwest notified the Commission and all parties of its withdrawal of a proposal in sections 7.1.2.4.1, 7.1.2.4.3, and 7.1.2.4.4 of the SGAT for an InterLocal Calling Area option to allow CLECs to obtain a single point of interconnection in a LATA. Qwest requested that the Commission address during the second workshop new SGAT language concerning how CLECs may obtain a single point of interconnection in a LATA. In paragraph 17 of the Fifth Supplemental Order in this proceeding, the Commission

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[18] *Cavalier Telephone*, ¶ 15.

[19] *Id.* (Emphasis added).

Decision No. R01-651-I

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 971-198T

IN THE MATTER OF THE INVESTIGATION INTO U S WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH § 271(C) OF THE TELECOMMUNICATIONS ACT OF 1996.

RESOLUTION OF VOLUME 1A IMPASSE ISSUES

Mailed Date: June 22, 2001

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CONCLUSION:

No variable response times for pole, duct, rights-of-way access verification is allowed. Qwest's SGAT must reflect a 45 day rule with no exceptions.

Discussion:

(1) 47 C.F.R. § 1.1403(b) gives permissible response times to requests for access to poles, ducts, and rights-of-way. The FCC established a clear federal regulation, including interpretive precedent. The Commission is bound to follow that precedent. *U S West v. Hix, supra.* at 1117-1118.

(2) Title 47 C.F.R. § 1.1403(b) states: "If access is not granted within 45 days of the request for access, the utility must confirm the denial in writing by the 45th day." The FCC has interpreted 47 C.F.R. § 1.1403(b) to mean just what it says: "we conclude that [the utility] is required to act on each permit application submitted...within 45 days of receiving the request." *In the Matter of Cavalier Telephone, L.L.C. v. Virginia Electric and Power Co., Order and Request for Information*, DA 00-1250, pg. 8 (June 7, 2000). Failure to act upon an application within the 45 days will result in the request being deemed granted. *Id., quoting In the Matter of Application of Bellsouth Corp*, FCC 98-271, 13 FCC Rcd. 20599 (1998).

(3) The FCC did not include any provision regarding variable response times based on the size or volume of the requests within 47 C.F.R. § 1.1403(b). Furthermore, the FCC has stated that, when dealing with large orders, the utility is required to grant access as the parts of the orders are approved. *Cavalier* at 8. Accordingly, under no circumstances is there applicable FCC authority allowing variable timelines.

(4) Parties remain free to contract around the 45 day limit in the FCC's regulations, as they have apparently done in Arizona. However, this Commission has neither the authority nor the inclination to set a default agreement with time frames different than those prescribed by the FCC.

(5) Qwest retains the ability to deny requests for access by the 45th day by specifically explaining all reasons for the denial in writing. 47 C.F.R. § 1.1403(b). The reasons for denial may include "lack of capacity, safety, reliability or engineering standards." *Id.* This would include situations where Qwest legitimately does not have the "capacity" to conduct the various field verifications and other tasks necessary to verify the "safety, reliability or engineering standards." *Id.* However, a denial on the 45th day does not terminate the application, as the "[utility] shall immediately grant access to all poles to which attachment can be made

permanently or temporarily, without causing a safety hazard, for which permit applications have been filed…for longer than 45 days." *Cavalier* at 8.

(6) To comply with § 271, Qwest must subject itself to an absolute timeline of 45 days for accepting or rejecting pole, duct, and right-of-way access applications. Consistent with the FCC's regulations, Qwest can deny access for a legitimate lack of capacity, with the proviso that Qwest must work towards establishing the access and approving it as soon as feasible.

(7) Difficulty with meeting large order requests within the 45-day window is possible. However, actual commercial experience will better inform the Commission and the market players if this is indeed a problem. This term may need to be modified if Qwest finds that the exception is swallowing the 45-day rule. In the interim, the hard and fast 45-day deadline will better serve two primary values: expedition and certitude. The contractual provision thus sets forth a default time frame, and then puts the burden on Qwest specifically to justify departure from that deadline.

(8) It should be noted that Qwest has apparently modified their position with regard to issue 3-14, and has submitted SGAT language that is similar to the language proposed by Staff. *See* Qwest Volume 1 Comments at. 6, fn.3.

However, I will not adopt the whole of Staff's recommendation in Volume 1A. See Volume 1A Report ¶ 35. A commercially reasonable relationship between Qwest and an ordering CLEC should allow bilateral resolution of access intervals outside of the 45-day time frame without automatic recourse to the Commission. Of course, any ordering CLEC who believes that Qwest is abusing the exception to the 45-day rule can complain to the Commission.

(9) Before the Commission certifies compliance with checklist item 3 to the FCC, Qwest's SGAT § 10.8.4 and § 2.2 of Exhibit D must be revised to reflect no exceptions or gradations to the FCC's 45-day rule.[6]

4. 10-5, 10-6: ICNAM (Inter-Network Calling Name Assistance Database)

ISSUE:

Whether access to Qwest's CNAM (Calling Name Assistance Database) or ICNAM (Inter-Network Calling Name Assistance Database) should be provided on a "per query" basis or as full, "global" access.

Party Positions:

Qwest: Access to the CNAM/ICNAM is only required on a "per query" basis (SGAT § 9.17).

AT&T/WorldCom: Denying full access to CNAM/ICNAM violates nondiscriminatory access to unbundled network elements (UNE) provision of § 251(c)(3).

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[6] Qwest's most recent proposed SGAT language does not meet this requirement. See Qwest's Comment on Vol. 1A Impass Issues attachment.

Test Requirements Document

Regional Oversight Committee (ROC)

Test Requirements Document (TRD) for the 3rd Party Test of U S WEST Operational Support Systems (OSS)

Issued to:
Interested Vendors

Issued by:
ROC Steering Committee
Reviewed by:
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March 9, 2000
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1. EXECUTIVE OVERVIEW

Execution of a master test plan based on this Test Requirements Document (TRD) will evaluate the operational readiness, performance and capability of U S WEST to provide pre-ordering, ordering, provisioning, maintenance and repair (M&R) and billing Operation Support Systems (OSSs) interfaces and functionality to competitive local exchange carriers (CLECs) within the 13 participating Regional Oversight Committee (ROC) states. The test administrator will be expected to use this document and its experience to develop a formal master test plan to review and evaluate U S WEST's systems and processes. This TRD has been developed in a collaborative process initiated by the ROC that includes state commission staff, U S WEST, CLECs and other industry participants.

The collaborative process included four major steps. Step 1 was a Testing Principles and Scoping Workshop resulting in agreement on twenty testing and scoping principles to guide the planning, execution and evaluation of the ROC's testing effort. In Step 2, MTG developed a first draft of the TRD using the twenty principles, test plans developed in other states, FCC and DOJ guidelines and specific ROC requirements for the U S WEST operating territory. In Step 3, ROC TAG members participated in a review and comment process that included a TRD Workshop where the test requirements were further refined. Once a Test Administrator is appointed, Step 4 will include the further refinement of scenarios, development of the test transaction mix and volume estimates with input from TAG members. The Test Administrator will also develop a draft Master Test Plan that will be reviewed by the TAG and approved by the ROC.

The overall test is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces, and processes that will impact the ability of CLECs to enter the market in the U S WEST region and provide local service to regional consumers at production volumes. In constructing this TRD, many factors were considered, including the systems and processes to be tested, the measurement points and respective evaluation criteria, and the necessary conditions required to stage a successful, efficient, and objective test. The Test Administrator is expected to ensure that all tests listed in this plan are executed.

The Test Administrator will provide test results and evaluations to the ROC and TAG as the test progresses, develop at least one Interim Report at approximately the mid-point of the test, and possibly other interim reports, and develop a Final Report at test completion. The Final Report and all major aspects of the ROC 3rd Party Test of U S WEST will be used by participating state commissions as part of their evaluation of U S WEST's individual state section 271 applications. A significant output of each 271 proceeding will be a recommendation to the FCC by the state commission on U S WEST's OSS compliance with the Telecommunications Act of 1996 (The Act).

Through the ROC's extensive collaborative testing effort, in general, and this TRD specifically, the following benefits should be realized:

- ROC commission staff, US WEST and CLECs will eliminate duplicative work across states by determining a complementary set of OSS functionalities, performance measurements and methods to be used in the test
- Increased administrative efficiency will result in time and cost savings for all participants

For planning purposes, the ROC OSS test execution and evaluation process is currently expected to complete in the 4th quarter of 2000. However, the actual completion date is critically dependent on the completion of military testing and all exit criteria. The concurrent consideration of 271 related matters in the U S WEST region may also impact the ability to meet this target date.

2. INTRODUCTION

This Test Requirements Document (TRD) has been developed collaboratively by participating state commission staff, U S WEST, competitive local exchange carriers (CLECs) and other industry participants under the auspices of the ROC's 3rd party testing organization. It will be used as the basis for a test of U S WEST's OSS to assist the states in determining if the company is in compliance with requirements specified in the Telecommunications Act of 1996 and subsequent Federal Communications Commission (FCC) proceedings.

2.1 Purpose

The purpose of this TRD is to define all major aspects of the ROC 3rd Party Test of U S WEST OSS in line with the testing and scoping principles collaboratively developed by ROC testing participants. The objectives this TRD is designed to meet include:

- Define the framework in which the ROC test will be planned, conducted and evaluated including the testing organization, process requirements and methodology where appropriate
- Specify the scope of the test in sufficient detail to permit vendors to prepare definitive proposals for the roles of 3rd Party Test Administrator, Pseudo-CLEC and Performance Measures Auditor
- Establish test requirements that represent the 13-state environment in which the test is to be conducted for use by the 3rd Party Test Administrator in preparation of the master test plan and detailed testing specifications

- Provide an open testing process that balances the need for full industry participation in all phases with requirements necessary for rigor, such as blindness during the detail test specification and execution phase
- Specify the communications framework to be used throughout the testing effort
- Describe all individual tests included in the scope

2.2 Principles and Scope

Twenty principles dealing with the 3rd party OSS test and its scope were agreed upon in the ROC's Testing and Scoping Principles Workshop held in St. Paul MN on December 2nd and 3rd, 1999.

These principles will be the guiding principles used to plan, conduct, evaluate, and report on the ROC 3rd Party Test of U S WEST's OSS. The vendor(s) shall incorporate these principles into the master test plan and shall be guided by these principles in the development, execution, analysis, and reporting of the plan.

The complete list of principles can be found in Section 3. Where relevant, specific principles will be cited in this document to provide guidance to the vendor(s).

2.3 Test Administration

Section 4 defines the organization, processes and communication framework that will govern the test activities outlined in this TRD. It describes the ROC approach to the testing effort, organizational entities, and their respective roles and responsibilities. It also outlines the communications processes for written communications, documents and meetings, both open and closed. Scheduling and tracking requirements are specified along with the issue resolution process.

2.4 Test Framework and Test Elements

In order to develop a comprehensive test of U S WEST's OSS systems, interfaces, and processes, the test framework is defined in terms of a set of elements including the following:

- U S WEST OSS System Architecture
- Test Domains
- Parity standards, Benchmarks, Qualitative Evaluations and Comparisons
- Test Data
- Entrance and Exit Criteria

- Test Process Types and Individual Tests
- Inputs, Activities and Outputs for Specific Tests

2.5 OSS System Architecture

Section 6 provides an overview of U S WEST's OSS System Architecture throughout the 13-state area covered by this test. By its nature, the ROC test is somewhat unique because it is the first independent 3rd party testing effort that has been initiated by multiple jurisdictions that will oversee the effort from its formative stage through completion. The broad geographical reach of the test expands the OSS architecture breadth as well. U S WEST's current operating territory, and therefore much if its OSS legacy architecture, is the result of the merging of three predecessor Bell Operating Companies into the U S WEST Regional Bell Operating Company (RBOC), including:

- Pacific Northwest Bell (PNB) covering Washington and Oregon now referred to as the Western Region
- Mountain Bell (MB) covering Arizona, Colorado, Idaho, Montana, New Mexico, Utah and Wyoming, now Central Region
- Northwestern Bell (NWB) covering Iowa, Minnesota, Nebraska, North Dakota, and South Dakota, now Eastern Region

This heritage has resulted in some OSS architecture variations across the regions. These variations as well as state differences are highlighted in this section.

2.6 Performance Measures

The performance measures to be used in the 3rd party OSS test are being collaboratively developed by the TAG. The process began with a straw-man proposal distributed for review in December 1999. The comments were discussed and the measures further refined in a ROC Performance Measures Workshop held in Salt Lake City, UT on January 19-21, 2000. Issue resolution activities resulting from the workshop along with amendments, additions and deletions to the performance measure plan continue in subsequent collaborative forums.

2.6.1 Performance Measurement Components

OSS performance measurement plans designed to evaluate Incumbent Local Exchange Carrier (ILEC) performance include definitions of performance measures, success criteria, other standards, and reporting requirements. The performance measures quantify the ILEC's performance of wholesale and retail processes. They are defined in terms of purpose, rules used in collecting raw data required, reporting dimensions, calculation formula, etc. Success criteria are defined as either a benchmark or a retail parity standard. A benchmark is established to

identify the point at which the ILEC's performance for a wholesale process is deemed adequate for those wholesale processes for which there is no appropriate retail analog. For those wholesale processes for which there is an analogous retail process, parity standards will be used. Parity standards indicate that the wholesale performance of a process should be compared to the ILEC's performance of retail processes. Parity standards require that the ILEC's retail or internal performance is compared to analogous wholesale performance measures to determine if there is non-discriminatory treatment of wholesale services as required by the Act and orders by the FCC.

2.6.2 *Performance Measurements in the Context of the ROC's 3rd Party Test*

Performance measurements will be a key element of the ROC test of U S WEST OSS. Since the ROC test is the first effort involving multiple state commissions and jurisdictions, it presents some unique challenges, including:

- No ROC-wide performance measurement system currently exists
- Individual states within ROC have differing regulations, products and services, operating environments, service expectation and norms which will likely impact their performance measurements, parity measure and benchmarks
- It is unwieldy to have 13 views of performance measures for the ROC test
- It is unlikely that all 13 states could develop one long-term umbrella performance measurement system prior to the start of the planned ROC test
- 271 filings by U S WEST will occur at different times and therefore be processed on different schedules

2.6.3 *ROC's Planned Approach to Performance Measurements in Its U S WEST OSS Test*

To support a comprehensive test of U S WEST's OSS in a timely manner that includes a pre-determined performance measurement system, the ROC Steering Committee has developed the following consensus:

- There should be performance measurements, parity comparisons, benchmarks and statistical evaluation methods established in advance for use during the ROC test
- This set of performance measurements and associated parity comparisons and benchmarks will be established solely for the 3rd Party Test Vendor (s) to test and evaluate the outcomes as required to meet the needs of the ROC states for testing purposes

- ROC states will use the test results and evaluation as part of the record in their individual 271 proceedings
- ROC states are free to modify the performance measurements (either the set of measurements or the parities/benchmarks) on a going forward basis (post third party test) as required to meet their specific needs as they prepare comments for the FCC on a state-specific 271 filing and address backsliding and related issues
- ROC has requested and U S WEST has agreed that all performance measures agreed upon for the ROC test will be collected during the period after third party test completion and before the completion of individual 271 proceedings in the states and the FCC application and review period
- The measurements taken after completion of the ROC test will not be used to re-open military testing but may be used to support future FCC filings. This does not preclude looking at such data to help review and/or close exceptions identified in the test.

The vendor shall develop a test plan and specifications that support these points.

2.7 Entrance and Exit Criteria

Entrance criteria are those requirements that must be met before individual tests can commence. Global entrance criteria must be satisfied prior to commencement of any testing, and apply to every individual test except where noted otherwise. Exit criteria are those requirements that must be met before the test can be concluded. Global exit criteria apply to every individual test except where noted otherwise. Individual tests each have individual entrance and exit criteria.

Entrance and exit criteria link the test plan with Performance Measures. Entrance criteria generally require that Performance Measures are completely defined, available and operational.

2.8 Test Processes and Test Types

The major test types are Transaction Driven Systems Analysis and Operational Analysis. The first introduces various types of transaction-oriented test data, from various sources, into U S WEST OSS processes and observes the results.

Operations analysis assesses aspects of the trading partnership business process that are not transaction driven.

3. Test Principles and Scope

The twenty principles agreed to by the TAG are:

1. This test is intended to evaluate whether U S WEST provides non discriminatory access to its OSS for associated resale, unbundled network elements (UNEs), and interconnection services in order to demonstrate the operational readiness of these OSSs to support sustained commercial operation. As part of non-discriminatory access, the test will evaluate whether U S WEST has deployed the necessary systems and personnel to provide sufficient access to each of the required OSS functions including pre-order, order, provisioning, maintenance and repair, and billing. The test will include an evaluation of U S WEST's adherence to telecom industry guidelines for OSS interfaces. It will also evaluate whether U S WEST is adequately assisting competitive local exchange carriers (CLECs) to understand how to implement and use all of the OSS functions available to them.

2. An independent test administrator (TA), an independent pseudo-CLEC (P-CLEC) and a performance measure auditor (PMA), performing three separate and distinct roles, under the oversight of the ROC, will conduct this test.

3. The scope of this test will be designed and scaled to represent the environment of the 13 states to ensure their ability to use the results in individual state proceedings. Once regional and state differences in U S WEST OSSs are fully understood, a determination will be made on what testing will most appropriately address the impact of the differences. The appropriate testing approach will be designed into the master test plan (MTP) to assess the U S WEST OSS for regional and state differences.

4. The goal of all parties to the ROC test of U S WEST OSS is an open, above-board test environment where all information relating to the test is available to all parties, except that information that is commercially sensitive or proprietary. To that end, the Test Administrator will establish procedures concerning communications affecting the planning, conduct and evaluation of the test. These procedures will include regular, open meetings between the Test Administrator, the P-CLEC, the CLEC community and ROC representatives in a manner similar to the meetings held in the Bell Atlantic-New York test. Issue identification, research, resolution decisions, and other relevant items critical to the transparency of the test will be discussed and documented.

5. The ROC test will use guidelines established by the FCC and DOJ and will draw on input from the ROC Steering Committee (ROCSC), individual state commissions, CLECs, US WEST, and other TAG members. The CLECs and U S WEST should play an active role in developing performance measurements and success criteria. The ROC will ensure that the performance measurements and success criteria are reasonably complete prior to the start of the test.

6. The OSS access that U S WEST provides to itself and to CLECs will be evaluated using both qualitative and quantitative methods.

7. A Master Test Plan will be developed with input from all ROC participants. The MTP will be developed and approved by the ROC prior to any testing activity. The MTP will be designed to maintain adequate blindness with respect to U S WEST. The performance measures will be developed in a document separate from the MTP and in a timeframe consistent with principle 5 above.

8. All documentation and assistance made available to the P-CLEC by U S WEST for use by the P-CLEC in building and/or setting up the required OSS interfaces will be made available to all participants to verify that the P-CLEC is not being given special treatment.

9. This test will include a thorough and well-documented independent assessment of data collection and calculation processes for performance measurement data – both qualitative verification and against business rules.

10. The test will include an independent review of the Change Management processes and procedures used by U S WEST to communicate with CLECs regarding OSS system performance and system updates. This review will include an evaluation of how CLEC suggestions and requests for system corrections, enhancements or new functionalities are handled. The test will evaluate at least one significant software release implementation. Any testing fixes applicable to production will be introduced into the U S WEST/CLEC Change Management process, unless otherwise determined by ROC.

11. This test will include normal, high and stress volume testing using a replicate mix of expected transactions that includes normal transactions, transactions with errors, changes and supplements. Scalability of manual processes and supporting hardware and software is to be evaluated in lieu of volume testing for manual processes.

12. The test will include an evaluation of the adequacy of documentation and assistance provided by U S WEST to CLECs for establishing, maintaining and using OSS interfaces. A P-CLEC will be used to evaluate the ability of building, maintaining and using an EDI interface and setting up, maintaining and using a GUI interface. If a CLEC has built an EB-TA interface for M & R and is willing to make it available[1] to the P-CLEC, that interface can be used to evaluate Maintenance and Repair interface maintenance and use. If no CLEC has built an interface or none is willing to make it available, the Test Administrator should use a P-CLEC-built EB-TA interface to test business rules and ability to process transactions. Regardless of whether a new or existing EB-TA interface will be used, the documentation and assistance provided by US WEST for EB-TA will be evaluated.

13. The test can be conducted using transactions (e.g. pre-orders, orders and trouble reports) from a combination of existing CLECs and a P-CLEC. Similar test cases will be run by both

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[1] *MCI WorldCom has built an EB-TA interface for M&R and is willing to make it available to the P-CLEC. It is expected that MCI WorldCom's interface will be used for the test.*

the P-CLEC and a production CLEC that has completed interface verification with U S WEST in order to validate the process under the oversight of the Test Administrator.

14. The test process will include a formal, predictable and public mechanism to communicate with CLECs and U S WEST on issues related to the test. This mechanism will be managed by the Test Administrator and overseen by the ROC.

15. The test scope will include functional testing of preordering, ordering, provisioning, maintenance and repair and billing. The functionalities will include a replicate mix of manual requests, electronic transactions, errors, changes, and supplements in both flow-through and non-flow-through provisioning, as appropriate, with CLECs consulted on the determination of the mix. Functional testing will be conducted on an end-to-end basis that results in orders actually being provisioned, as applicable, as determined by the ROC.

16. The 3rd party test will test significant volumes of transactions for xDSL-capable loops and include a qualitative evaluation of preordering functions including loop qualification.

17. Where possible, U S WEST wholesale performance measurements will be compared with analogous performance measurements of U S WEST's retail performance. Where this retail parity comparison is not possible, U S WEST wholesale services will be compared to a fixed benchmark.

18. Testing will also include both qualitative and quantitative evaluation of the usability, capability and accessibility of U S WEST wholesale OSS interfaces compared to U S WEST Retail OSS interfaces.

19. As testing progresses, the need to test or evaluate new products/services or delivery methods will be determined on an individual case basis as they are identified. Based on the associated facts, the new products/services or delivery methods will either be incorporated in the test or handled separately.

20. The ROC test will use military-style testing. This approach ensures that all significant exceptions will be tested until they are corrected and the relevant success criteria are met.

The vendor(s) shall develop test plans, specifications and procedures whose scope and philosophy incorporate and are guided by these principles.

4. TEST ADMINISTRATION

While several 3rd party OSS tests have been conducted (or are in process), none have involved multiple states working together in a collaborative arena. This section will describe to the vendor(s) the:

- Nature of the thirteen-state Regional Oversight Committee
- The participants in the test and their roles and responsibilities
- Procedures for written communications and documents
- Guidelines for the initiation and conduct of meetings
- Scheduling and tracking testing activities to be performed
- Scheduling and tracking the assignment and status of action items
- Structure and procedures for issues resolution

4.1 Regional Oversight Committee

The Regional Oversight Committee (ROC) membership is comprised of the 14 state public utility commissions serving the states in U S WEST's operating territory. These include Arizona, Colorado, Iowa, Idaho, Minnesota, Montana, North Dakota, Nebraska, New Mexico, Oregon, South Dakota, Utah, Washington and Wyoming. A major objective of the ROC is the cooperative and efficient oversight of U S WEST's operations on behalf of telecommunications customers while promoting consistency where feasible and appropriate.

4.1.1 Overview

In June 1999, 13 of the 14 ROC state commissions proposed a region-wide collaborative test of U S WEST's OSSs. The Arizona Corporation Commission (ACC) elected to pursue a separate test. On August 13, 1999 U S WEST responded to the state commissions indicating its agreement in principle with the proposal for a 13-state collaborative third party test of its OSS.

In September 1999, the ROC selected Frank Darr, of the National Regulatory Research Institute (NRRI), as its Administrative Coordinator responsible for assisting the various ROC entities with their participation and as liaison to the Federal Communications Commission (FCC) and Department of Justice (DOJ). Also in September 1999, the ROC conducted an open selection process for a Project Manager to serve as the primary, day-to-day liaison between the Commissions, the third party vendors, U S WEST, CLECs and all other parties associated with this project. Maxim Telecom Consulting Group (MTG) was selected as the Project Manager and began preliminary work on October 1, pending the execution of contracts that were completed in early December.

The ROC Technical Advisory Group (TAG) consisting of state commission staff, competitive local exchange carrier (CLEC) representatives, U S WEST and other industry members was initiated in late September and has been active in the initial planning of the test. The TAG collaboratively developed the Testing and Scoping Principles previously discussed in Section 3

that will drive the testing effort. The TAG is also collaboratively developing the Performance Measurements for testing purposes and has an extensive role in the development of this Test Requirements Document (TRD).

The ROC 3rd Party Test of U S WEST's OSS represents a somewhat unique effort to date in the independent OSS testing arena. It is the first time that multiple states have joined together to initiate a collaborative effort to plan, execute and evaluate a Regional Bell Operating Company's (RBOC's) OSS at an RBOC-wide level. Each of the ROC's state commissions will eventually consider a request from U S WEST for a favorable recommendation to the FCC on the company's petition for section 271 relief in that state. Such a recommendation must include a verification that the company is in compliance with the requirements of Section 271 (c) of the 1996 Telecommunications Act. The results and evaluation of the ROC 3rd Party Test will be used by the 13 state jurisdictions as part of their individual 271 proceedings and will become part of the overall record in each state.

4.1.2 OSS Testing Objectives

The Act and FCC orders under its authority to implement the Act require U S WEST to:

- Provide just, reasonable and nondiscriminatory access to its OSS for associated resale, unbundled network elements (UNEs) and interconnection services;
- Provide the documentation and support necessary for CLECs to access and use these systems; and
- Demonstrate the operational readiness of these OSSs to support sustained commercial operation and meet prescribed performance standards

The primary objective of this OSS testing effort is for 3rd party vendors to provide information and assist the participating state commissions in their verification that the company is in compliance with the requirements of Section 271 (c) of the Act. This OSS test along with other items in the state record will be used by the state commission to formulate a recommendation to the FCC that will be given considerable weight in the FCC's review of U S WEST Section 271 applications.

Related objectives include:

- Ensure that CLECs have access to OSSs that work through a comprehensive and rigorous testing process
- Promote increased inter-LATA competition if and when it is found that U S WEST has met the specified requirements
- Eliminate duplicative work across states and the company by determining a complementary set of OSS functionalities, performance measurements and methods to be used in the test

- Promote administrative efficiency resulting in time and cost savings for all participants

4.1.3 Joint Authority, Responsibilities and Prerogatives

Participating ROC member commissions have agreed to use independent 3rd party testing to ensure that U S WEST's OSS meet competitive checklist requirements defined by the Act and subsequent FCC rulings. This joint approach, rather than addressing OSS on a state-by-state basis as U S WEST's Section 271 applications are individually filed, offers efficiencies to all parties. To ensure that the efficiencies are realized, the ROC members will act jointly through the ROC testing organization described in Section 4.2 to plan, execute and evaluate the independent 3rd party test. The roles and responsibilities of each entity as it represents the joint authority of the ROC are summarized in Table 4.2.

4.1.4 Separate Authority, Responsibilities and Prerogatives

ROC member state commissions participating in this test retain all existing authority to carry out their statutory responsibilities within their respective states both during this collaborative test and after its completion. Each state commission may choose to include the test results and evaluation in its individual section 271 proceeding as part of the total record and retains the prerogative to make determinations independently from the ROC process. However, each of the 13 ROC member commissions that have agreed to participate in this test accepts the responsibility to make resources available and actively support the discussions and collaborations in good faith to ensure maximum success and applicability of the test.

4.2 Organization and Responsibilities

The ROC has established the following organization to support the 3rd Party Test of U S WEST's OSS and defined the key roles and responsibilities of each as shown below.

4.2.1 ROC

State commission participation in the collaborative test will be through four organizational entities established for this purpose including the Executive Committee, Steering Committee, Administrative Coordinator and Project Manager. See Table 4.2 for a description of the membership, roles and responsibilities of each. The role of the ROC includes:

- Provide overall project management of the end-to-end test planning, execution and evaluation effort
- Oversee the overall test development and testing process to ensure fairness and rigor
- Determine the overall testing scope and timeline

- Acquire, allocate and coordinate resources
- Appoint a Test Administrator to conduct the test activities
- Appoint a Pseudo-CLEC (P-CLEC) to develop the testing interfaces and submit transactions
- Appoint a Performance Measures Auditor (PMA) to audit the wholesale performance measures and retail parity standards
- Provide for an open, inclusive TAG collaborative process
- Provide final approval of baseline documents including the TRD and the MTP
- Manage and resolve issues escalated from the testing process as required
- Review and approve the Final Report (s)prepared by the Test Administrator and P-CLEC
- Review and approve the final audit report prepared by the PMA
- Communicate progress, status and issues to all interested parties

Table 4.2 ROC Testing Organization

Entity	Composition	Members	Role
Executive Committee (EC)	*6 Commissioners selected by the ROC*	*A. Boyle (NE)* *E. Garvey (MN)* *S. Mecham (UT)* *B. Rowe (MT)* *M. Showalter (WA)* *A. Thoms (IA)*	*Ensure project meets ROC expectations* *Oversee the entire project* *Provide authority for actions not previously agreed to* *Resolve issues unresolved at Steering Committee level* *Meet once per month and as needed*
Steering Committee (SC)	*State staff: Administrative Coordinator; Project Manager*	*W.Fuller, Chairperson, Technical staff from each of the participating states, F Darr; MTG team*	*Represent Commissions in collaboratives to develop and implement the test* *Assist in developing the TRD, evaluations and performance criteria* *Review and approve the final TRD and final report* *Oversee test progress and resolve issues* *Communicate status and results* *Meets weekly and as needed*
Administrative Coordinator (AC)	*NRRI*	*F Darr*	*Advise EC and SC on process* *Research, coordinate EC and SC meetings* *Liaison to FCC and DOJ* *Communications*
Project Manager (PM)	*MTG Team*	*D. Anderson, B Center, R Schwartz*	*Represent Commissions in day-to-day management of testing project* *Prepare, publish and manage guiding documents in a collaborative manner with other test participants* *Liaison to Tester, ROC, USWC, CLECs and others and serve as TAG chair* *Observe testing to ensure fairness and rigor* *Provide technical assistance in test design, vendor selection, monitoring, performance measurements and evaluation* *Manage issues to resolution*
Technical Advisory Group (TAG)	*Collaborative participants*	*SC, AC, PM, CLECs, U S WEST, Other interested parties*	*Serves as collaborative forum for test effort*

4.2.2 *U S WEST*

As the party having its interfaces tested, U S WEST is a direct participant in this test with the following roles and responsibilities:

- Provide participation, documentation and subject matter expertise in the TAG collaborative throughout the planning, execution and evaluation effort
- Provide order volume, interface usage, product information and other data as required to the Test Administrator for use in determination of the "replicate" mix" of orders and transactions and the capacity volume forecast (under confidentiality where appropriate)
- Provide the U S WEST OSS production environment to be used for the test
- Establish a CLEC-ILEC relationship with the P-CLEC and provide an Account Management Team and Technical Assistance Team to interface with the P-CLEC
- Provide technical specifications, related documentation and resources for use by the P-CLEC in establishing the P-CLEC entity and for creation of the interface (s) and transaction generator
- Provide for preparation, set-up, and access to the U S WEST production components for the tests as necessary to enable monitoring by the Test Administrator and oversight by the Project Manager
- Provide documentation to the Test Administrator to enable all agreed upon scalability analyses of systems, interfaces, work centers operations and processes
- Provide a test bed data base as required for testing purposes under the direction of the Test Administrator
- Provide for the Test Administrator to observe and the ROC Project Manager to oversee retail and wholesale processes on-site during the test and evaluation effort
- Collect raw data, compute Performance Measurements and provide to the Test Administrator
- Provide system-processing data necessary to understand the resource usage for the test workload
- Provide physical configurations for the US WEST systems used for the tests
- Provide the Test Administrator with access to all historical data, current operational reports and related algorithms needed to complete the test and evaluation
- Maintain a stable operational environment for the duration of the test and evaluation

- Provide funding for the Test Administrator, P-CLEC, Administrative Coordinator, Project Manager and all other costs except those incurred by the Commissions, CLECs and other interested parties

4.2.3 TAG

The Technical Advisory Group will conduct regular meetings, generally weekly, either in-person or via teleconference call to inform all members of testing progress, review current status and identify and resolve issues. Additional special-purpose TAG meetings will also be held as needed to support the test planning, execution and evaluation process. The TAG will initially be chaired by the ROC Project Manager, MTG, which may change during the course of the testing effort as deemed appropriate by the ROC Steering Committee and TAG membership. TAG member responsibilities include:

- Provide participation, documentation and subject matter expertise in the TAG collaborative throughout the planning, execution and evaluation effort
- Review requests for proposals (RFPs) and vendor proposals, including those for TA, P-CLEC and PMA
- Provide order volume, interface usage, product information and other data as required to the TA for use in determination of the "replicate" mix" of orders and transactions and the capacity volume forecast. All forecast information will be kept confidential by the TA.
- Provide technical assistance in test planning and execution
- Recommend criteria for selection of Test Administrator and P-CLEC
- Assist with scenario definition
- Assist with issue identification, resolution and when necessary escalation to the ROC
- Periodically review test results and offer advice, observations and provide input to the test process

4.2.4 CLECs

CLECs may serve as direct test participants and/or as members of the TAG. A test participant will have an active role in all phases of testing including planning, preparation, execution, and analysis.

- Provide participation, documentation and subject matter expertise in the TAG collaborative throughout the planning, execution and evaluation effort

- Provide order volume, interface usage, product information and other data as required to the Test Administrator for use in determination of the "replicate" mix" of orders and transactions and the capacity volume forecast (under confidentiality where appropriate)
- Provide selected interface production environment (s) such as EDI, EB-TA and EXACT/TELIS to be used for the test as appropriate
- Provide for the Test Administrator to observe and the ROC Project Manager to oversee CLEC testing processes on-site during the test and evaluation effort
- Provide input to detailed test specifications under the direction of the Test Administrator
- Provide input to test execution plans under the direction of the Test Administrator
- Provide test execution under the direction of the Test Administrator
- Provide test results documents, reports and support to the Test Administrator as required
- CLECs that are able to interact with U S WEST during the course of the test in production processing will continue to do so. These interactions can be via IMA-GUI, IMA-EDI, EB-TA, EXACT or other means the CLECs use. The results of live operations can provide meaningful information for the Test Administrator in its evaluation of U S WEST's OSS.

4.2.5 Test Administrator

The Test Administrator has overall responsibility for the management of the testing process described in this TRD including assisting other participants in preparing for and conducting the tests, providing change control throughout the testing cycle and reporting the results and evaluation to the ROC. Specific responsibilities include:

- Create a master test plan and test specifications based on the TRD through collaborative development and validation of:
    - Transaction capability test coverage scenarios, test cases and test instances
    - Parity comparison coverage scenarios, test cases, and test instances
    - Capacity test coverage scenarios, test cases and test instances
- Develop a representative transaction mix for the 13-state area and test cases
    - Estimate of reasonably expected demand levels for the capacity test based on inputs from U S WEST and CLECs
    - Allocation of test transactions across P-CLEC and live data transactions across participating CLECs
- Develop and maintain the detail test schedule, milestones, action items and critical path

- Plan and direct the activities of all testing participants including U S WEST, P-CLEC, CLECS and "Friendlies" if used
- Provide day-to-day supervision and evaluation of all tests identified in this TRD and guidance to all testing participants, as needed
  - Performance Measurement Evaluation
  - U S WEST Parity Evaluation
  - U S WEST Documentation Evaluation
  - Transaction Processing Capability Test
  - Transaction Processing Capacity Test
  - Transaction Processing Scalability Test
  - CLEC Network Provisioning Test
  - Change Management Process Evaluation
  - U S WEST CLEC Support Infrastructure Test
- Take the lead in coordination of schedules and other activities required amongst the three vendor roles, with the ROC/MTG resolving any conflicts that may arise between vendors
- Ensure that testing processes and execution achieves adequate blindness to U S WEST
- Monitor test sites and testing activities to ensure rigor and fairness
- Facilitate oversight by the ROC Project Manager at test sites for selected testing activities
- Collect testing status from all participants and report to the ROC Project Manager weekly
- Provide and manage a formal, predictable and public mechanism for communication with CLECs, U S WEST and the ROC on issues related to the test
- Provide the first level of issue management for all testing related issues including the assignment of accountabilities, tracking, reporting and escalation
- Compile a daily event log that captures the details of its experiences in dealing with all testing participants
- Collect, measure, evaluate and report test results
- Develop and submit to the ROC at least one interim report at or near the mid-point of the test process, and possibly others, that describes the test results and recommendations for each major test type
- Develop and submit to the ROC a final report that describes the overall test results and recommendations and specific results and recommendations for each major test type.

4.2.6 *Pseudo-CLEC*

The primary role of the P-CLEC is to emulate a newly established CLEC that will serve as an unbiased vehicle for testing U S WEST OSS, documentation and processes. P-CLEC primary responsibilities include:

- Establish the CLEC-ILEC business and technical assistance relationship with U S WEST
- Acquire appropriate documentation, attend training and build an application-to-application OSS interface (EDI), establish a Web-GUI (IMA) interface, and utilize an existing EB-TA interface (offered by MCI WorldCom) to mirror the activities required for a new CLEC to trade with U S WEST
- Develop a list of the documentation that was used to establish interfaces with U S WEST and post that list on the ROC OSS web site
- Evaluate the adequacy of documentation and assistance provided by U S WEST to CLECs for the establishment, maintenance and use of EDI, GUI, and EB-TA OSS interfaces
- Establish the capabilities, install facilities and connectivity for the EDI, GUI, EB-TA and manual OSS interfaces to U S WEST as required to process the volume and mix of transactions for tests specified in the MTP and test specifications prepared by the TA
- Create and submit test transactions to U S WEST over the appropriate interfaces under the direction of the TA
- Collect, measure and document the results of all transactions
- Compile a daily event log that captures the details of its experiences in dealing with U S WEST
- Prepare at least one, possibly more, interim reports or provide the inputs for one or more interim reports to the TA as directed by the ROC
- Prepare a final report or provide input for a final report to the TA

4.2.7 *Performance Measure Auditor (PMA)*

The primary role of the PMA is to perform an initial audit to ensure that all aspects of U S WEST's wholesale performance measures and retail parity standards are sound and in compliance with the collaboratively developed ROC Performance Indicator Definitions(PID). PMA primary responsibilities include:

- Prepare the audit plan considering a phased approach if feasible

- Provide the audit schedule for all performance measures for use by the TA in the planning and scheduling of the related OSS tests requiring performance measures
- Conduct an end-to-end process analysis of U S WEST's performance measures process
- Verify system requirement documentation to ensure consistency between system coding and system requirements
- Conduct parity by process design for required measures (DB, DA, OS – see PID)
- Audit performance data collection for completeness, timeliness and accuracy
- Verify data retention and the existence of proper security around reporting and archiving the data
- Audit performance measures calculation
- Identify exceptions and recommendations
- Verify fixes implemented by U S WEST to clear exceptions identified in audit
- Define a monitoring plan
- Provide weekly reports to the ROC Project Manager and the TA on the progress of the audit, rate of completion and any conclusive findings on material deficiencies
- Prepare and deliver a final audit report

4.2.8 Federal Communications Commission (FCC)

The FCC staff may observe the process of planning, execution and evaluation of the tests. In addition, the FCC's guidelines and advice on 3rd party testing issued in various vehicles (letters, rulings, etc.) have been used in the definition of this TRD.

4.2.9 Department of Justice (DOJ)

The DOJ staff may observe the process of planning, execution and evaluation of the tests. In addition, the DOJ's briefs that addressed Section 271 applicants' OSS testing have been used in the definition of this TRD.

4.2.10 Contribution and Participation

Table 4.2.10 summarizes the contribution and participation of the active participants in the ROC 3rd party testing of U S WEST's OSS.

Table 4.2.10 Contribution and Participation

	Test plan drafting	Test planning	Test execution	Exceptions and failed criteria	Final report
[illegible]	[illegible]	• Approves the master test plan • Contracts with vendors for services • Constructs proprietary and non-disclosure agreements	• Monitors activities • Receives daily issues logs • Reviews exception reports • Reviews interim report • Reviews party comments on exceptions	• Reviews exception reports • Reviews proposals for remedy • Reviews closure reports • Reviews endorsements • Collects party comments on each exception	• Receives draft • Reviews party comments • Receives final report • Prepares advisory package for SC/EC
US WEST	• Jointly authors to define test in the plan	• Contracts with vendors for services • Generally open meetings with TA Pre-announced with open conference bridge and notes on web • Closed session only for US WEST proprietary information concerning business volumes • Develops test milestones with CLECs for test administration • Certifies systems readiness to start tests	• Provides systems, operations, work centers, and support in routine manner for test • Interacts with P-CLEC • Collects raw performance data • Provides access as required to TA and PMA	• Receives notices • Prepares proposal for remedy • Advises test administrator when retesting can be done • Receives retest report • Receives closure report • Endorses (or withholds) closure through written comments	• Receives draft • Provides comments on test outcome • Provides comments on complementary production experience
CLECs	• Jointly authors to provide input to the plan	• Generally open meetings with TA: Pre-announced with open conference bridge and notes on the web • Closed session to ensure blindness to U S WEST of test transactions, volumes and scheduling of volume tests • Develops test milestones with US WEST for test administration	• Provide resources as committed in MTP including CLEC interfaces for EB-TA, EXACT	• Receives notices • Receives US WEST proposals for remedies • Receives retest report • Receives closure reports • Endorses (or withholds) closure through written comments	• Receives draft • Provides comments on test outcome • Provides comments on complementary production experience
TA	• Authors the plan with input from CLECs and US WEST • Documents test scenarios within the plan	• Meets with US WEST and CLECs • Consolidates CLEC volume forecasts • Manages information sharing tasks • Maintains e-mail distribution lists • Provides web content • Authors test scripts	• Executes tests • Gathers information for evaluations • Gathers observation facts • Prepares status reports • Authors interim report	• Issues notices of material defect, failed success criteria, or exception • Works with US WEST to resolve • Re-tests • Prepares closure reports	• Prepares draft • Collects party comments • Prepares final report
P-CLEC	• No involvement	• Develops test cases to coincide with test scripts and variables • Creates test datastores	• Generates test transactions according to TA schedule • Interacts with US WEST • Collects results of test transactions		• Provides input for final report • Reviews draft for accuracy • Provides comments to TA
PM Auditor	• No involvement	• Develops audit plan with input from CLECs and US WEST	• Conducts audit of PM end-to-end process • Conducts parity by design process reviews • Conducts audit of PM documentation & calcs. • Verifies system coding vs requirements • Defines monitoring plan	• Issues notices of performance measurement deficiencies and exceptions • Verifies fixes • Prepares audit report	• Audit report may be excerpted or appended to final report • Reviews draft of final report for accuracy on PM audit, if required

4.3 Written Communications and Documents

The Test Administrator shall be responsible for:

- Providing overall communications management within the testing period
- Maintaining daily contact with the Pseudo-CLEC and other participants
- Maintaining close contact with the ROC and the TAG
- Responding to test-related issues and concerns raised by individual State PUC Commissioners or Staff Members
- Maintaining an electronic contact list (e.g. subject matter experts, escalation) for each test participant, the TAG, and the ROC
- Posting material on the ROC OSS Web site (See section 4.3.4)
- Distributing exception reports and soliciting comments on the exceptions from U S WEST and the CLECs
- Distributing test management jeopardy reports to the appropriate audience as determined by the Test Administrator
- Maintaining data used to execute the test of U S WEST's OSS including the test data base provided at the beginning of the test, the transaction files generated and used during the tests to convey CLEC-to-U S WEST and U S WEST-to-CLEC transactions over the interfaces, and printed documents related to test processing not otherwise retained in electronic form

4.3.1 Principles Governing Written Communications

There are competing forces that must be balanced in determining the principles governing written communications. On the one hand, an open communications process is important to maintain both the perception and actuality of a credible test. On the other hand, there are instances where the blindness of U S WEST with regard to some aspects of the tests is also critical. Early in the testing process openness may be judged more important than blindness; as the test progresses blindness may become the more important criterion.

CONTINUATION

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4.3.2 *Proprietary Documents and Intellectual Property Rights*

Intellectual property rights to proprietary documents used in the OSS Test shall remain with the owner. Intellectual property rights to material developed for the test shall be in the public domain. The ROC may withhold public access to some test-related materials until after the test is concluded to maintain blindness.

4.3.3 *Formal Documents*

Formal documents shall be assumed to be open and available unless:

- They are internal to an entity
- They contain un-redacted proprietary information
- Their distribution would compromise the blindness of the test

Documents that were not made public during the test in order to preserve blindness shall be made available to all participants at the conclusion of the test, and prior to the Test Administrator's drafting of the Final Report. Documents not made public during the test because they were internal documents or contained proprietary information need not be made available at the conclusion of the test.

4.3.4 *ROC Web Site*

The ROC has established a Web site for this test.(http://www.nrri.ohio-state.edu/oss.htm) Formal written communications shall be placed on this Web site unless they meet one or more of the criteria listed in section 4.3.3.

A posting procedure is in place and is to be followed by the vendor(s).

4.3.5 *Informal Communications*

Informal communications, such as emails between subject matter experts discussing technical details of an aspect of the test, shall not be posted or otherwise made available unless they become germane to a dispute and are requested by the ROC Executive Committee. The Test Administrator and Pseudo-CLEC shall maintain electronic versions of informal communications for a period of one year after the conclusion of the test.

4.3.6 *Management and Administration of the Master Test Plan*

Once the master test plan (MTP) has been developed by the TA and approved by the ROC, the management and administration of the MTP shall be the responsibility of the TA. The ROC

Project Manager will work with the TAG and the TA to establish a Change Control Process that governs how changes to the MTP are proposed, discussed and implemented. Changes to the MTP shall be communicated in a timely and open manner to all parties concerned unless the changes contain information that might compromise the blindness of the test. In this case, the changes shall be communicated to all concerned parties except for U S WEST. The vendor(s) shall also establish, publish, and adhere to a rigorous version control process for the MTP and associated documentation. For relevant documentation, vendor(s) will use a document control section similar to that shown in Appendix A.

4.4 Meetings

4.4.1 Purpose

Beginning with New York, striking the appropriate balance between an open and transparent testing process and blindness to preserve the realism and integrity of the test has been an important consideration in the conduct of 3rd party tests. The following figure provides a structure that can foster openness except where blindness is required.

Figure 4.4.1

	U S. West	CLECs	Test Administrator	Pseudo CLEC
[illegible]	Generally Open • Announced • Open Conference Bridge • Notes on Web	Generally Open • Announced • Open Conference Bridge • Notes on Web Closed to USW for Blindness • Openly Announced • Restricted Conference Bridge • Notes to ROC • Published after Project	Generally Open • Announced • Open Conference Bridge • Notes on Web Closed to USW for Blindness • Openly Announced • Restricted Conference Bridge • Notes to ROC • Published after Project	Generally Open • Announced • Open Conference Bridge • Notes on Web Closed to USW for Blindness • Openly Announced • Restricted Conference Bridge • Notes to ROC • Published after Project
[illegible]		Generally Open • Announced • Open Conference Bridge • Notes on Web	Generally Open • Announced • Open Conference Bridge • Notes on Web	Generally Open • Announced • Open Conference Bridge • Notes on Web
[illegible]			Generally Open • Announced • Open Conference Bridge • Notes on Web Closed to USW for Blindness • Openly Announced • Restricted Conference Bridge • Notes to ROC • Published after Project	Generally Open • Announced • Open Conference Bridge • Notes on Web Closed to USW for Blindness • Openly Announced • Restricted Conference Bridge • Notes to ROC • Published after Project
[illegible]				Generally Open • Announced • Open Conference Bridge • Notes on Web Closed to USW for Blindness • Openly Announced • Restricted Conference Bridge • Notes to ROC • Published after Project

The PMA is not included in the above table because openness/blindness principles do not apply to the PMA. The PMA is required to exercise its independent judgement in conducting its audit of the performance measures and inform the ROC and TAG of progress and findings.

4.4.2 General Principles

Meetings will be open unless specifically closed for purposes of blindness.

4.4.3 Open Meetings

The following guidelines will apply to open meetings:

- A meeting announcement and agenda will be posted on the ROC web site
- An open conference bridge will be made available, with the dial in number and pass code provided in the meeting announcement

- Meeting notes will be posted on the ROC web site

These guidelines are generally intended to apply to all contacts between U S WEST and the TA, and U S WEST and the P-CLEC. At the same time, it is expected that U S WEST will have incidental contact with the TA and/or the P-CLEC before and during the testing process. These guidelines are not intended to be rigidly applied to incidental contacts between U S WEST and the TA, or U S WEST and the P-CLEC.

4.4.4 *Meetings Closed to U S West to preserve Blindness*

The following guidelines will apply to meetings closed for purposes of blindness:

- A meeting announcement will be posted on the ROC web site
- A restricted conference bridge line will be made available, with the dial in number and pass code provided via email
- Meeting notes will be archived
- ROC MTG may monitor any meeting
- Meeting notes will be published following the completion of testing and prior to the drafting of the Final Report

4.5 Scheduling and Tracking

The ROC Project Manager, MTG, will maintain a high-level project plan for ROC's overall 3rd party testing endeavor that covers the initial formation of the ROC 3rd Party Testing Organization through the deliverable of the Test Administrator's Final Report to the ROC. This project plan will be used by MTG to manage and track the various milestones included in the plan to ensure that the project is completed within the ROC's parameters. MTG will work with the TAG to establish the project milestones that will be used to measure the progress of the overall third party testing project.

The Test Administrator will develop its own internal work plan that supports the ROC project plan's timeline and includes the detailed activities required to meet all major milestones. The Test Administrator will assign responsibility for all tasks identified in its internal work plan in line with the test plan responsibilities, contract terms, and TAG agreements. For example, a CLEC that has volunteered within the TAG forum to furnish its EB-TA interface for use in the testing of Maintenance and Repair capabilities may be assigned that responsibility in the work plan. All test participants, including the P-CLEC, U S WEST and CLECs, will operate in accordance with the Test Administrator's detailed work plan. The Test Administrator will track all milestones on its work plan required to ensure the test meets the ROC project plan timeline.

4.6 Operational Reporting

The Test Administrator will prepare and deliver operational reports of six types to the ROC Project Manager (MTG) and the TAG. These include:

Weekly Operational Report - Overall progress reports will be provided weekly that describe the status on all major milestones and identify new issues requiring resolution. This report shall also include summaries of observations and other qualitative activities conducted.

Daily Report - Detailed status reports on specific tests will be provided on a daily basis during test execution including potential areas of concern and technical issues.

Observation Report – Provides a summary of the interviews and observations conducted as part of the operational analysis tests.

Issue Tracking Report – An Issue Tracking Report will be provided on a weekly basis that describes the nature of the issue; issue status; action items, responsibility and schedule for resolution.

Jeopardy Reports – A test management jeopardy will be created when an event causes impact on the project's goals and expectations (such as the schedule) as defined in this TRD. A jeopardy can be identified to the Test Administrator by any team member and will be managed by the Test Administrator with the assistance of the ROC Project Manager (MTG). The objective of jeopardy management is to obtain a timely, reasonable solution that minimizes the impact on testing schedules and does not compromise test results. Test participants will be notified of jeopardies as they arise in accordance with the contact list maintained by the TA.

Exception Reports – Exceptions to the expected outcomes and other conditions encountered during testing are documented by the TA in exception reports that are posted to the web and/or distributed to the ROC Project Manager and the TAG for review, comment and/or action. Exception reports are tracked to closure by the TA.

Specific formats for each of the above reports will be proposed by the TA with input from the TAG and approved by the ROC Project Manager (MTG) as part of the "start-up activities" once the TA begins work.

4.7 Issue Resolution

Issue Resolution for issues emerging from ROC's 3rd party testing effort consists of a five step process designed to embrace the open and collaborative spirit of the test, promote timely and reasonable remedies and provide a final decision on contested issues, as required. The steps are:

1. Test participants refer all testing issues to the Test Administrator for inclusion in the issue resolution process.

2. The Test Administrator provides the first level of issue management for all testing related issues including the assignment of accountabilities, action plan, tracking, reporting and escalation. The Test Administrator will enlist the assistance of U S WEST, CLECs, P-CLEC, and TAG as required to resolve the issue.

3. If the issue is not resolved in the collaborative process, it may be decided by the ROC Project Manager (MTG) on behalf of the ROC Steering Committee.

4. If an issue is of sufficient magnitude and/or contention as to warrant broader debate and decision participation to ensure the results are compatible with ROC goals, it will be referred by the Project Manager (MTG) to the ROC Steering Committee for consideration. The referral will include a description of the issue, alternative positions regarding the issue and a preliminary recommendation. Other test participants may participate in the discussion/debate as deemed appropriate by the ROC Steering Committee.

5. If the issue is not resolved by a decision at the Steering Committee level, it will be referred to the ROC Executive Committee for final resolution. Once a resolution is determined, it will be communicated to all testing participants, included in the issues report and implemented in the testing process.

5. Test Framework and Test Elements

The overall test of U S WEST's OSS is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces, and processes that fall within the scope of the testing effort. In constructing this TRD, many factors were considered, including the systems and processes to be tested, the measurement points and respective evaluation criteria, and the necessary conditions required to stage a successful, efficient, and objective test. The Test Administrator will be responsible for ensuring that all tests listed in this plan are executed.

In order to develop a comprehensive, complete, and thorough test of U S WEST's OSS systems, interfaces, and processes, the Test Requirements Document framework is defined in terms of a set of elements including the following:

- U S WEST OSS System Architecture
- Parity Standards, Benchmarks, Qualitative Evaluations and Comparisons
- Entrance and Exit Criteria
- Test Domains

- Test Data
- Test Processes and Specific Tests
- Military testing
- Regression testing

The test framework and test elements are introduced at a high level in this section. In the remainder of the document, each test element will be described to the extent required to form a comprehensive and detailed set of testing requirements that will govern the conduct of the test. Based on these requirements, the Test Administrator will create detailed test specifications.

5.1 U S WEST OSS System Architecture

The U S WEST OSS System Architecture described in Section 6 describes the systems and interfaces that are to be tested, including regional and state OSS differences.

5.2 Parity Standards, Benchmarks, Qualitative Evaluations and Comparisons

Parity standards are designed to quantitatively evaluate the degree to which CLEC access to and functionality and performance of U S WEST OSS in support of wholesale services is "at parity" with analogous access and performance that U S WEST provides to its own organizations in support of retail service. In cases where a retail analog is not available, benchmarks have been established. The ROC's parity standards, benchmarks, and performance indicator descriptions are based on a large body of related work previously done in other jurisdiction. ROC measures have been incrementally developed and improved by building on the FCC's NPRM on Performance Measurements, the work of the LCUG, and various state OSS third-party testing efforts beginning with the BA-NY test up through Texas, California, Florida and the Arizona testing effort currently under way. The specific parity standards, benchmarks and performance indicator descriptions used in this test are being developed in detail and agreed upon through a collaborative process including performance measurement workshops. Parity standards and benchmarks have been established consistent with those generally accepted within the Telecom industry and are designed to ensure compliance. Actual performance measurement data will be taken during the test and compared to the parity standards and benchmarks.

Qualitative evaluations of U S WEST business processes that serve CLECs, and qualitative comparisons of processes serving CLECs with processes serving U S WEST are used in some cases in addition to parity standards and benchmarks in order to augment the information obtained by quantitative means. In other cases, such qualitative evaluations and comparisons are used where there is no practical method available for more quantitative measurements.

5.3 Entrance and Exit Criteria

Entrance criteria are those requirements that must be met before individual tests can commence. Global entrance criteria must be satisfied prior to commencement of any testing, and apply to every individual test (except where noted otherwise). Global entrance criteria are listed and discussed in Section 7. Specific entrance criteria for specific tests are listed in sections describing respective tests.

Exit criteria are the requirements that must be met before the tests defined in the Test Plan can be concluded. Global exit criteria are listed and discussed in Section 7. Exit criteria pertaining to specific tests are listed in respective test sections.

5.4 Test Domains

The areas subject to testing exist in four domains that correspond to major business functions performed by a telecommunications carrier:

- Pre-Order, Order, and Provisioning (POP)
- Maintenance and Repair (M&R)
- Billing
- Relationship Management and Infrastructure

These four domains correspond to four respective business functions that comprise the U S WEST/CLEC relationship. The domains are useful in defining the areas to be tested and the specific tests to be conducted.

5.4.1 Pre-Order, Order, and Provisioning Domain

This domain is comprised of the systems, processes, and other operational elements associated with U S WEST's support for Pre-Ordering, Ordering, and Provisioning activities for wholesale services and unbundled network elements. The purpose of the specified tests is to evaluate functionality and performance, to evaluate compliance with prescribed measurements, and to provide a basis for comparing this operational area to parallel systems and processes supporting U S WEST's Retail Operations.

5.4.2 Maintenance and Repair Domain

This domain is comprised of the systems, processes, and other operational elements associated with U S WEST's support for Wholesale Maintenance and Repair activities. Tests associated with this domain provide a basis for comparing this operational area to parallel systems and processes supporting U S WEST's Retail Operations.

5.4.3 Billing Domain

This domain is comprised of the systems, processes and other operational elements associated with U S WEST's support for Wholesale Billing. Tests associated with this domain are designed to evaluate U S WEST's compliance to measurement agreements and to ensure adherence to sound management practices.

5.4.4 Relationship Management & Infrastructure Domain

This domain is comprised of the systems, processes and other operational support elements associated with U S WEST's establishment and maintenance of business relationships with the CLECs. Included in this domain are the Network Provisioning activities that must be jointly performed by U S WEST and the CLEC in order to build the CLEC network that supports the CLECs business.

5.5 Test Data

Test data provides the input or stimulus to systems and processes so that functionality and performance can be observed by means of transaction driven system analysis. Key concepts driving test data include 1) emulation of real world coverage, mix and types of transactions while 2) balancing the requirement for practical and reasonably executable transactions that would not unduly disrupt normal production or negatively affect customer service. In Section 11, test data is described in terms of:

- Test Data Dimensions
- Test Scenarios
- Test Cases
- Test Transaction Instances
- Test Data Definition
- Test Data Sources
- Test scenarios, each of which describes a real-world situation, are listed in Appendix D.

Using test data dimensions and scenarios as a framework, the Test Administrator will define test cases, test transaction instances, and transaction mix based upon input from the TAG and guided by the ROC Project Manager.

Once test data is defined, test transactions to be observed will have three sources: the P-CLEC, friendlies and operational CLEC transactions.

5.6 Test Processes and Test Type

5.6.1 *Transaction Driven System Analysis*

Tests utilizing transaction-driven system analysis rely on initiation of transactions, tracking of transaction progress, and analysis of transaction completion results to evaluate a system under test. Transaction-driven system analysis requires defining several key facets of testing, including the data sources (e.g., CLEC live data, U S WEST historical data), the system components under test (e.g., application-to-application interfaces, graphical user interfaces), and volumes (e.g., normal, stress) and related performance measures.

One element of transaction driven systems analysis is a structured assessment of the over-all quality of the results of the execution of test scenarios.

The transactions, or test instances, to be used in each transaction-driven system analysis test will be derived from higher level sets of one or more transactions called test cases, which in turn have been developed from test scenarios. See the Test Data section above and Section 11 for additional discussion.

Tests that employ Transaction Driven Systems Analysis as the primary test process include:

- Section 12: Evaluation of POP Functionality and Performance Versus Parity standards and Benchmarks
- Section 13: Order "Flow Through" Evaluation
- Section 14: Provisioning Evaluation
- Section 15: POP Volume Performance Test
- Section 16: IMA M&R Trouble Functional Evaluation
- Section 17: MEDIACC (EB-TA) M&R Trouble Functional & Performance Evaluation
- Section 18: M&R End to End Trouble Report Processing
- Section 19: Billing Usage Functional Evaluation
- Section 20: Carrier Bill Functional Evaluation

5.6.2 *Operational Analysis*

Tests utilizing operational analysis focus on the form, structure, and content of the business process under study. This test method will be used to evaluate day-to-day operations and operational management practices, including policy development, procedural development, and procedural change management. Operational analysis validates and verifies the results of a process to determine that the process functioned correctly and according to documentation and

expectations. Operational analysis also tests compliance by reviewing management practices and operating procedures against legal, statutory, and other requirements.

Tests that employ Operational Analysis as the primary test process include:

- Section 8: Evaluation of U S WEST Wholesale Performance Measurement Process
- Section 9: Evaluation of U S WEST Parity Standards Calculation Process
- Section 10: Evaluation of U S WEST Order and Transaction Creation Documentation
- Section 21: Scalability Test
- Section 22: CLEC Network Provisioning Test
- Section 23: Change Management Test
- Section 24: U S WEST CLEC Support Processes & Procedures Review

5.7 Military Style Testing

Testing principle #20 indicates that the ROC test will use military-style testing to ensure that all significant exceptions will be tested until they are corrected and the relevant success criteria are met. With military-style testing, a mindset of "test until you pass" is generally adopted using the following process:

- A tested interface, system or process does not meet objective success criteria
- The tester (TA, P-CLEC or live CLEC) creates a written Exception Report describing the issue and provides to the TA
- The TA distributes the Exception Report to U S WEST and the TAG
- U S WEST prepares a written response to the exception describing any intended fix or fixes and the TAG comments on both the exception and closure determination as appropriate
- U S WEST advises the TA when the fix has been completed and the TA provides that information to the tester and retesting is initiated
- If the results of the retest meet the objective success criteria, the testing process is complete
- If the results do not meet the success criteria, the exception, fix and retest processes are repeated

The TA may in some situations determine that further retesting is not appropriate and/or productive. U S WEST may also determine that further retesting is not appropriate and/or productive. The resulting exception will be documented, along with the rationale for the decision to abort further military testing, provided to the ROC, U S WEST and the TAG and dealt with

in the final report. Disputes arising from any exceptions handled in this manner may be escalated to the ROC issue resolution process described in Section 4.7.

5.8 Regression Testing

Fixes to interfaces, systems and processes made by U S WEST will be tested under the direction of the TA to ensure that both the original problem has been fixed and that no other problem has been created by the change.

5.9 Data and Database Accuracy

In the course of doing business, U S WEST states that it provides its wholesale and retail operations information directly from the same databases or indirectly from the same source. To the extent that there are errors in the data that both wholesale and retail operations receive and parity exists in the process design and receipt of flawed data, no discrimination exists. However, the information may be inaccurate.

In this test, some of these errors will be detected because they will cause problems with transactions and exception reports will be generated. Root cause analysis and database corrections may be required to clear the exceptions. The TA is required to track and summarize all of the exceptions for which the root cause is traced to database inaccuracy and provide that information to the ROC. However, broad data and database validation activities that go beyond what is needed for the resolution of exceptions on transactions is not part of the ROC OSS test.

6. U S WEST OSS System Architecture

6.1 Overview

U S WEST states that it has developed uniform CLEC-facing OSS interfaces in support of its wholesale services business line. These uniform interfaces support Pre-Ordering, Ordering and Maintenance and Repair transactions initiated by CLECs across all of the 13 states participating in the ROC 3rd Party Test. Behind the uniform CLEC-facing interfaces are downstream OSS applications that may vary somewhat by region and state, depending on the specific application. Some of these variations may be relevant to the testing process while others are not. To mitigate the potential impacts of any relevant variations that might impact test results from one state to another, the mix of test transactions developed by the Test Administrator in accordance with Section 11 of this TRD, will reflect the appropriate distribution across states. This approach is designed to conduct a test of the downstream OSS applications indirectly while

using the uniform CLEC-facing interfaces. Any significant test impacts due to downstream OSS variations will be detected in the test results.

The purpose of this section is to provide the Test Administrator and test participants with an overview of the uniform CLEC-facing interfaces and known regional and state variations in downstream OSS applications.

6.2 Interfaces

U S WEST provides four uniform interfaces to CLECs for their use in pre-ordering, ordering and maintaining/repairing wholesale services. Other interfaces are provided for billing of wholesale services. A brief description of each follows.

6.2.1 IMA-GUI

The Interconnect Mediated Access–Graphical User Interface (IMA-GUI) is used by CLECs to perform pre-order inquiries, place orders, report troubles and obtain status via a workstation to U S WEST's IMA Gateway. This human-to-computer IMA-GUI is used across all states in U S WEST's territory.

6.2.2 IMA-EDI

The Interconnect Mediated Access – Electronic Data Interchange (IMA-EDI) is used by CLECs to perform pre-order inquiries, place orders and obtain status via a computer-to-computer interface that extends from the CLECs OSS application to the U S WEST IMA-EDI Gateway. This IMA-EDI is used across all states in U S WEST's territory.

6.2.3 MEDIACC (or EB-TA)

The Mediated Access (MEDIACC) interface is U S WEST's implementation of an Electronic Bonding for Trouble Administration (EB-TA) interface for CLECs to use in maintenance and repair activities for U S WEST's wholesale services. It is a computer-to-computer interface that supports trouble ticket administration and status, line record information viewing and mechanized loop testing results viewing. The MEDIACC interface is used across all states in U S WEST's territory.

6.2.4 EXACT

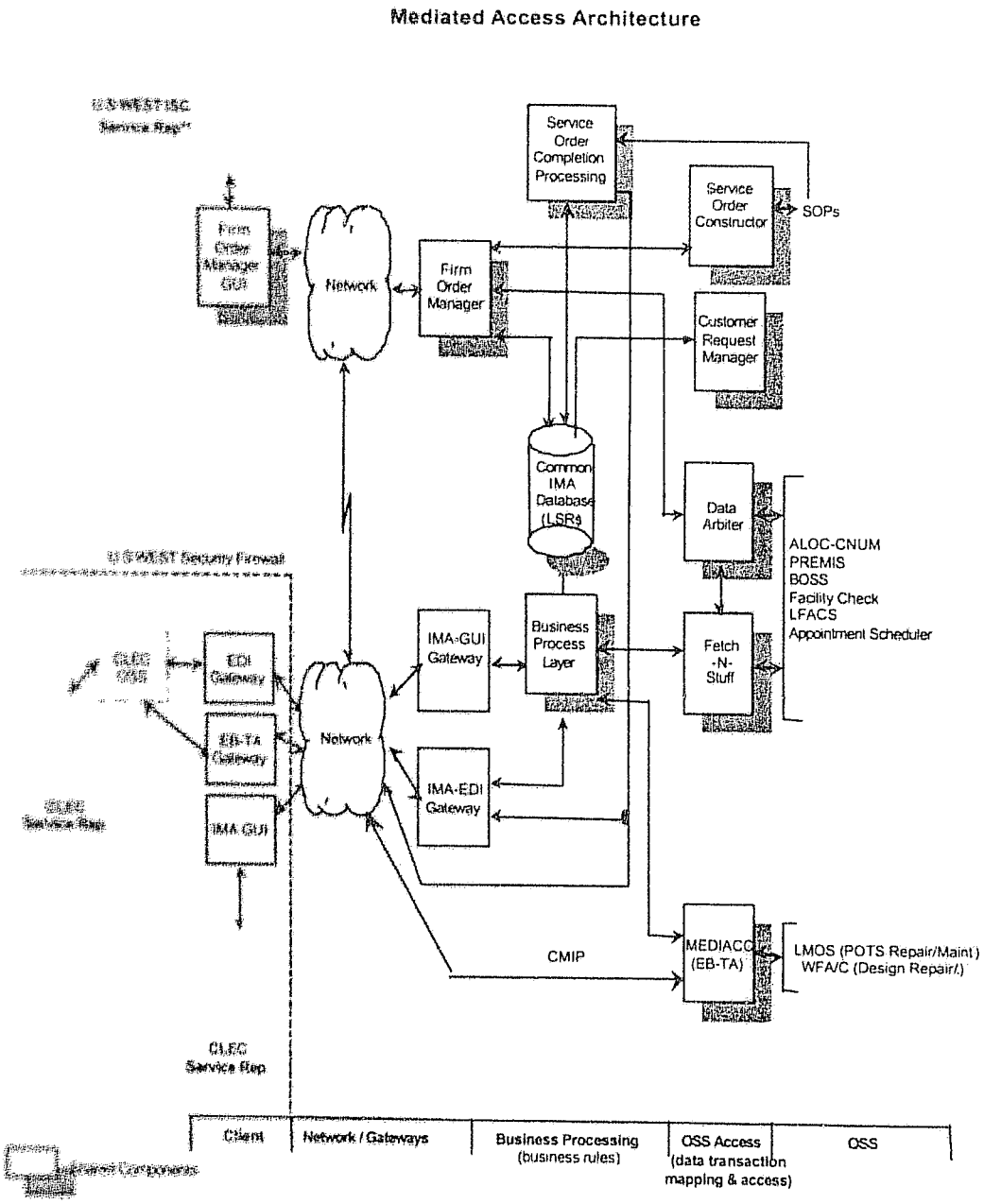
The EXACT interface is used by CLECs to order wholesale services requiring Access Services Requests (ASRs).

6.2.5 IIS

The Interconnect Image System (IIS) interface is a facsimile receipt and distribution system that facilitates the handling of orders and other transactions faxed from CLECs to U S WEST. These faxed, or manual transactions, must be input to U S WEST's OSS by personnel at the Interconnect Service Center.

Please refer to Figure 6.2 for an overview of the Mediated Access Architecture.

Figure 6.2 Mediated Access Architecture



6.3 Initial Transaction Processing

6.3.1 *Pre-Ordering and Ordering*

Once the transaction is received by the U S WEST gateway, a set of business rules is applied to determine how to process the request. To obtain information from U S WEST's OSS or pass information to them, the OSS Access Layer (Data Arbiter, Fetch and Stuff, and MEDIACC) communicates with the downstream OSSs to send or retrieve the data. Regardless of whether a transaction is received by the U S WEST gateway through the IMA GUI or EDI, it will be processed through the same set of business rules and travel through the same OSS Access Layer to reach the downstream OSSs.

If the transaction is the submission of an LSR, the LSR is placed in the Common IMA database regardless of whether the LSR is transmitted through the IMA or the EDI gateway. This database is updated with LSR status as the Interconnect Service Center processes the request.

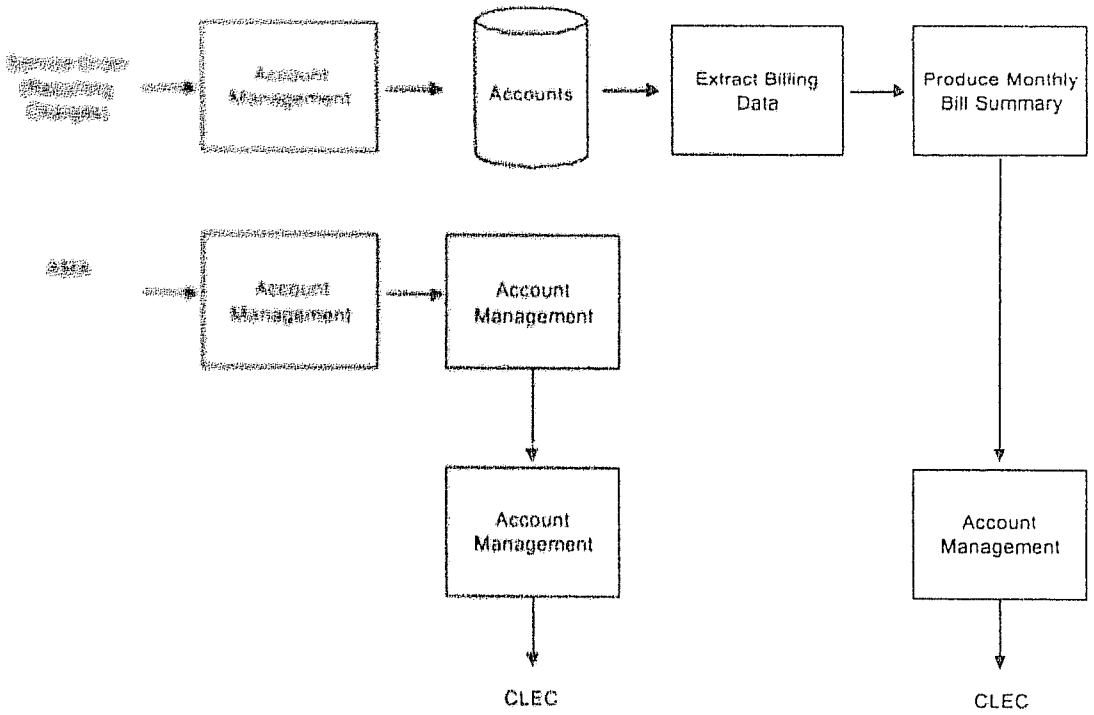
6.3.2 *Maintenance and Repair*

Maintenance and repair transactions are processed through IMA and MEDIACC and routed to the appropriate downstream repair OSS.

6.3.3 *Billing*

Figure 6.3.3 describes the billing components that produce daily usage and monthly bill information. When an end-user customer's account is resold to a CLEC, the resulting service order updates the account to reflect that change. As the end-user customer generates toll usage, it is sent from the AMA system into the CRIS billing system, where it is associated with the CLEC's account. The toll usage is then forwarded to the CLEC in a daily usage feed file. U S WEST produces a billing summary file with all recurring and non-recurring charges and sends it to the CLEC on a monthly basis.

Figure 6.3.3 Billing Architecture

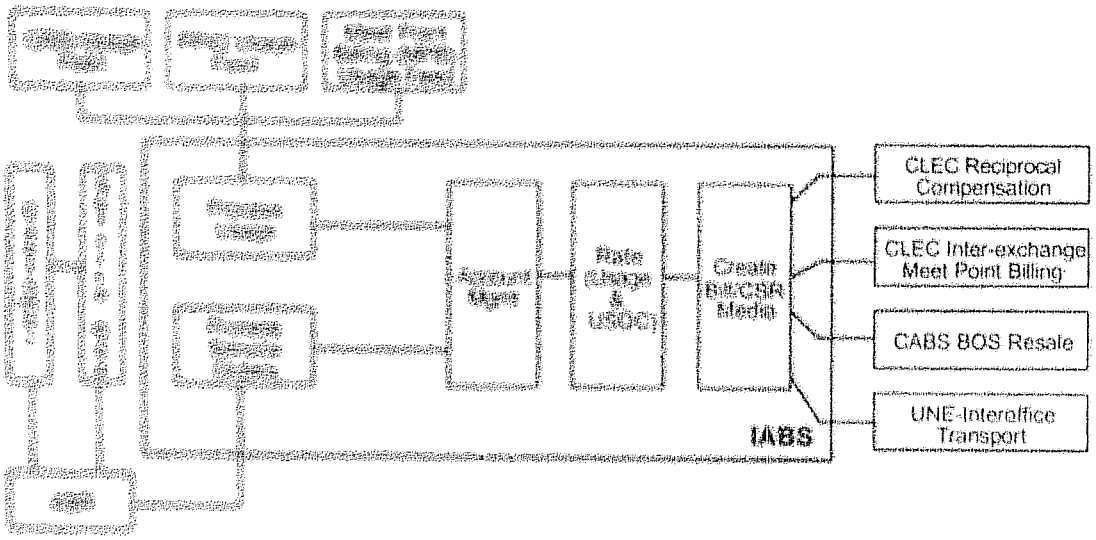


6.3.4 IABS

Figure 6.3.4 provides an overview of the billing for trunk-side UNEs and interconnection services using IABS. There are three usage feeds to the usage-processing module. Another entry point is the ASR submitted by the customer service representative. These ASRs go to the service order processing module. Both usage and service orders are sent to the account management module to associate the usage and service order detail to accounts.

After usage and service order details are associated to accounts, the accounts are rated, and bills and CSRs are produced. Outputs for reciprocal compensation, interexchange meet point billing, resale and UNEs are then provided to the CLECs.

Figure 6.3.4 IABS Billing Architecture



6.4 Systems

The BST billing systems CIS can be categorized into four types of systems as follows:

- One CIS that is functionally and physically the same is used across all 14 states such as Bills CIS and Integrated Access Billing Systems (IABS)
- One CIS application that is used across all 14 states via multiple instances of the same application, such as Facilities Assignment and Control System (FACS)
- An CIS with the same name and basic origin that has been implemented differently across different sites – for example Customer Records Information System (CRIS) East, West, and Central are all called CRIS but are actually different applications functionally
- Different systems with different names and similar functionality that are used in different areas. The service order processors (SOPs) are an example of this type – SOPAD, SOLAR and I-SOLAR in Central, East and West respectively.

Figure 6.4 provides a summary of the systems and their usage across states.

Figure 4-4 U S WEST OSS Access Sites

System	AZ	CO	IA	ID	MN	MT	ND	NE	NM	OR	SD	UT	WA	WY
Web GUI	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1	Web-1
EDI GUI	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1	EDI-1
Mediated EDI	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1	EDI-Int-1
IMA	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1
IMA / GR OB	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1	IMA LSROB-1
FOM	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1
ICADS	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1
Data Arbiter	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1
Fetch-N-Stuff	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1	Fetch-N-Stuff-1
SOP	SOPAD (SLC)	SOPAD (Denver)	SOLAR (Omaha)	SOPAD (SLC)	SOLAR (Omaha)	SOPAD (SLC)	SOLAR (Omaha)	SOLAR (Omaha)	SOPAD (SLC)	R-SOLAR Bellevue	SOLAR (Omaha)	SOPAD (SLC)	R-SOLAR (Bellevue)	SOPAD (Denver)
CSR Retrieval	BOSS-C (SLC)	BOSS-C (Denver)	BOSS-E (Omaha)	BOSS-C (SLC)	BOSS-E (Omaha)	BOSS-C (SLC)	BOSS-E (Omaha)	BOSS-E (Omaha)	BOSS-C (SLC)	CARS Bellevue	BOSS-E (Omaha)	BOSS-C (SLC)	CARS (Bellevue)	BOSS-C (Denver)
SOAC	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1
Premis	Premis-1 (ALB)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (ALB)	Premis-1 (ALB)
FACS	FACS-1 (SLC)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (SLC)
LMOS	LMOS-1 (SLC)	LMOS-1 (SLC)	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 (Omaha)	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 Bellevue	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 (Bellevue)	LMOS-1 (SLC)
WFA	WFA-1 (SLC)	WFA-1 (SLC)	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 (Omaha)	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 Bellevue	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 (Bellevue)	WFA-1 (SLC)
Billing	CRIS-C	CRIS-C	CRIS-E	CRIS-C	CRIS-E	CRIS-C	CRIS-E	CRIS-E	CRIS-C	CRIS-W	CRIS-E	CRIS-C	CRIS-W	CRIS-C
IABS	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1	IABS-1
TIRKS	TIRKS-1 (SLC)	TIRKS-1 (SLC)	TIRKS-1 (Omaha)	TIRKS-1 (SLC)	TIRKS-1 (Omaha	TIRKS-1 (SLC)	TIRKS-1 (Omaha)	TIRKS-1 (Omaha)	TIRKS-1 (SLC)	TIRKS-1 (Bellevue)	TIRKS-1 (Omaha)	TIRKS-1 (SLC)	TIRKS-1 (Bellevue)	TIRKS-1 (SLC)
Facility Check *	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)	FC-1 (SLC, DNVR, Omaha)
Appt. Scheduler	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1	Appt Sched-1

Table 6.4 Interpretation Notes

1. When an OSS has a – 1 suffix it means there is only one version of that application. For example, IMA GUI is the same application across all states.
2. There may be multiple instances of an application that are all identical. For example three instances of FACS serve three different regions but are all the same application.
3. There may be applications of the same name that have different functionality – i.e. CRIS – C (Central), CRIS – E (EAST) and CRIS – W (West)
4. Multiple copies of the same application can be run at different data centers (shown in parentheses in the matrix) to serve different areas that may or may not coincide with a region – i.e. An identical application of BOSS-C is run at 2 data centers to handle the total Central Region.

List of Abbreviations

IMA GUI - Interconnect Mediated Access Graphical User Interface Gateway

IMA EDI - IMA Electronic Data Interchange

EB-TA - Electronic bonding for Trouble Administration – U S WEST's version is MEDIACC, it interacts with LMOS for POTS repair & WFA/C for Designed services repair

BPL-I - Business Process Layer does edits against State tarriffed products and services

IMA LSR DB - Common IMA database for Local Service Requests

FOM - Firm Order Manager

ICADS - Service order constructor that translates order information to the specific service order processor

Data Adapter - Data access layer application between IMA gateway and downstream OSS

Fetch-N-Stuff - Data access layer application between IMA gateway and downstream OSS

CSR Retrieval - Customer Service Record retrieval

Service Order Processor - Directs/processes service orders

SOAC - Service Order Analysis and Control

Premis - Premises Information System

FACS - Facility Assignment and Control System

LMOS - Loop Maintenance Operations Systems

WFA - Work Force Administration

CRIS - Customer Record Information System

CABS - Carrier Access Billing System

IABS - Integrated Access Billing System

Data Center Locations

ALB - Albuquerque, NM

BLV - Bellevue, WA

DVR - Denver, CO

OMA - Omaha, NE

SLC - Salt Lake City, UT

6.5 Regional Differences

U S WEST's current operating territory, and therefore much if its OSS legacy architecture, is the result of the merging of three predecessor Bell Operating Companies into the U S WEST Regional Bell Operating Company RBOC, including:

- Pacific Northwest Bell (PNB) covering Washington and Oregon now referred to as the Western Region
- Mountain Bell (MB) covering Arizona, Colorado, Idaho, Montana, New Mexico, Utah and Wyoming, now Central Region
- Northwestern Bell (NWB) covering Iowa, Minnesota, Nebraska, North Dakota, and South Dakota, now Eastern Region

As Table 6.4 indicates, all CLEC-facing interfaces and most downstream OSSs are the same across the three sub-regions. The three major areas of difference are:

1. Different service order processors are used in each region with SOLAR in the East, R-SOLAR in the West and SOPAD in Central.

2. Customer Service Record (CSR) retrieval is handled by BOSS in East and Central regions and by CARS in Western region.

3. Billing systems across the regions are different. Despite the fact that the three systems are all named CRIS and perform similar processes, they differ functionally.

6.6 State Differences

State level differences in downstream OSS are generally confined to the use of different instances of the same applications housed at different data center locations. Please see Figure 6.4.

6.7 Product Differences

In general, U S WEST offers the same products across its 14 state operating area. However, there are a few variations resulting from various factors such as state regulatory requirements, market conditions and conditions. Table 6.7 provides a high-level overview of these differences.

These differences will be further investigated by the Test Administrator with the assistance of the TAG and reflected appropriately in the test scenarios and testing mix.

Table 6.7 Wholesale Products by State

Product	AZ	CO	IA	ID	MN	MT	ND	NE	NM	OR	SD	UT	WA	WY
Residence	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Business	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Features	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MTS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PLT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CTX*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ACS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
DA/OPS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
LST	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CCP	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PAL	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VM	NA	NA	Y	NA	Y	Y	Y	NA	NA	Y	NA	NA	NA	NA
WIRE	NA	NA	NA	NA	Y	NA	NA	NA	NA	Y	NA	NA	NA	NA
Lifeline	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA
ISDN	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA
UNE-P*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
POTS														
PBX														
ISDN BRI														
ISDN PRI														
UNE-C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
PrivateLine														

* Existing combinations only (i.e. not new)

The following provides additional definition for the products shown in the table.

Residence – basic residential line including 911/E911 service and special needs service

Business – Basic business line including 911/E911 service

Features – Central office features such as custom calling, CLASS, etc

MTS – Intra-LATA toll (message toll service)

PLT – Private line, DS1, DS3

CTX – Centrex, which includes Centrex 21, Centrex Plus, Centrex Prime

ACS – Advanced Communications Services which includes Frame Relay, ATM Cell Relay, LAN Switching Service

DA/OPS – Directory Assistance/Operator Services

** In states where Centrex is grandfathered, conversion to resale is only allowed for existing Centrex Customers.*

Listings - Directory Listing, Joint User Listings

OCP - Optional Calling Plans

PAL - Public Access Lines

VM - Voice Messaging, Enhanced Service

Wire - Inside Wire and Wire Maintenance Plan

Lifeline - Services such as Link-up, Telephone Assistance Plan (TAP)

ISDN - Integrated Switched Digital Network – basic and primary

UNE-P - Unbundled Network Elements – Platform

UNE-C - Unbundled Network Elements - Combinations

NA - Not available *Y* - Yes

6.8 Impact of Differences

The ROC initially views the potential impact of these regional and state differences on the testing process to be minimal. Because the CLEC-facing interfaces are stated by U S WEST to be uniform across states and the IMA-GUI and IMA-EDI gateways are designed to mitigate downstream OSS differences, ROC does not believe that direct testing of downstream OSS is required for a comprehensive test. Instead, the test transaction mix that will be determined by the Test Administrator with input from the TAG should reflect the expected mix across states and products to validate this view.

The state and regional differences will be further investigated by the TA with the assistance of the TAG to validate the ROC's initial view. Differences identified as impacting test results will be reflected appropriately in the test scenarios and testing mix.

7. Global Entrance and Exit Criteria

7.1 Entrance Criteria

Entrance criteria are those requirements that must be met before individual tests can commence. Global entrance criteria, which apply to every individual test except where noted otherwise, include the following:

1. ***The Test Plan has been approved.***

   The Test Plan must be approved by the ROC.

2. ***There should be no legally effective orders or injunctions that prevent the commencement of testing or that materially impact the ability to perform the test.***

3. ***The ROC has verified measurements to be used in the test.***

   The metrics to be used in the test must be agreed to and fully defined. In addition they must be available and validated. No testing or evaluation will proceed for a function, interface or service unless the associated performance measurement and success criteria are developed, implemented and validated for that function, interface or service. Performance measure validation will be accomplished by the Performance Measures Auditor (PMA) as part of the audit once a minimum of 2 months of results are available. Testing may begin for those test scenarios for which performance measurements are available and validated.

4. ***All required U S WEST interface capabilities must be operationally ready.***

   Electronic interfaces to be used in testing the OSS access functions of Pre-Ordering, Ordering, Provisioning, Maintenance and Repair, and Billing must be fully tested and operational. All GUI interface capabilities to be tested must be operational. This should be done in line with existing routine practices that U S WEST typically uses internally or to certify CLECs and CLEC-used interfaces for use.

5. ***For transaction tests to begin, the P-CLEC must be operationally ready.***

   The P-CLEC is to be developed through cooperation between the P-CLEC organization and the Test Administrator based on specifications, documentation, and technical assistance provided by U S WEST. The successful operation of the P-CLEC will demonstrate the feasibility of developing, testing, and operating the CLEC side of the OSS interface based upon documentation supplied by U S WEST.

6. ***The statistical plan will be in place.***

   The statistical plan will be developed collaboratively by the ROC, TA, and TAG. See Appendix G for additional information on the planned statistical approach.

7. ***The pass and retest criteria have been identified.***

8. ***The Test Administrator will review relevant source documentation from other Third Party Testing efforts***

   The TA will review interview reports, summaries, and walkthrough reports from other tests where appropriate. This step will provide testers with background information on business functions and testing approaches.

In addition to these global entrance criteria, test-specific entrance criteria, where applicable, are defined within each test.

Table 7.1 Global Entrance Criteria

Criteria	Responsible Party
The Test Plan has been approved.	ROC
No legally effective orders or injunctions preventing the test exist.	U S WEST, ROC
ROC TAG has completed the definition of metrics to be used across the thirteen states and the ROC has verified all relevant measurements to be used in the test.	ROC, PMA
All interfaces required for testing have been tested and certified using existing practices.	U S WEST, P-CLEC, CLECs
The P-CLEC must be operationally ready.	P-CLEC, TA
Sampling Plan in place	ROC, TA and TAG
Pass and reject criteria have been identified	ROC and TA
Test Administrator has reviewed relevant source documentation from other tests.	TA

7.2 Exit Criteria

Exit criteria are the requirements that must be met before the tests defined in the Test Plan can be concluded.

1. ***All required test activities must be completed.***

   For each test, all fact finding and analysis activities must be completed. All results and test methodologies have been documented.

2. ***Military testing has been successfully completed.***

   Tests have met success criteria. Tests not meeting success criteria have been retested as deemed appropriate by the TA. Tests or retests that have not met success criteria and are deemed not appropriate for further retesting by the TA have been documented.

3. ***All change control, verification, and confirmation steps have been completed.***

   The results of test activities must be documented and reviewed for accuracy. Any results that require clarification or follow-up are confirmed.

4. ***All specific test issues are closed/resolved or declared at impasse for referral to the ROC.***

   Issues that have been recorded and tracked throughout the conduct of a specific test must be closed or resolved with sufficient documentation that describes the means employed to close or resolve each issue. Any issues that are identified as being at impasse between the parties will be referred to the ROC by the TA.

In addition to these global exit criteria, test-specific exit criteria, where applicable, are define within each test.

Table 7.2 Exit Criteria

Criteria	*Responsible Party*
All required test activities must be completed.	*TA*
Military testing has been completed.	*TA*
All change control, verification, and confirmation steps have been completed.	*TA*
All specific test issues are closed/resolved or declared at impasse.	*TA*

Participants may elect to escalate test issues declared at impasse to the ROC issues resolution process described in Section 4.7.

8. Evaluation of U S WEST Wholesale Performance Measurement Processes

8.1 Description

Performance measures are the yardsticks or standards to which U S WEST OSS *performance measurements* are compared. There are two primary types of quantitative performance measures:

- Parity standards
- Benchmarks

A parity standard is a yardstick that is calculated through measurement of a particular aspect of access to, functionality and performance of U S WEST's OSS in support of its retail operations. Where analogous processes exist between U S WEST's retail operations and their wholesale CLEC operations the two processes can be evaluated for parity of treatment between the two. A typical example where parity measurements are possible is the comparison of performance between U S WEST's installation of a new retail customer and U S WEST's "installation" of a CLEC's resale customer. The calculation of parity standards is accomplished through a formalized and controlled process (See Section 9).

There are instances where there are no analogous operations that can be compared between US WEST's retail and wholesale operations. For example, there is currently no identifiable retail analog for the Firm Order Commitment (FOC) interval measure. In these cases, a quantitative benchmark is used to set a threshold for performance where a numerical range of values is possible.

Quantitative performance measures, both parity standards and fixed benchmarks, to be used in the 3rd party OSS test are being collaboratively developed. The process began with a straw-man proposal provided to the TAG for comment in December. The comments were discussed in the ROC's Performance Measures Workshop held in Salt Lake City, UT on January 19-21, 2000. Issue resolution activities resulting from the workshop along with amendments, additions and deletions to the performance measure plan continue in subsequent collaborative forums. The primary document that describes quantitative performance measures, the retail analog (for parity standards), the numeric value (for fixed benchmarks), the calculation method, scope, restrictions, etc. is the ROC OSS Test "Performance Indicator Descriptions" (PID). (See Appendix B.)

Once quantitative performance measures have been agreed upon via the collaborative process referenced above and the quantitative performance measurement process has been validated, the measures are used to judge the measurements resulting from the conduct of the various

tests. Quantitative performance measures are used predominantly, but not exclusively, in judging the results of transaction driven tests. The U S WEST systems and processes comprising the validated process will be identified by release and version.

While fixed benchmarks and parity standards both have the same basic function—they are yardsticks to measure the performance of U S WEST OSS during the test—they are calculated differently. Fixed benchmarks are determined and are, in principle, static throughout the test. Parity standards measure retail operations performance. In order to provide a valid yardstick for the wholesale operations performance that they are to measure, they must be derived contemporaneously.

Qualitative benchmarks set a threshold for performance where a range of qualitative values is possible. For example, an evaluation of the scalability of a system or evaluation of a support organization is qualitative by nature and an evaluation would be based on the experience of the Test Administrator and industry best practices.

Existence criteria are those where only two possible test results exist. For example documentation defining daily billing feeds either exists or does not exist.

8.2 Objective

Rigorous, scientific measurement of any process, quantity, etc. requires that the measurement processes, standards and yardsticks themselves be validated in a rigorous, scientific manner. The objective of this test is:

- To validate that all aspects of U S WEST's processes, procedures, business rules, calculation methods, etc. used in measuring wholesale operations processes are valid.
- To provide a qualitative assessment of the retail operations process for comparison with the wholesale operation
- To provide a verification that certain performance measures are at parity due to the design of the data or traffic delivery process – including DB-1, DB-2, DA-1, DA-2, OS-1, OS-2, PO-1 and others as identified in the final PID agreed upon for use in testing

8.3 Entrance Criteria

Table 8.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
Performance measures / PID have been agreed upon	Test Manager, ROC
Performance measurement documentation is approved	Test Manager, ROC
U S WEST wholesale performance measure processes, systems and software are complete and available for inspection and testing	Test Administrator, ROC
Product descriptions and business rules for all performance measures to be evaluated are available	Test Administrator, U S WEST
Interview guides are available	Test Administrator
U S WEST subject matter experts to be interviewed are projected to be available	Test Administrator, U S WEST

8.4 Test Scope

All aspects of the wholesale performance measurement process and all of the performance measures described in the PID are within the scope of this test.

8.5 Test Scenarios

None

8.6 Test Approach

8.6.1 *Inputs*

1. Performance measures / PID
2. Product descriptions and business rules for all performance measures to be evaluated
3. Description of wholesale performance measurement architecture, processes, systems, reports, etc.
4. Interview Guides

8.6.2 *Activities*

1. Prepare performance measurement process and system evaluation framework and plan
2. Validate framework and plan with TAG

3. Identify subject matter experts and schedule interviews
4. Conduct interviews
5. Evaluate the process design for measures identified as "parity by process design"
6. Conduct the Evaluation, to include:
    - Assess data collection process and system architecture
    - Evaluate data collection operations
    - Review of the calculation of performance measurements
    - Independent calculation of results, using data provided by U S WEST
    - Analyze interview results
    - Independent calculation of the appropriate statistics for performance measurement evaluation
    - Comparison with the same statistics as computed by U S WEST
    - Interpret statistics
7. Identify exceptions
8. Recommend approach to clearing exceptions
9. Verify that exceptions are cleared
10. Define monitoring plan
11. Write final report

8.6.3 *Outputs*

1. Performance measurement evaluation framework and plan
2. Exception report
3. Documentation of any identified material defects in US WEST's systems, operations or documentation
4. Monitoring plan
5. Final report

8.7 Exit Criteria

Table 8.7 Exit Criteria

Criteria	Responsible Party
All exceptions are cleared	Test Administrator, TAG
Monitoring plan is complete	Test Administrator, TAG
Final report is complete	Test Administrator, TAG

9. Evaluation of U S WEST's Parity Standards Calculation Process

9.1 Description

A parity measure is a yardstick or standard that is calculated through measurement of a particular aspect of access to, functionality and performance of U S WEST's OSS in support of its retail operations. Where analogous processes exist between U S WEST's retail operations and their wholesale CLEC operations the two processes can be evaluated for parity of treatment between the two. A typical example where parity measurements are possible is the comparison of performance between U S WEST's installation of a new retail customer and U S WEST's "installation" of a CLEC's resale customer.

Unlike fixed benchmarks, which are numerical values that are set by collaborative agreement, parity standards are derived through U S WEST's measurement of its own retail processes. This section describes a process whereby the Test Administrator verifies that parity standards do, in fact, represent the actual access, functionality and performance characteristics of U S WEST's OSS in support of its own retail operation.

9.2 Objective

Parity standards are measures or yardsticks that are established through U S WEST's measurement of its own retail processes. The objective of this test is:

- To validate that all aspects of U S WEST's process procedures, business rules, calculation methods, etc. used to establish the numerical values of parity standards are valid
- Assess retail operations for comparison with wholesale operations

9.3 Entrance Criteria

Table 9.3 Entrance Criteria

Criteria	*Responsible Party*
All global entrance criteria	*See Section 7*
Performance measures / PID have been agreed upon	*Test Manager, ROC*
Performance measurement documentation is approved	*Test Manager, ROC*
U S WEST retail performance measure processes, systems and software are complete and available for inspection and testing	*Test Administrator, ROC*
Product descriptions and business rules for all retail measures to be evaluated are available	*Test Administrator, U S WEST*
Interview Guides Available	*Test Administrator*
U S WEST subject matter experts to be interviewed are projected to be available	*Test Administrator, U S WEST*

9.4 Test Scope

All aspects of the retail performance measurement process and all of the parity standards described in the PID are within the scope of this test.

9.5 Scenarios

None.

9.6 Test Approach

9.6.1 Inputs

1. Performance measures / PID and associated documents
2. Product descriptions and business rules for all parity standards to be evaluated
3. Description of retail performance measurement architecture, processes, systems, reports, etc.
4. Interview Guides

9.6.2 Activities

1. Prepare parity standards calculation process and system evaluation framework and plan
2. Validate framework and plan with TAG

3. Identify subject matter experts and schedule interviews
4. Conduct interviews
5. Conduct the Evaluation, to include:
    - Assess data collection process and system architecture
    - Evaluate data collection operations
    - Review of the calculation of performance measures
    - Validate that consistency exists between the business rules for calculation and the actual processes the systems use to perform the calculations
    - Analyze interview results
    - Independent calculation of results, using data provided by U S WEST
    - Independent calculation of the appropriate statistics for parity standards evaluation
    - Comparison with the same statistics as computed by U S WEST
    - Interpret statistics
6. Identify exceptions
7. Recommend approach to clearing exceptions
8. Verify that exceptions are cleared
9. Define monitoring plan
10. Write final report

9.6.3 *Outputs*

1. Parity measure evaluation framework and plan

2. Exception Report

3. Monitoring Plan

4. Documentation of any identified material defects in US WEST's systems, operations or documentation

5. Final Report

9.7 Exit Criteria

Table 9.7 Exit Criteria

Criteria	Responsible Party
All exceptions are cleared	Test Administrator, TAG
Monitoring plan is complete	Test Administrator, TAG
Final report is complete	Test Administrator, TAG

10. Evaluation of U S WEST Order and Transaction Creation Documentation

10.1 Description

This evaluation is designed to evaluate the documentation available to the CLEC community to instruct them on how to prepare the necessary forms and other documents to submit orders and other transactions to U S WEST's OSSs. Principles 8 and 12 will be applied in the evaluation of documentation available to CLECs for the creation of orders and transactions.

10.2 Objective

The objective of this test is:

To verify that all orders and transactions to be submitted to U S WEST via GUI and EDI interfaces and those capabilities provided via manual interfaces rather than electronically can be created using documentation and assistance provided by U S WEST.

10.3 Entrance Criteria

Table 10.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
Order and transaction documentation available	U S WEST
Change management procedure documentation available	U S WEST
Process evaluation checklist is available	Test Administrator
Interview guides are available	Test Administrator
Interviewees are available and scheduled	Test Administrator, U S WEST

10.4 Approach

This test will be a qualitative test of policies, practices, procedures, and documentation available to CLECs to develop orders and transactions to be sent to U S WEST's OSS across GUI, EDI, EB-TA, and other interfaces.

10.4.1 Inputs

1. U S WEST Order and transaction documentation
2. U S WEST change management documentation
3. Industry standards documentation
4. Other procedural and technical documentation
5. Evaluation checklists
6. Interface development documentation resulting from change management efforts
7. Interview guides
8. US WEST interface development methodology documentation
9. Relevant and useful data acquired from the AZ test

10.4.2 Activities

1. Determine areas that require validation or retest
2. Gather information

3. Review interface, order, and transaction development processes to assess whether their successful completions were performed as anticipated by the timelines in U S WEST's documentation

4. Perform interviews and documentation reviews as required for validation or retest

5. Complete evaluation checklists and interview summaries

6. Develop and document findings

10.4.3 Outputs

1. Completed evaluation checklists and interview summaries

2. Comparison of actual versus expected results for order and transaction creation deliverables

3. Documentation of any identified material defects in US WEST's systems, operations or documentation

4. Exception report

5. Summary report

10.5 Exit Criteria

- Exceptions cleared
- Final summary report complete

11. TRANSACTION PROCESSING TEST DATA

Test data provides the input or stimuli to systems and processes so that functionality and performance can be observed by means of transaction driven system analysis.

Principle # 11, 13 and 14 apply to test data.

11.1 Purpose

The purpose of this section is to describe test data is described in terms of:

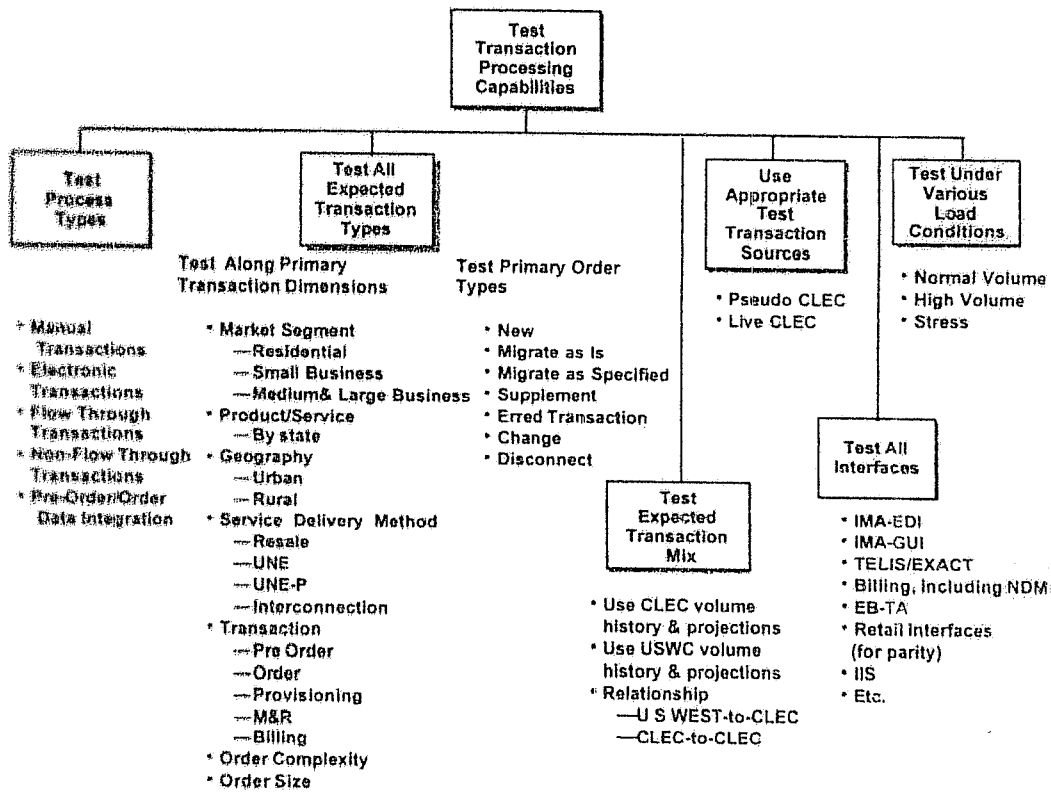
- Test Data Dimensions
- Test Scenarios

- Test Cases
- Test Transaction Instances
- Test Data Definition
- Test Data Sources

11.2 Test Data Dimensions

Figure 11.2 reflects a testing framework agreed to at the St. Paul workshop that describes the major dimensions and attributes to be incorporated in test data transactions.

Figure 11.2 Test Data Dimensions



11.3 Scenarios

Based on MTG's industry experience, the knowledge gained from the New York Public Service Commission Test, a review of other OSS tests, as well as a review of the available offerings in thirteen western states, MTG developed a representative set of test scenarios. At the TRD workshop in Denver, the TAG refined the draft scenarios into a potential set of scenarios reflected in Appendix D that will used to create the transaction mix. Each test scenario describes a real-world situation that will be used to create realistic test cases in which CLECs purchase wholesale services and network elements from U S WEST to be resold or repackaged to the CLEC's end-user customer on a retail basis.

Scenarios serve several key purposes. Scenarios help define the products, services, and transactions that should be included for testing. In this regard, test scenarios provide the guidance and framework for developing "real world" test cases to simulate live production in a controlled test environment. The test cases provide the actual detailed instructions required to build individual transaction test instances.

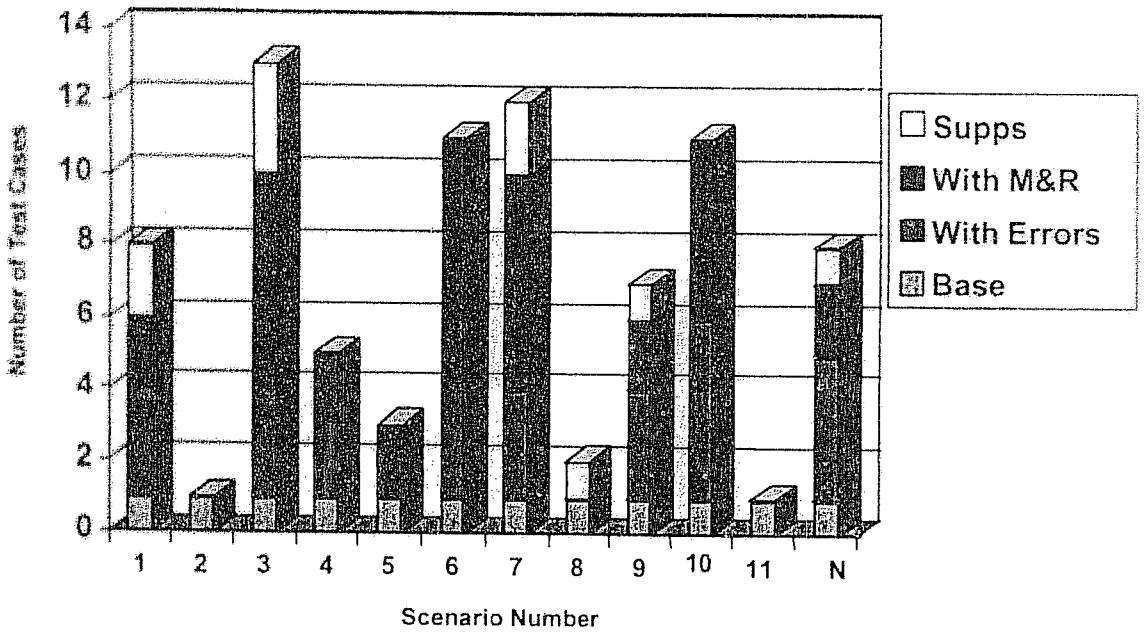
These scenarios will be used to test functionality, performance, and other attributes associated with the ability of CLECs to access information from U S WEST business processes and associated systems. Scenarios provide a way to bridge across test domains and families, thereby facilitating both point-specific and end-to-end testing of various systems and processes and providing the breadth and depth of coverage of products and services to be tested.

11.4 Test Cases

Variables will be introduced into the scenarios to create a number of test cases. Types of variables include errors such as invalid USOCs, order entries that "violate" U S WEST's business rules (which is a higher class of error than a typographical error), supplements (changes to an order), expedites (end user requested due dates earlier than the standard interval) and Maintenance and Repair (M&R) test situations. Test cases may also vary by the type of features that are requested and the characteristics of the customer. For example, one test case may specify call waiting as a feature but another may use caller ID instead of call waiting. Similarly, for the same scenario, one test case may specify a single-line residence customer and another may specify a five-line business customer. The test cases may also vary the timing and sequence of the transactions.

The following chart depicts several possible variations of test cases for each scenario. In this example, the variables include supplements, M&R, and errors.

Figure 11.4: Scenarios and Test Cases



11.5 Detailed Test Instances

Detailed test instances will be generated from these test cases. Test instances represent a set of transactions described by a test case for a specific customer account. For example, a test case might specify "migrate a two-line business customer from U S WEST to a CLEC and add call waiting on the primary line." A test instance would perform the necessary pre-ordering inquiries and send an order to accomplish this activity for a specific two-line business customer account.

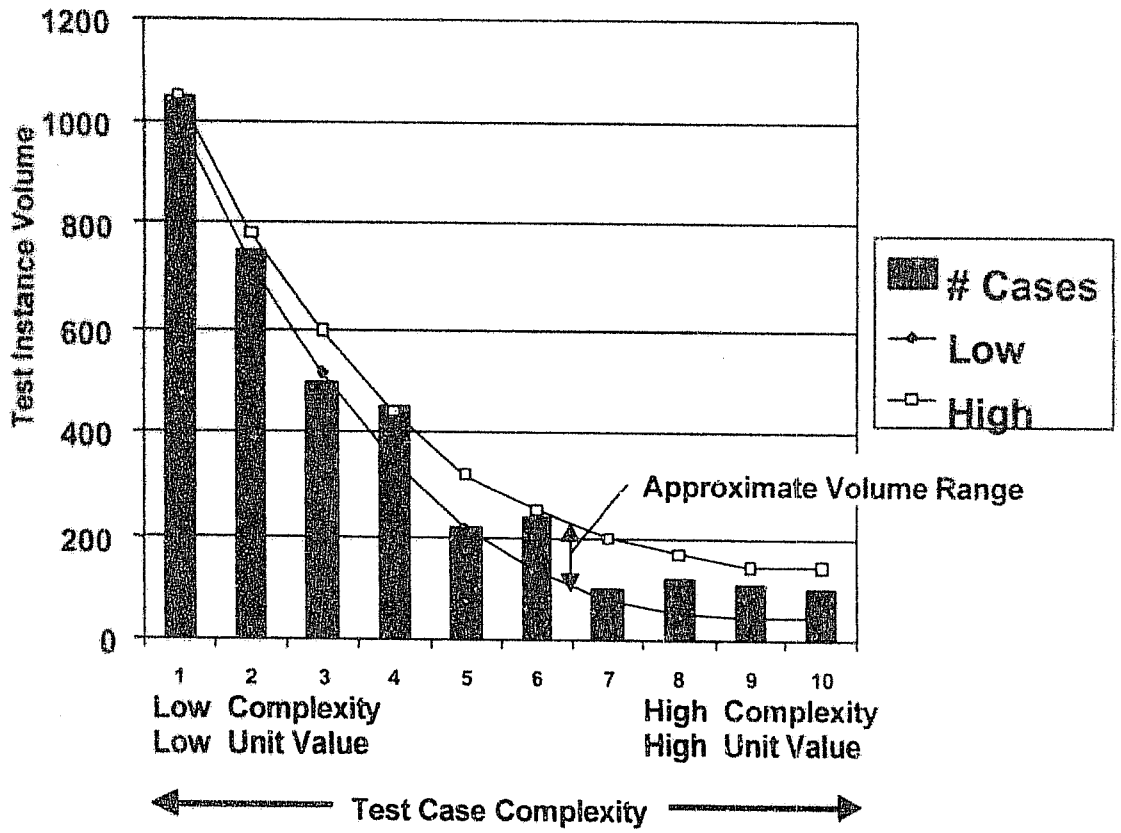
In a manner similar to the creation of multiple test cases from each scenario by varying order dimensions and attributes, multiple test instances can be created from each test case by varying order dimensions and attributes.

11.6 Replicate Mix of Scenarios, Test Cases, and Test Instances

Relative volumes of test cases must be assigned to each scenario, and volumes of test instances must be assigned to each of the test cases based on complexity and expected real world production. This assignment of relative volumes to test scenarios, test cases and test instances results in a mix of test data that takes into account the expected future situation of the real world. While more complex scenarios are expected to occur with less frequency, test instance generation must ensure that the more complex and high value cases do occur in sufficient numbers to obtain adequate coverage. The following chart conceptually depicts the

methodology in determining the appropriate distribution of transactions with simpler transactions occurring more frequently than complex transactions.

Figure 11.6: Volume Distribution by Complexity

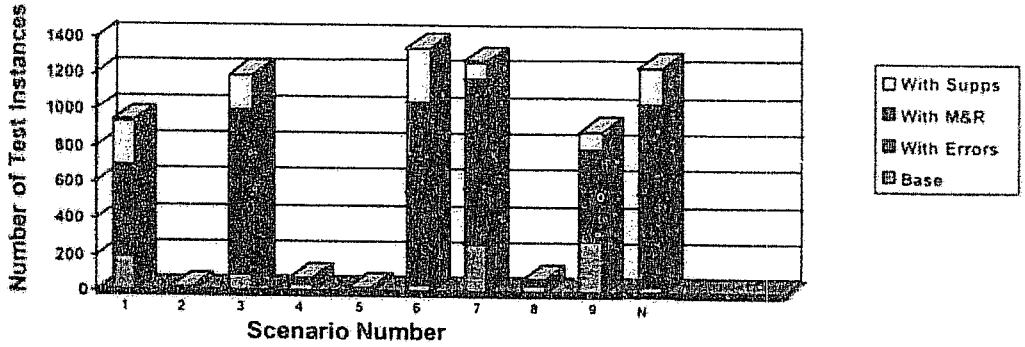


The replicate transaction mix will also include consideration of LIDB (Line Information Data Base) orders (for example, PIC or LPIC changes), 9-1-1 and Directory database updates, 900/976 calling and blocking as appropriate across the various scenarios.

11.7 Reasonably Expected Volumes

After determining the appropriate distribution, statistical techniques will be used to determine the actual number of test instances to be assigned to each of the test cases. Individual test instances that match the test cases will be generated based on the volume that has been assigned. These projected test volumes will be used to measure U S WEST's ability to meet prescribed functionality and measures of service in this timeframe.

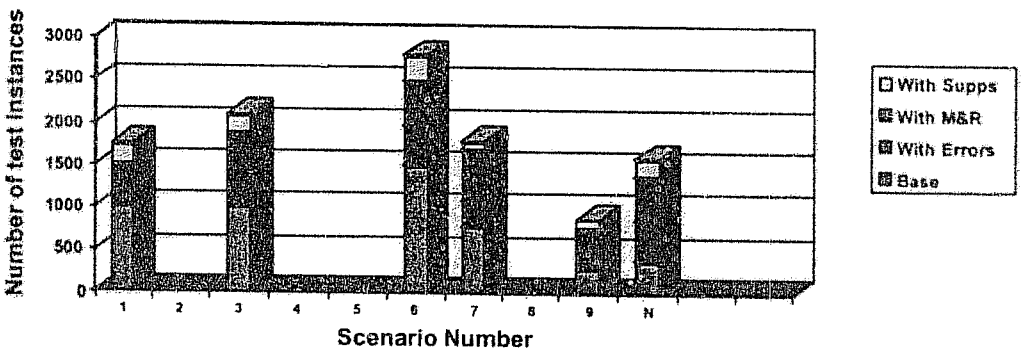
Figure 11.7: Reasonably Expected Volumes



11.8 Stress Volumes

In addition, a stress volume test will be conducted to test the capacity and identify potential choke points of the interfaces. Stress volumes will be assigned to a subset of the test case types based on some multiplier of the normal expected volumes.

Figure 11.8: Stress Volumes



Note: The numerical data used in Figures 11.4, 11.6, 11.7 and 11.8 are for demonstration purposes only and is not intended to represent the testing that will be conducted in this test.

11.9 Testing Hours

OSS functionality testing should be scheduled to take place across the hours of the day that the specific interface being tested is available for CLEC use in a manner that approximates the typical distribution of production transactions. This will increase the likelihood that the P-CLEC experience closely resembles live CLEC experience while also promoting blindness. U S

WEST will provide information on typical transaction distribution by interface to the TA for use in test scheduling.

OSS capacity testing should also be scheduled to take place across the hours of the day that the specific interface being tested is available for CLEC use. The TA, in consultation with the ROC and the TAG, will determine the most appropriate schedule for capacity testing balancing the need for a realistic and rigorous capacity test with protecting the on-going production systems. The TA will determine procedures, and conditions under which the procedures will be used, to abort capacity testing as deemed necessary.

11.10 Specification of Test Data through the Collaborative Process

11.10.1Description

This section describes the collaborative process whereby the test data requirements defined in this document will be extended to provide a test data specification.

11.10.2Objective

The objective of the process described in this section is to design test data that provides an agreed-to "replicate mix" of transactions that represents a reasonably expected transaction mix and reasonably expected transaction volumes.

11.10.3Entrance Criteria

Because design of test data will take place well before actual testing begins, global entrance criteria, which apply to actual testing processes, need not be met prior to design of test data. Test data design entrance criteria are limited to those listed in the following:

Table 11.10.3 Entrance Criteria

Criteria	Responsible Party
Test Plan is complete	ROC
Scenarios have been defined and approved	ROC
Test Administrator has been selected	ROC, U S WEST
Statistics plan is in place	ROC, TA and TAG

11.10.4Test Data Specification Creation Approach

11.10.4.1 Inputs

1. Scenarios and cases
2. U S West historical data on aggregate CLEC volumes
3. Draft CLEC Test Data Input Matrix based on Data Dimensions and Scenarios

11.10.4.2 Activities

1. Revise CLEC Test Data Input Matrix
2. Establish consensus on matrix using the St. Paul model

- Establish confidentiality policies and guidelines
- Issue RFC to CLECs regarding CLEC Test Data Input Matrix
- Summarize Comments
- Resolve Issues
- Finalize Matrix

3. Obtain input from CLECs in form of filled out CLEC Test Data Input Matrix
4. Analyze and consolidate CLEC input and create test data

11.10.4.3 Outputs

1. Test data reflecting "replicate mix" of scenarios, test cases and test instances.

2. Test Overview Matrix as shown in Appendix H sample.

11.10.5Exit Criteria

Table 11.10.5 **Exit Criteria**

Criteria	*Responsible Party*
TAG Consensus	*ROC, TAG*
ROC Approval	*ROC*

12. Evaluation of POP Functionality and Performance versus Parity Standards and Benchmarks

12.1 Description

The POP Functional Evaluation is a comprehensive review of all of the functional elements of Pre-Ordering, Ordering, Provisioning, Pre-Order/Order Data Integration; the achievement of the prescribed measures; and an analysis of performance in comparison to U S WEST's Retail systems.

The test will consist of live transactions submitted over the U S WEST supported interfaces, both interactively via a graphical user interface (IMA GUI) and computer-computer interfaces. Current plans call for testing the following U S WEST interfaces: IMA GUI, and IMA EDI for LSRs, and TELUS and EXACT for ASRs. The following table depicts the functionality with which each interface will be tested:

Table 12.1 Functionality and Interfaces

Functionality	*IMA GUI*	*IMA EDI*	*EXACT*	*TELUS*
Pre-Order	X	X		
Order	X	X	X	X
Pre-Order/Order Data Integration	X	X		

The master interface list will be finalized during the actual testing to allow for any corrections/additions to be made as actual testing nears.

The computer-computer interfaces will be tested using interfaces established or built by the P-CLEC for the Test Administrator according to specifications and processes provided to CLECs by U S WEST. The GUI will be tested through transactions entered directly into the appropriate GUI interface. Where appropriate, manual transactions will be submitted as well.

Data on all of the POP processes will be collected and analyzed and used to produce the output reports. The POP functional and performance evaluation will look at an end-to-end view of the pre-ordering through provisioning process. It will include a mix of stand-alone pre-ordering and ordering transactions, along with pre-order transactions followed by orders, supplements, and cancels. The Test Administrator will collect data on transaction submissions and responses, and on provisioning activities. Where possible and appropriate, this information will be collected and maintained electronically. Both ASR and LSR orders will be tested. Erred as well as error free transactions will be tested. Not all orders will go through the physical provisioning process. Some will be future dated, and others will be canceled before provisioning activities commence. The verification and validation of the provisioning activities will be performed in Section 14.

As part of the POP Functional Evaluation, the Test Administrator will also seek qualitative input and quantitative data on the "real world" experience of CLECs operating in the thirteen ROC states. CLECs willing to participate in this test will be interviewed and their experiences will be incorporated into the test results after validation by the Test Administrator. In addition, for some types of transactions, involvement will be sought from willing CLECs to participate in some aspects of the live transaction testing. This will be done for two principal purposes.

First, CLEC participation will be important for complex orders that cannot be simulated adequately in the test environment. Examples include complex facilities-based orders and orders, like those for unbundled loops with LNP, which require an actual CLEC switch to fully complete. Second, it is important to attempt to incorporate information to help control for "experiment bias" of the results. Therefore, the Test Administrator will ask CLECs for data that can be validated on live orders that replicate those sent over the test systems. As appropriate, some test orders may be sent over CLEC systems.

Of course, successful completion of all of these aspects of the test requires active participation of one or more CLECs. However, CLEC participation is voluntary and the scope of that participation is up to each individual CLEC.

12.2 Objective

The objective of this test is to validate the existence, functionality, and behavior of the interfaces and processes required by U S WEST for pre-ordering, ordering, and provisioning transaction requests and responses. The POP functions tested will also be validated against the U S WEST documentation that specifies which functions are and are not available within the U S WEST OSS.

12.3 Entrance Criteria

Table 12.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
Interfaces are built and tested	Test Administrator
Interfaces are "certified" by U S WEST	U S WEST
Inventory documented of all U S WEST relevant (company-wide and regional) systems and interfaces identifying release number and version	TA, U S WEST
Wholesale and retail measurement processes evaluated	Test Administrator, ROC
Measurement collection process is defined	Test Administrator
Dial-up connectivity to GUI interface established	Test Administrator, U S WEST
Business rules for all transactions to be tested are available.	U S WEST
Test bed databases and facilities in place	U S WEST
CLEC test volunteers identified	Test Administrator
Test Scenarios developed	Test Administrator
Test Cases developed	Test Administrator
Specific Test Cases to test in conjunction with CLEC volunteers identified	Test Administrator
Specific Evaluation techniques developed	Test Administrator
Evaluation Criteria defined and approved	Test Administrator
Detailed "Go/No Go" checklist created	Test Administrator
Help Desk log and contact checklists created	Test Administrator

12.4 Test Scope

Ordering transactions consists of three distinct, but related, processes:

- Pre-Order Processing—submission of requests for information required to complete orders;
- Order Processing—submission of orders required to add/delete/change a customer's service; and
- Provisioning—physical work performed by U S WEST as a result of the submitted orders.

The Ordering Transactions test suite will be comprised of "real-life", end-to-end test cases that cover the entire spectrum of pre-order, order, and provisioning. The following order types will be tested:

- Migrate "as is"
- Migrate "as is" with changes
- Migrate "as specified"
- New customer
- Feature Change
- Directory Change
- Number Change
- Add lines
- Suspend/Restore
- Disconnect (full/partial)
- Move (inside/outside)
- Number Portability (LNP/INP)
- Change to New Local Service Provider
- UNE Loop Cut Over

The order types identified above will be ordered using the available and applicable U S WEST service delivery methods. The following service delivery methods will be tested:

- Resale
- Unbundled Loops
- UNE Platforms, residential and business
- Other UNE Combinations such as EELs
- Other Unbundled Network Elements such as UDIT
- Any other service delivery methods that may become available at the time of the test

The orders will be placed using U S WEST's existing interfaces: GUI, computer-computer, and manual. The following assumptions pertain to ordering interfaces:

- U S WEST interfaces, GUI and computer-computer , will be tested, including during the Volume Performance Test,
- Orders will be issued using both ASR and LSR forms, as appropriate,
- The GUI will be tested from multiple terminals at the same time,
- If a scenario calls for an order type that can not be submitted electronically, the request will be submitted manually.

Other important aspects of ordering will be tested:

- "Flow through" order types, as stated and agreed-to by U S WEST, will be tested to ensure that they do not require manual handling (the complete set of identified flow-through order types will be evaluated to ensure that they actually do flow-through.),
- Integration of pre-order and order data functionality which integrates values from pre-order processes into ordering documents, as desired by the CLEC
- Supplemental orders (changes to orders in process), including cancels, will be tested,
- Multiple products and features will be tested; the tests will cover a broad range of the options available to CLECs and resellers,
- Multiple switch-types, end-offices, states and cities will be included in the test,
- A portion of the orders sent will be physically provisioned. Some orders will be future dated, allowing them to be canceled prior to work scheduling and provisioning,
- CLECs will be solicited for involvement in some aspects of the test, especially for assistance in the testing of complex services and services with long lead times, and
- As indicated by testing principle #13, similar test cases may be run by both the P-CLEC and a production CLEC that has completed interface verification with U S WEST in order to validate the processes under the oversight of the TA. This validation process is not intended to double-test every scenario by both the P-CLEC and a production CLEC and will include no more iterations than are required for validation.

In addition to normal orders, orders with planned errors will be sent to U S WEST to check the accuracy of its system edits and service representatives.

Service locations supported by different U S WEST ordering, provisioning, and CO switching and transmission configurations will be tested.

The test will be conducted using the most current release of the U S WEST business rules at the time of the test.

The P-CLEC will build a pre-order EDI interface using U S WEST specifications and evaluate the results for adequacy. The data from this pre-order interface will be integrated with the LSR for ordering on a real time or near real time basis to ensure that the two interfaces are fully integrated.

The following chart contains the processes and sub-processes that will be used in evaluating U S WEST's pre-ordering, ordering, and provisioning functionality and performance:

Table 12.4-1

Process Area	Sub-Process
Pre-ordering	Retrieve customer CSR
	Validate Customer Address
	Perform Loop Qualification
	Perform Facility Check
	Reserve and release telephone numbers
	Request information about services, features, facilities, and PIC/LPIC choices available to customers
	Determine due date/appointment availability
Ordering	Submit order for migration of a customer from U S WEST to a CLEC "as is"
	Submit order for migration of a customer from U S WEST to a customer "as specified"
	Submit order for partial migration of a customer from U S WEST to a CLEC
	Submit order for establishing service for a new customer of a CLEC
	Submit order for feature changes to an existing CLEC customer
	Submit order for adding lines/circuits to an existing CLEC customer.
	Submit order for a telephone number change for an existing CLEC customer
	Submit order for a directory change for an existing CLEC customer
	Submit order for the outside move of an existing CLEC customer
	Submit order for suspending service of an existing CLEC customer
	Submit order for restoring service to an existing CLEC customer
	Submit order for disconnecting service from an existing CLEC customer
	Submit order for disconnecting some lines/circuits for an existing CLEC customer
	Submit order for migration of a customer from another CLEC
	Change service delivery method for an existing CLEC customer
	Order interoffice facilities
	Receive order confirmation
Provisioning	Receive notification of jeopardy or delay
	Receive completion notification

The following table contains the evaluation measures that will be used in evaluating U S WEST's pre-ordering functionality and performance:

Table 12.4-2 POP Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
[illegible]	Document Review, Transaction Generation	Qualitative Quantitative
[illegible]	Transaction Generation	Quantitative
[illegible]	Transaction Generation	Quantitative
[illegible]	Transaction Generation	Quantitative
[illegible]	Logging	Quantitative
[illegible]	Transaction Generation, Inspection	Qualitative Quantitative
[illegible]	Transaction Generation, Inspection, Document Review	Qualitative
[illegible]	Transaction Generation, Logging	Qualitative Quantitative
[illegible]	Transaction Generation, Inspection	Qualitative Quantitative
[illegible]	Inspection	Qualitative Quantitative

The Provisioning process has different measures:

Table 12.4-3 Provisioning Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
[illegible]	Transaction Generation, Inspection, Logging	Quantitative Qualitative
[illegible]	Transaction Generation, Inspection, Logging	Quantitative Qualitative
[illegible]	Transaction Generation, Inspection, Logging	Quantitative Qualitative

12.5 Scenarios

The specific scenarios to be used in this test can be found in Appendix D.

12.6 Test Approach

12.6.1 Inputs

1. Test scenarios and cases
2. Test case execution schedule
3. Certified interfaces
4. Documentation (Ordering guides, order/pre-order business rules, etc.)
5. Trained personnel to execute test cases
6. Test "Go/No Go" checklist
7. Help Desk log and contact checklists

12.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s).
2. Interview CLEC volunteers and coordinate joint testing activities.
3. Submit transactions. Submittal date and time and appropriate transaction information logged.
4. Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) logged.
5. Match transaction response to original transaction.
6. Verify transaction response contains expected data and flags unplanned errors.
7. Verify that pre-order data is integrated into ordering documents/processes as appropriate.
8. Manually review unexpected errors. Identify error source (the Test Administrator, or U S WEST). Identify and log reason for the error. Determine if test should be discontinued.
9. Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and other behavior of functions as identified on the help desk checklist.
10. Correct expected errors and resubmit. Re-submittal date, time, and appropriate information logged.

11. Identify transactions for which responses have not been received. Where multiple responses are expected for the same request, the receipt of each response will be monitored.
12. Identify transactions for which duplicate or multiple responses were received in error.
13. Record missing responses.
14. Review status of pending orders. Verify and record accuracy of response.
15. Generate P-CLEC reports.
16. Generate U S WEST metrics report for test date range.
17. Compare P-CLEC metrics to U S WEST retail metrics.
18. Assess quality of business processes and compare, where information is available, with equivalent retail processes.

12.6.3 Outputs

1. Reports that provide the metrics to support the standards of performance defined in Appendix C
2. Variance between actual performance and the standards of performance defined in Appendix C
3. Report of expected results versus actual test case results
4. Unplanned error count by type and percentage of total
5. Report of unplanned errors as the result of documentation problems
6. Rejects received after confirmation notification and percentage of total
7. Transaction counts, error ratio, response time, etc., by transaction type, product family, and delivery method
8. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
9. Transaction counts per response time/interval range per transaction set
10. Orders erred after initial confirmation
11. "Flow through" orders by order type, product family, etc.
12. Completed help desk logs and checklists
13. Help desk accuracy and timeliness report
14. Perform P-CLEC to other CLEC comparison
15. P-CLEC measurement reports

16. Measure of parity performance between retail and wholesale

17. Documentation on any identified material defects in US WEST's systems, operations or documentation

12.7 Loop Qualification Process "Parity by Design" Evaluation

In addition to the above elements of this POP Functionality test, the TA will perform an evaluation of the Loop Qualification process U S WEST provides to wholesale customers compared to the Loop Qualification process it provides to its own retail customers to determine if parity exists in the design, implementation and use. This evaluation should examine the wholesale and retail end-to-end processes, the results of the same queries made to the two processes, and all additional avenues of follow-up or recourse available to either wholesale or retail operations or both. This evaluation should answer the following questions:

- Does a wholesale loop qualification transaction result in the same information as a retail transaction for the same loop?
- Does the loop qualification information come from the same database (directly or indirectly) with the same frequency of update?
- Are the wholesale responses returned in approximately the same timeframe as the retail response?
- Are any additional sub-processes or remedial options available in the retail loop qualification process that are not in the wholesale process?

12.8 Exit Criteria

Table 12.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Section 7

13. Order "Flow Through" Evaluation

13.1 Description

The Order "Flow Through" Evaluation tests the ability of orders to flow through from the CLEC through the interface into the U S WEST ordering system without any human intervention.

Prior to specifying the Flow Through test in detail, the BA-NY experience and FCC filings on testing flow through will be assessed. Useful lessons learned and other precedents will be adopted by the ROC as appropriate, and through the customary collaborative process.

Only orders that qualify as "flow through", orders not needing manual action, will be tested. The list of "flow through" types will be updated during the testing period. Additions and deletions to the list will be incorporated into the test.

"Flow through" orders will be submitted through both the GUI and the computer-computer interfaces. Any supplements and cancels that are considered to be "flow through" will also be submitted. The order transactions will be monitored to verify that they do not "fall out" for manual handling in the U S WEST Interconnect Service Center (ISC) and are accepted by U S WEST's Service Order Processor (SOP) without manual intervention. The test will also ensure that all order acknowledgements, rejects, jeopardies, and other notices are issued electronically without manual intervention and that all supplemental orders to these initial orders actually flow through, as appropriate.

This test will be conducted as a part of the POP functional and normal volume testing.

13.2 Objective

The objective of the Order "Flow Through" Test is to verify the ability of U S WEST to flow through their front end systems, without manual intervention, all order types that at the time the transactions are submitted are designated by U S WEST or otherwise considered to be "flow through".

13.3 Entrance Criteria

Table 13.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
All Section 12 Entrance Criteria	See Section 12.3
Documentation available specifying which orders are expected to flow through by service delivery type and product including any specific parameters that cause an order to not flow through that should otherwise flow through	U S WEST
Test Scenarios selected	Test Administrator
Specific Test Cases developed	Test Administrator
Test Case execution schedule developed	Test Administrator

13.4 Test Scope

The scope for this test includes the following test processes:

1. Pre-ordering
2. Ordering

13.5 Test Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix D

13.6 Test Approach

13.6.1 Inputs

1. Test Cases and expected results
2. Test case execution schedule
3. Interview guides
4. Interfaces built and certified
5. Transaction mix
6. Failure reason codes
7. Trained personnel to execute test cases

8. Test "Go/No Go" checklist

11.6.2 Activities

1. Submit order transactions via computer-computer and the GUI. Log submittal date, time and appropriate transaction information.
2. Receive transaction responses. Log receipt date, time, response transaction type, and response condition (valid vs. reject).
3. Verify transaction response contains expected data and flags unplanned errors.
4. Identify orders that had manual handling. Identify reason for manual handling. Record manual handling and order attributes.
5. If there was an error that caused the order not to flow through, identify error source (Test Administrator or U S WEST). Identify and log reason for the error. U S WEST errors will not be corrected.
6. Correct any Test Administrator errors and re-submit. Verify orders now flow through.
7. Verify that all orders submitted are accounted for. Log any orders that are submitted but do not appear as processed or erred by U S WEST.
8. Generate U S WEST manual handling report.

11.6.3 Outputs

1. Percentage and number of orders that flowed through by order type, product family, etc.
2. Percentage and number of orders that did not flow through by order type, product family, etc.
3. Orders that did not flow through by reason code
4. Variance between actual performance and the standards of performance defined in various arbitrated agreements
4. Report of expected results versus actual results
5. Report of orders not processed
6. U S WEST manual handling report
7. Summary Report
8. Documentation on any identified material defects in US WEST's systems, operations or documentation

13.7 Exit Criteria

Table 13.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Section 7

14. PROVISIONING EVALUATION

14.1 Description

The Provisioning Evaluation test is a comprehensive review of U S WEST's ability to complete accurately and expeditiously the provisioning of CLEC orders. This test will be conducted as a part of the POP functional testing. It will incorporate orders submitted by both the computer-computer and GUI interfaces, and manually where appropriate. While most kinds of orders will be included, the test will concentrate on those types of orders that require physical provisioning.

This test will involve verifying that orders submitted have been properly provisioned and that the provisioning has been completed on time. Included in the test will be orders that have been supplemented and canceled, as well as those submitted with anticipated errors, to test the impact on provisioning.

For some orders, particularly the more complex ones, the involvement of CLECs operating in thirteen western states will be solicited to volunteer use of their facilities to enhance the "real world" nature of the test. The CLECs will also be asked to provide data on their experiences with provisioning, after verification and validation by Test Administrator.

14.2 Objective

The objective of this test is to evaluate the ability of U S WEST to accurately provision orders submitted by CLECs and to do so on time.

14.3 Entrance Criteria

Table 14.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
All Section 12 entrance criteria	See Section 12.3
Test Scenarios selected	Test Administrator
Specific Test Cases developed	Test Administrator
CLEC volunteers identified	Test Administrator
Provisioning log and activity checklists created	Test Administrator
Test case execution schedule developed	Test Administrator

14.4 Test Scope

The scope for this test includes the following processes:

1. Pre-Ordering
2. Order Processing
3. Provisioning

14.5 Test Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix D.

14.6 Test Approach

14.6.1 Inputs

1. Test Cases and expected results
2. Test case execution schedule
3. Provisioning documentation
4. Provisioning log and activity checklists
5. Trained personnel to execute test cases
6. Test "Go/No Go" checklist

14.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate documentation
2. Submit computer-computer transactions.
3. Submit GUI and manual transactions.
4. Receive confirmations of transactions.
5. Log notification of provisioning jeopardies and delays.
6. Perform joint provisioning activities and record provisioning interactions.
7. Perform testing on provisioned services.
8. Test completion of orders. Record results in appropriate provisioning log and activity checklist.
9. Compare P-CLEC metrics with U S WEST retail and other CLECs.
10. Measure parity performance between retail and wholesale

14.6.3 Outputs

1. Reports that provide the metrics to support standards of performance listed in Appendix C.
2. Variance between actual performance and standards of performance listed in Appendix C.
3. Report of expected results versus actual test case results.
4. Completed provisioning logs and checklists
5. Help desk accuracy and timeliness report
6. Provisioning accuracy and timeliness report
7. Perform P-CLEC to other CLEC comparison
8. Measure of parity performance between retail and wholesale
9. Documentation on any identified material defects in US WEST's systems, operations or documentation

14.7 Exit Criteria

Table 14.7 Exit Criteria

Criteria	*Responsible Party*
All global exit criteria	*See Section 7*

15. POP VOLUME PERFORMANCE TEST

15.1 Description

The Volume Performance Test will identify the capacity and potential choke points, at projected future transaction volumes, of the U S WEST GUI and computer-computer interfaces and U S WEST systems and processes for responding to pre-ordering queries and for initial processing of orders. There will be three parts to the test: 1) a "normal volume" test using anticipated transaction volumes for the December 2001 time frame, 2) a "peak" test using volumes at 150% of the normal volume test, and 3) a "stress" test using volumes at 250% of the normal volume test. (Note that the ROC Project Manager, Test Administrator and TAG will collaborate to finalize the normal volumes, percentages and time horizons in the preceding.)

The Volume Performance Test will look at the performance of U S WEST's pre-ordering and ordering systems and processes from the submission of queries to the creation of internal service orders and the return of an order confirmation. The orders submitted in the Volume Performance Test will not go through the physical provisioning process. The test will include a mix of stand-alone pre-ordering and ordering transactions. Transactions will be submitted using both the GUI and computer-computer interfaces.

While transactions will be submitted throughout the entire transaction test period as part of the POP Functional Evaluation, the volume tests will only run on certain days during the testing period. There will be two 24-hour "normal volume" days of testing. There will be one 24-hour "peak" test. There will be one 4-hour, off-peak "stress" test. The "stress" test will be run off-peak to limit the impact of the test on real customers. All the attributes and activities that apply to the POP Functional Evaluation for pre-ordering and ordering also apply to this test. Insofar as possible U S WEST will not be told the exact dates of these tests.

15.2 Objective

The objective of the Volume Performance Test is to measure U S WEST's capability and identify potential choke points of the GUI and computer-computer interfaces and systems put in place to access pre-ordering information and submit orders to U S WEST at projected future volumes.

15.3 Entrance Criteria

Table 15.3 Entrance Criteria

Criteria	*Responsible Party*
All global entrance criteria	*See Section 7*
All Section 12 entrance criteria	*See Section 12.3*
Agreement on volumes and distribution by scenario and entry mode	*Test Administrator, ROC*
Test Scenarios selected	*Test Administrator*
Specific Test Cases developed	*Test Administrator*
Test Case execution schedule developed	*Test Administrator*

15.4 Test Scope

The scope for this test includes the following test processes:

1. Pre-Ordering
2. Order Processing

15.5 Test Scenarios

The specific scenarios to be used in this test will be chosen from those found in Appendix D.

15.6 Test Approach

15.6.1 Inputs

1. Test cases
2. Test case execution schedule
3. Documentation (all ordering documentation, pre-ordering/ordering business rules, etc.)
4. Personnel to execute test cases
5. Test "Go/No Go" Checklist
6. Help Desk log and contact checklists
7. Certified interfaces

15.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s).
2. Submit GUI and computer-computer transactions. Submittal date, time and appropriate transaction information are logged.
3. Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) are logged.
4. Match transaction response to original transaction. Verify matching transaction can be found and record mismatches.
5. Verify transaction response contains expected data and flag unplanned errors.
6. Manually review unplanned errors. Identify error source (Test Administrator or U S WEST). Identify and log reason for the error. Determine if test should be discontinued.
7. Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and other behavior of functions as identified on the help desk checklist.
8. Identify transactions for which responses have not been received. Where multiple responses are expected for the same request, the receipt of each response will be monitored. Record missing responses.
9. Identify transactions for which duplicate or multiple responses were received in error.
10. Review status of pending orders. Verify and record accuracy of response.
11. Generate P-CLEC reports.
12. Compare P-CLEC metrics to U S WEST retail metrics.
13. Compare P-CLEC to CLEC aggregate. Identify variance in service levels between P-CLEC and live CLEC support.

15.6.3 Outputs

1. Reports that provide performance metrics
2. Variance between actual performance and standards of performance
3. Report of expected results versus actual results
4. Unplanned error count by type and percentage of total
5. Report of Unplanned errors as the result of documentation problems
6. Transaction counts, error ratio, response time, etc. by transaction type, product family and delivery method

7. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
8. Transaction counts per response time/interval range per transaction set
9. Orders erred after initial confirmation
10. Completed help desk logs and checklists
11. Help desk accuracy and timeliness report
12. P-CLEC to other CLEC comparison
13. Measure of parity performance between retail and wholesale
14. Summary Report
15. Documentation on any identified material defects in US WEST's systems, operations or documentation

15.7 Exit Criteria

Table 15.7 Exit Criteria

Criteria	*Responsible Party*
All activities completed	*Test Administrator*
Checklists and reports completed	*Test Administrator*
All global exit criteria	*See Section 7*

16. IMA GUI M&R Functional Evaluation

16.1 Description

The IMA GUI M&R functional evaluation is a comprehensive review of the trouble administration functional elements of the IMA GUI, their conformance to documented specifications, and an analysis of its functionality in comparison to U S WEST's Retail front end systems for trouble management. The test has two major phases, Phase 1 — a basic functional evaluation, and Phase 2 — a comparative functional evaluation.

16.2 Objective

The objective of this test is to validate the existence and behavior of IMA GUI functional elements as documented in IMA GUI Training Guides and other applicable documents, and to

evaluate, based on both quantitative and qualitative approaches, the equivalence of IMA GUI functionality to U S WEST's Retail front end systems for trouble management.

16.3 Entrance Criteria

Table 16.3 Entrance Criteria

Criteria	***Responsible Party***
Global Entrance Criteria have been satisfied	*See Section 7*
Detailed Test Plan completed	*Test Administrator*
Test Scenarios selected	*Test Administrator*
Documentation provided	*U S WEST*
Interview Guides Available	*Test Administrator*
Specific Test Cases and Transaction Sets developed	*Test Administrator*
Product descriptions and business rules for all transactions to be tested are available.	*U S WEST*
Basic documentation review completed	*Test Administrator*
Detailed Functional Checklist created	*Test Administrator*
Test bed of working services selected and/or established	*U S WEST*
Specific Evaluation techniques developed	*Test Administrator*
Physical access to U S WEST Web site established	*U S WEST*
Security access to IMA GUI established	*U S WEST*
Evaluation Criteria defined and approved	*ROC*
Checklists and Interview Guides created	*Test Administrator*

16.4 Test Scope

IMA GUI functionality will be reviewed within the context of specific documentation addressing its use and in comparison to U S WEST's Retail front end systems for trouble management. The following chart contains the processes, sub-processes, and methods for evaluating the functionality of U S WEST's IMA GUI:

Table 16.4 Test Scope: M&R IMA GUI Functional Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Trouble Reporting	Create/Enter Trouble Report (TR)	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Modify TR	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Close/Cancel TR	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Retrieve TR Status	Functionality exists as documented	Inspection	Existence Qualitative Parity
Trouble History Access	Retrieve Trouble History	Functionality exists as documented	Inspection	Existence Qualitative Parity
Access To Test Capability	Initiate MLT Test	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Receive MLT Test Results	Functionality exists as documented	Inspection	Existence Qualitative Parity

16.5 Test Scenarios

A subset of the Appendix D scenarios will be used in this test.

16.6 Test Approach

This test is broken down into two phases:

- **Phase 1** involves the use of test cases created for this test and observation of processes to evaluate IMA GUI functionality and to determine if the system behaves as documented.
- **Phase 2** involves observation of similar retail transactions and interviews of Retail Maintenance Administrators (MA) processing trouble calls and entering trouble reports into U S West's Retail front end systems to assess functionality in comparison to IMA GUI.

The number of observations and period of time over which the observations are taken for both wholesale and retail processes will be sufficient to provide a statistically valid basis for evaluation.

14.6.1 Inputs

1. Test cases
2. Documentation (IMA GUI Learning Guide, etc.)
3. Functionality checklists
4. Interview guide
5. Personnel to execute test cases
6. Personnel to interview Wholesale user and Retail Maintenance Administrators and observe their use of IMA GUI and retail front end systems for Trouble Management, respectively.

14.6.2 Activities – Phase I

1. Use test cases created for this test and appropriate U S WEST documentation to perform each of the functions listed on the checklist provided via the IMA GUI interface. Observe and interview the P-CLEC or CLEC wholesale user as they execute the test cases to determine usability.
2. Verify that each system function behaves as documented.
3. Note any anomalies in the space provided on the checklist.
4. Note any discrepancies between IMA GUI documentation and behavior.
5. Ensure that all trouble reports entered in IMA have been canceled.

14.6.3 Activities – Phase II

1. Use the checklist and interview guide to conduct interviews with MA's selected from the Residence and Business M&R work centers.
2. Observe MA trouble report activities similar to those test cases used in Phase I as identified on the checklist provided.
3. Note the presence and behavior of functions identified on the checklist.
4. Identify any anomalies relative to the functions being observed.
5. Note any additional relevant information from the MA interview (e.g., additional capabilities, performance, etc.).
6. Determine and document any M&R functions that can be performed from a Retail trouble management Workstation that are not available in IMA GUI.
7. Perform a detailed evaluation of relative functionality and capabilities between IMA GUI and retail front end systems for trouble management.

16.6.4 Activities - Common

Document the results and findings from the activities conducted in Phases 1 and 2.

16.6.5 Outputs

1. Completed checklists from Phases 1 and 2 activities
2. Completed interview summaries
3. Summary reports of findings from each phase, including a discussion of anomalies and relevant observations relating to usability and timeliness of each system interface
4. A Summary report comparing relative functionality in IMA GUI and Retail front end systems for Trouble Management highlighting differences and contrasting ease of use of the two systems in performing the functions observed
5. Documentation on any identified material defects in US WEST's systems, operations or documentation

16.7 Exit Criteria

Table 16.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Section 7
All activities completed	Test Administrator
Checklists and reports completed by personnel participating in the test	Test Administrator

17. MEDIACC (EB-TA) M&R Trouble Functional & Performance Evaluation

17.1 Description

The Electronic Bonding Trouble Administration (MEDIACC EB-TA) Functional Evaluation is a comprehensive review of all of the functional elements of the MEDIACC EB-TA System and their conformance to documented interface specifications.

17.2 Objective

The objective of this test is to validate the existence and behavior of MEDIACC EB-TA [illegible] as documented for CLEC trouble entry and other applicable documents.

17.3 Entrance Criteria

Table 17.3 Entrance Criteria

Criteria	Responsible Party
[illegible] have been satisfied	See Section 7
[illegible] completed	Test Administrator
[illegible] selected	Test Administrator
[illegible] and Transaction Sets developed	Test Administrator
[illegible] and business rules for all transactions to be tested are available	U S WEST
[illegible] completed	Test Administrator
[illegible] created	Test Administrator
[illegible] of existing services selected and/or established	U S WEST
[illegible] developed	Test Administrator
[illegible] to U S WEST Trouble entry site established	U S WEST
[illegible] to MEDIACC EB-TA established	U S WEST
[illegible] defined and approved	ROC
[illegible] and Interview Guides created	Test Administrator

17.4 Test Scenarios

A subset of the Appendix D scenarios will be used in this test.

17.5 Test Approach

The test will use test cases specifically created for this test to evaluate MEDIACC EB-TA functionality and to determine if the system behaves as documented.

17.5.1 Inputs

1 Test cases

3. Documentation
3. Functionality checklists
4. Personnel to execute test cases

17.5.2 Activities

1. Use test cases created for this test and appropriate U S WEST documentation to perform each of the functions listed on the checklist provided via the MEDIACC EB-TA interface.
2. Verify that each system function behaves as documented.
3. Note any anomalies in the space provided on the checklist.
4. Note any discrepancies between M&R Trouble Entry documentation and behavior of the MEDIACC EB-TA interface.
5. Ensure that all trouble reports entered via the MEDIACC EB-TA interface have been canceled.

17.5.3 Outputs

1. Completed checklists from activities
2. Summary reports of findings including a discussion of anomalies relating to usability and timeliness of each system function.
3. Documentation on any identified material defects in US WEST's systems, operations or documentation

17.6 Exit Criteria

Table 17.6 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Section 7
All activities completed	Test Administrator
Checklists and reports completed by personnel participating in the test	Test Administrator

18.1 Description

This test involves the execution of selected M&R test scenarios to evaluate U S WEST's performance in making repairs under the conditions of various wholesale maintenance scenarios.

18.2 Objective

The objective of this test is to evaluate U S WEST's performance in making repairs under the conditions of various wholesale maintenance scenarios. The quality of the repair process is to be assessed, and compared with retail operations where the data is available.

18.3 Entrance Criteria

Table 18.3 Entrance Criteria

Criteria	Responsible Party
Test entrance criteria have been satisfied	See Section 7
Test scenarios selected	Test Administrator
Product descriptions and business rules for all transactions to be tested are available.	U S WEST
Techniques & instrumentation available	U S WEST, Test Administrator
Test-bed circuits provisioned	U S WEST
Faults inserted into test-bed circuits as required by the test scenarios	Test Administrator

18.4 Test Scope

Selected M&R test scenarios will be executed to evaluate U S WEST's performance in making repairs under the conditions of various wholesale maintenance scenarios. The following chart contains the processes, sub-processes, and methods for evaluating the End-to-End Trouble Report Processing test:

Table 18.4 Test Target: Execution of M&R Test Scenarios

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End Trouble Report Processing – Resale	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative
End-to-End Trouble Report Processing – UNE/UNE Combinations	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative

18.5 Test Scenarios

A subset of the Appendix D scenarios will be used in this test.

18.6 Test Approach

This test involves the execution of selected M&R test scenarios.

18.6.1 Inputs

1. Test-bed circuits with embedded faults
2. Personnel to create trouble tickets and track the trouble ticket status for each scenario.

18.6.2 Activities

1. Conduct circuit test if applicable for each test scenario.
2. Note test results.
3. Create and submit trouble ticket via IMA.
4. Periodically monitor each trouble report throughout its life using trouble report status transactions in IMA.
5. Note significant events in the trouble report life cycle (error occurrences, corrections, trouble ticket submission time, time cleared, etc.).
6. Calculate time to repair measurements for each test scenario fault repaired.
7. Document observations.

18.6.3 Outputs

1. A time to repair measurement for each fault repaired.
2. Summary report of observations.

3. Documentation on any identified material defects in US WEST's systems, operations or documentation

18.7 Exit Criteria

Table 18.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Section 7
Time to repair measurements for repaired faults	Test Administrator
Summary report of observations	Test Administrator

19. Billing Usage Functional Evaluation

19.1 Description

The Functional Usage Evaluation is an analysis of U S WEST's daily message processing to ensure usage record types including Access records, Rated records, Unrated records and Credit records appear accurately on the Daily Usage Feed (DUF) according to the defined schedule.

19.2 Objective

The objective of this test is to evaluate the following:

- Accuracy and completeness of all usage record types on the DUF including access records that should appear, not receiving records that should not appear, and not receiving empty test files.
- Timeliness of the DUF and access records delivery
- Assess the over-all quality of the process and compare to equivalent retail processes where the data is available.

19.3 Entrance Criteria

Table 19.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Section 7
Test bed completed and ready	U S WEST
Product descriptions and business rules for all transactions to be tested are available	U S WEST
Techniques and instrumentation developed and approved	Test Administrator
U S WEST resources are available to participate in the test	U S WEST
Detailed Test Plan completed and approved	Test Administrator
All call scripts that reflect the types, durations, terminating numbers, etc of call that test callers are to make are provided	Test Administrator

19.4 Test Scenarios

Test calling is dependent on the provisioning process, which is dependent on scenarios. Some customers are subject to service changes (e.g. migrations from U S WEST retail to a CLEC, feature changes, etc.). Test calls and service changes will occur simultaneously.

A subset of the Appendix D scenarios will be used in this test.

19.5 Test Approach

This test will use operational analysis to evaluate the accuracy and completeness of records contained in the DUF. This analysis will also examine the age of calls on the DUF. The evaluations will be accomplished by dispatching testers to various locations within thirteen western states. These testers will place test calls and will record information about these calls including the "call from" number, "call to" number, "bill to" number, call time and duration. The data contained in these Daily Usage Feeds will then be compared to the call logs and relevant billing media. The Test Team will also record information about the contents of DUFs received by Test Administrator.

Test calls will be made using some customer accounts that will migrate during the test period. Migration refers to the conversion of account ownership from one LEC to another. Test calls will be made from migrating accounts before and after the migration date to ensure accurate auditing of data in the Daily Usage Feed.

For example, a U S WEST retail customer migrates to a CLEC during the test. Calls made by the customer prior to migration should be guided to U S WEST. Calls made by the customer after migration should be guided to the new CLEC.

Test calls should be placed from around the U S WEST calling region. Test calls will be made throughout the workday. Test calls will include a variety of call types with the exception of 911, and will be placed from various locations where in order to test various switch types. Local and toll test calls terminating on the test lines will also be made. These calls will be subject to evaluation.

19.5.1 Inputs

1. Detailed Test Plan
2. Test bed, including lines, telephones and facilities
3. Testers and other personnel

19.5.2 Activities

1. Test Team will develop Test Call Matrices, which include test call logs for each location, on each day, for each originating phone number.
2. Test Team will assemble tester resources, provide instructions and dispatch testers to calling locations.
3. Testers will complete calls and log results.
4. P-CLEC will receive DUF files from U S WEST and provide to Test Team.
5. Test Team will verify that appropriate data is on the DUF.
6. Test Team will verify that calls that do not belong on the DUF are not on the DUF.
7. Test Team will verify that appropriate calls present in the DUF match the testers call log.
8. Test Team will identify DUF files that contain no billable records.
9. Using records received in the DUF files, Test Team will validate the age of calls by determining the number of business days between the call date and the day the DUF file was created.
10. Test Team will compile results.

19.5.3 Outputs

1. Call Logs Report – A report of the testers logs.
2. DUF Accuracy and Completeness Report – A report showing the validation of calls made during the test.

3. Empty DUF Files Report – A Report showing the number of empty DUF files sent by U S WEST.
4. Final report.
5. Documentation on any identified material defects in US WEST's systems, operations or documentation

19.6 Exit Criteria

Table 19.6 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Section 7

20. Carrier Bill Functional Evaluation

20.1 Description

The Carrier Bill Functional Evaluation is an analysis of U S WEST's ability to accurately bill usage plus monthly recurring charges (MRC), fractional MRCs, and non-recurring charges (NRC) on the appropriate type of bill. An accurately billed item will contain the correct price and correct supporting information, such as start/end dates, duration, standard amounts, and discount amounts. This test will also evaluate the timeliness of bill delivery to the CLECs.

U S WEST will need to run a bill cycle from the initial test bed prior to any POP tests to use as a baseline set of bills.

Monthly charges will be examined for both Resale and UNE billing on IABS and CRIS bills. The verification of prices will consider prices charged based on U S WEST tariffs, U S WEST-CLEC Interconnection Agreements and SGATs. End user bills will be produced by U S WEST's systems and validated by the Test Administrator in this test. Validation of the end user bills will help verify that double billing of the end user (by U S WEST and CLEC) does not occur. Table 20.1 reflects a number of key characteristics of Retail and UNE billing information that will be used in the design of test cases. Information includes the various charge components and their destination bill.

Table 20.1 Key Characteristics of Billing Information for Resale and UNE Customers

	Billing Component	Rating	Usage	Billing
[illegible]	Usage	CRIS	DUF	CRIS
[illegible]	MRC/NRC	CRIS	N/A	CRIS
[illegible]	UNE loops, usage, MRC/NRC, and Combinations	CRIS	DUF	CRIS
[illegible]	IOF, collocation	CRIS	DUF	CRIS
[illegible]	High Cap Loops (DS1/3) MRC/NRC	IABS	N/A	IABS
[illegible]	Directory Listings	CRIS	N/A	CRIS
[illegible]	Non-unbundled Services MRC/NRC (Ancillary services)	CRIS	N/A	CRIS

20.2 Objective

This test evaluates the timely delivery of the bill and the accurate and timely appearance of charges on the appropriate bill. Appearance of charges will depend on the type of products ordered and/or class of service changes for resale and UNE. Details to be evaluated include:

- Appropriate prorating of charges for new and/or disconnected service.
- Charges are accurate (order matches billing).
- Totals are accurate.
- New/disconnected products appear (or do not appear) on the bill.
- Bill dates are correct and match appropriate date from provisioning process.
- Adjustments appear on the bill.
- Bills are delivered to CLECs and Resellers in a timely manner.
- UNEs billed on a usage basis are billed correctly.

20.3 Entrance Criteria

Table 20.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Section 7
All CRIS and IABS baseline bills produced from the initial test bed	U S WEST
Test bed matches requirements.	U S WEST
Techniques and instrumentation developed and approved	Test Administrator
Product descriptions and business rules for all transactions to be tested are available.	U S WEST
Pricing sections of U S WEST tariffs, U S WEST-CLEC Interconnection Agreements and SGATs are provided	U S WEST
Test bed completed and ready	U S WEST
Calls made during Functional Usage Evaluation processed through to the DUF and available for billing.	U S WEST
Availability of U S WEST resources to test and produce CRIS and IABS bills	U S WEST
Method for viewing bills implemented	U S WEST, Test Administrator

20.4 Test Scope

Table 20-2 Test Scope for Carrier Bill Evaluation

Process Area	Sub Process	Evaluation Measure	Evaluation Techniques	Criteria Type
Maintain Bill Balance	Carry balance forward	Accuracy of bill balance	Inspection	Quantitative
Verify Billing Accounts	Verify Billing Accounts	Completeness and accuracy of extraction	Inspection	Quantitative
Bills and Delivery	Verify normal recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify one-time charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify prorated recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify Usage Charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify discounts	Completeness and accuracy of data	Inspection	Quantitative
	Verify adjustments (debits and credits)	Completeness and accuracy of data	Inspection	Quantitative
	Verify late charges	Completeness and accuracy of data	Inspection	Quantitative
	Receive bill copy	Timeliness of media delivery	Logging	Quantitative

As part of this test, a variety of products and services will be ordered. This may result in many variations in billing presentation from the two primary billing systems (CRIS and IABS). Relevant bill types will be selected for review based upon the product mix and anticipated charges as defined in the expected test results.

20.5 Scenarios

A subset of the Appendix D scenarios will be utilized for billing and usage testing purposes. The set selected will include:

- Test cases for 'migration/conversion' of customers
- Test cases for disconnects, new service (add/delete)
- Test cases for changes to services (modify)

All migration situations should be adequately represented:

- U S WEST to a CLEC
- CLEC to U S WEST
- CLEC to CLEC

The scenarios utilized for billing and usage testing will apply to all service delivery methods (SDM) available in U S WEST at the time of the test(s).

20.6 Test Approach

This test will use systems and operational analysis to evaluate the completeness and accuracy of charges that should appear on the bill based on usage information from the Functional Usage Evaluation and selected scenarios. Expected results will be defined for each test case.

Three bill periods will be processed for the same set of customers.

The first bill period consists of the baseline bills where customers created for this test are billed for the first time directly from the initial test bed. These bills are produced prior to the execution of any transaction scenarios that affect selected customers.

The second and third bill periods consist of bills produced after selected scenarios have been executed. This second set of bills will include items such as prorates, disconnects, migrations, adjustments, etc. Some customers will be created during the test execution, and will only receive second period bills.

The following list shows inputs, activities and outputs of the process needed to validate the full range of test cases.

20.6.1 Inputs

1. Detailed Test Plan
2. Verified Baseline Bills and CSRs
3. Selected usage from the Billing Functional Usage Evaluation
4. CSRs and completions from relevant POP orders

20.6.2 Activities

1. Process service order changes
2. Develop expected results for each test case
3. Begin first bill period by receiving baseline bills

4. Record invoice bill date and actual date received
5. Validate test results for each applicable test case
6. Identify discrepancies
7. Receive Bills for next bill period
8. Receive CSRs for all cycles
9. Record invoice bill date and actual date received
10. Validate test results for each applicable test case
11. Identify discrepancies.
12. Complete second bill period. Repeat 7-11 until third bill period is complete
13. Compile results

20.6.3 Outputs

1. A report showing each test case, expected results, and discrepancies
2. A report showing U S WEST bill delivery dates compared to the expected delivery dates based on the bill cycle date
3. Final report
4. Documentation on any identified material defects in US WEST's systems, operations or documentation

20.7 Exit Criteria

Table 20.7 Exit Criteria

Criteria	*Responsible Party*
All Global Exit Criteria satisfied	*See Section 7*

21. SCALABILITY TEST

21.1 Description

The testing described in the "POP Volume and Performance Test" will test systems and processes at reasonably expected commercial volumes. While it would be desirable to test systems and processes at even higher volumes, such testing could be disruptive to on-going wholesale and retail operations. In addition, scaling up of some elements of processes and

systems, e.g., personnel, is not seen to be feasible for the short time period envisioned. The Scalability Test, which will use operations analysis and will build upon the results of transaction-driven tests, will provide an estimate of process and system performance at volumes greater than planned for the POP Volume and Performance Test.

21.2 Objective

The objectives of the Scalability Tests are to:

- Provide an estimate of the scalability of OSS processes and systems beyond the transaction volumes planned for the POP Volume Performance Test
- Identify potential bottlenecks and choke points

21.3 Entrance Criteria

Table 21.3 Entrance Criteria

Criteria	*Responsible Party*
Transaction driven testing reasonably complete	*ROC*
Documentation available	*U S WEST*
Relevant test results available	*Test Administrator*

21.4 Test Scope

The Scalability Test will estimate the scalability of all processes and systems in the domains that were tested by Transaction Driven Testing:

- Pre Order, Order and Provisioning
- Maintenance & Repair
- Billing

21.5 Test Scenarios

None

21.6 Test Approach

21.6.1 Inputs

1. Documentation of U S WEST OSS business processes, system and application architecture, and system and interface configuration
2. Test results from transaction driven tests that are relevant to volume carrying capacity

21.6.2 Activities

1. Define Scalability Test analysis framework
2. Validate Scalability Test analysis framework with TAG
3. Analyze business process and systems based upon the analysis framework
4. Identify potential choke points and bottlenecks
5. Revise and refine analysis as necessary based upon final or revised results from transaction driven testing
6. Report findings

21.6.3 Outputs

1. Report on scalability of OSS processes and systems
2. Documentation on any identified material defects in US WEST's systems, operations or documentation

21.7 Exit Criteria

Table 21.7 Exit Criteria

Criteria	Responsible Party
Validated by TAG	TAG
Approved by ROC	ROC
All Global Exit Criteria satisfied	See Section 7

22. CLEC Network Provisioning Test

22.1 NDR

22.1.1 Description

Part of the evaluation of the interaction between U S WEST and a CLEC will include a review of the processes for fulfilling network design requests (NDRs). This test evaluates U S WEST's policies, practices, and procedures for network design requests related to establishing and maintaining a CLEC's ability to access unbundled network elements, including collocation, interconnection and customized routing to Directory Assistance and Operator Services.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and U S WEST parties. A key element of this test will be observing and evaluating ongoing, in production NDR processes.

22.1.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information, documentation, and technical support from U S WEST to adequately prepare for and implement network designs, including those required for customized routing for Directory Assistance and Operator Services
- Determine whether network design processes are well-structured and managed to produce the intended results
- Evaluate the usability and completeness of NDR forecast forms and procedures
- Assess the quality of the NDR business process

CONTINUATION

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Table 22.1.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
Process evaluation checklist	Test Administrator
Interview guides	Test Administrator

22.1.3 Test Scope

The evaluation will examine the following issues with respect to network design request-related processes:

- The adequacy and completeness of the network design planning process
- The adequacy and completeness of the network design request testing process
- The adequacy and completeness of the procedures for ensuring confidentiality of CLEC-provided network design information
- Adequacy and completeness of methods employed by U S WEST to communicate with the CLEC regarding the NDR provisioning process

22.1.4 Test Approach

22.1.4.1 Inputs

1. Procedural and technical documentation
2. U S WEST instructions to CLECs for planning and implementing network designs, including those required for customized routing for Directory Assistance and Operator Services
3. Evaluation checklists
4. Interview guides
5. CLEC data

22.1.4.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

22.1.4.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report
3. Documentation on any identified material defects in US WEST's systems, operations or documentation

22.1.5 Exit Criteria

Table 22.1.5 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Section 7

22.2 Collocation

22.2.1 Description

Part of the evaluation of the interaction between U S WEST and a CLEC will include a review of the processes for fulfilling collocation requests. This test evaluates U S WEST's policies, practices, and procedures for collocation-related requests for establishing and maintaining a CLEC's ability to access unbundled network elements.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and U S WEST parties. A key element of this test will be observing and evaluating ongoing, in production COLO processes.

22.2.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information and technical support from U S WEST to adequately prepare for and implement collocation facilities
- Determine whether collocation processes are well-structured and managed to produce the intended results
- Evaluate the usability and completeness of collocation forecast forms and procedures
- Assess the quality of the COLO business process

22.2.3 Entrance Criteria

Table 22.2.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Section 7
Process evaluation checklist	Test Administrator
Interview guides	Test Administrator

22.2.4 Test Scope

The evaluation will examine the following issues with respect to collocation-related processes:

- The adequacy and completeness of the collocation planning process
- The adequacy and completeness of the collocation project management procedures
- The adequacy and completeness of the procedures for ensuring confidentiality of CLEC-provided collocation information
- The availability and adequacy of resources and qualified technical support to facilitate collocation activities
- The adequacy and completeness of the collocation testing process
- Adequacy and completeness of methods employed by U S WEST to communicate with the CLEC regarding the collocation provisioning process

22.2.5 Test Approach

22.2.5.1 Inputs

1. Procedural and technical documentation
2. U S WEST instructions to CLECs for planning and implementing collocations
3. Evaluation checklists
4. Interview guides
5. CLEC data

22.2.5.2 Activities

1. Gather information

2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings
5. Review production collocation performance data

22.2.5.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report
3. Documentation on any identified material defects in US WEST's systems, operations or documentation

22.2.6 Exit Criteria

Table 22.2.6 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Section 7

22.3 Interconnection Trunks

22.3.1 Description

Part of the evaluation of the interaction between U S WEST and a CLEC will include a review of the processes for providing interconnection trunks. This test evaluates U S WEST's policies, practices, and procedures for the provision of interconnection trunks related to establishing and maintaining a CLEC's ability to access unbundled network elements.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and U S WEST parties.

22.3.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information and technical support from U S WEST to adequately prepare for and implement interconnection trunks.
- Determine whether interconnection processes are well-structured and managed to produce the intended results

- Determine the existence and functionality of procedures for developing, publicizing, conducting, and monitoring trunk forecasting efforts with CLECs
- Verify the integration of trunk forecasting procedures with U S WEST's facilities planning procedures
- Ensure the trunk forecasting effort has effective management oversight
- Assess the quality of the interconnection trunk forecasting process

22.3.3 *Entrance Criteria*

Table 22.3.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	*See Section 7*
Process evaluation checklist	*Test Administrator*
Interview guides	*Test Administrator*

22.3.4 *Test Scope*

The evaluation will examine the following issues with respect to interconnection trunk-related processes:

- The adequacy and completeness of the trunk forecasting procedures
- The adequacy and completeness of the procedures for ensuring confidentiality of CLEC-provided forecast information
- The availability and integration of published interconnection trunk forecasts in U S WEST's facilities planning process
- Adequacy and completeness of methods employed by U S WEST to communicate with the CLEC regarding the interconnection trunk provisioning process

22.3.5 *Test Approach*

22.3.5.1 *Inputs*

1. Procedural and technical documentation
2. USWC instructions to CLECs for forecasting, planning and implementing interconnection trunks

24.5.5 Review Scope

Table 24.5.5 CLEC Training Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Training Program Development	Develop curriculum	Completeness of training curriculum and forums	Document review Inspection	Qualitative
		Adequacy of procedures to respond to information about training quality and utilization	Document review Inspection	Qualitative
		Adequacy of procedures to accept CLEC input regarding training curriculum	Document review Inspection	Qualitative
	Publicize training opportunities	Availability of information about training opportunities	Document review Inspection	Qualitative
Training Program Quality Assurance	Attendance/ utilization tracking	Adequacy of process to track utilization and attendance of various training tools and forums	Document review Inspection	Qualitative
	Session effectiveness tracking	Adequacy of process to survey training recipients on effectiveness of training	Document review Inspection	Qualitative
	Instructor oversight	Adequacy of procedures to monitor instructor performance	Document review Inspection	Qualitative
Process Management	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

24.5.6 Review Activities

1. Gather information
2. Perform interviews and documentation review
3. Complete evaluation checklists and interview summaries

4. Develop and document findings

24.5.7 Exit Criteria

- All required review activities must be completed
- All change control, verification and confirmation steps have been completed

24.6 OSS Interface Development Review

24.6.1 Description

This test evaluates U S WEST's methods and procedures for developing, providing, and maintaining OSS interfaces for pre-ordering, ordering, and maintenance & repair.

24.6.2 Objectives

The objectives of this test are to determine the adequacy, consistency and completeness of U S WEST's methods and procedures for developing, providing and maintaining OSS interfaces.

24.6.3 Assumptions

Preparation and conduct of this review assumes:

1. No test scenarios are applicable
2. The following inputs will be utilized
   - Procedural and technical documentation
   - U S WEST instructions to CLECs for enabling, testing, and maintaining compatibility with interfaces
   - Evaluation checklists
   - Interview guides
   - CLEC data
3. The following outputs will result
   - Completed evaluation checklists and interview summaries
   - Summary report
   - P-CLEC comments on its interface development process
   - Documentation on any identified material defects in US WEST's systems, operations or documentation

24.6.4 Entrance Criteria

The following criteria must be met before the review can commence

- Global entrance criteria requirements are met per Section 7
- Process evaluation checklist is developed
- Interview guides are developed

24.6.5 Review Scope

Table 24.6.5 OSS Interface Development Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Developing Interfaces	Interface development methodology	Adequacy and completeness of interface development methodology	Inspection Document review Report review	Qualitative
	Provision of interface specifications and related documentation	Adequacy and completeness of interface documentation distribution procedures	Inspection Document review Report review	Qualitative
Enabling and Testing Interfaces	Interface enabling and testing methodology	Adequacy and completeness of carrier-to-carrier interface enabling and testing procedures	Inspection Document review Report review	Qualitative
	Availability of test environments and technical support to CLECs	Availability and adequacy of functioning test environments, testing protocols, production cutover protocols and technical support for all supported interfaces	Inspection Document review Report review	Qualitative
	Interface enabling and testing support	Adequacy and completeness of interface enabling and testing procedural documentation	Inspection Document review Report review	Qualitative
Maintaining Interfaces	Release management	Adequacy and completeness of interface enhancement and software release management protocols	Inspection Document review Report review	Qualitative

24.6.6 Review Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

24.6.7 Exit Criteria

- All required review activities must be completed
- All change control, verification and confirmation steps have been completed

24.7 OSS Interface (IMA) Help Desk Review

24.7.1 Description

This review is an evaluation of U S WEST's IMA help desk functions that provide technical support for its OSS interfaces.

24.7.2 Objectives

The objectives of this review are to:

- Determine adequacy, completeness and consistency of IMA help desk processes
- Ensure IMA help desk functions have effective management oversight
- Determine whether IMA help desk escalation procedures are correctly maintained, documented and published
- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining IMA help desk performance
- Ensure existence of reasonable security measures to ensure integrity of IMA help desk data and the ability to restrict access to parties with specific access permissions

24.7.3 Assumptions

Preparation and conduct of this review assumes:

1. No test scenarios are applicable
2. The following inputs will be utilized

- Procedural documentation such as internal help desk procedure manuals

- US WEST instructions to CLECs for interacting with help desk functions
- Evaluation checklists
- Interview guides
- CLEC data

3. The following outputs will result

- Completed evaluation checklists and interview summaries
- Summary report
- Documentation on any identified material defects in US WEST's systems, operations or documentation

24.3.4 Entrance Criteria

The following criteria must be met before the review can commence

- Global entrance criteria requirements are met per Section 7
- Process evaluation checklist is developed
- Interview guides are developed

24.7.5 Review Scope

Figure 24.5 OSS Interface (IMA) Help Desk Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Process IMA Help Desk Call	Resolution of user question, problem or issue	Completeness and consistency of process	Inspection Document review	Qualitative
Close IMA Help Desk Call	Closure posting	Completeness and consistency of process	Inspection Document review	Qualitative
Status Tracking and Reporting	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative
Problem Escalation	User and U S WEST initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative
Capacity Management	Capacity planning process	Completeness and consistency of process	Inspection Document review	Qualitative
Security and Integrity	Data access controls	Security of process	Inspection Document review	Qualitative
Process Management	General management practices	Completeness and consistency of operating management practices	Inspection Document review	Qualitative
	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

24.7.6 Review Activities

1. Gather information
2. Perform walk-throughs, observations and documentation reviews
3. Complete evaluation checklists

4. Develop and document findings

24.7.7 Exit Criteria

- All required review activities must be completed
- All change control, verification and confirmation steps have been completed

24.8 Interconnect Service Center (ISC) Support Review

24.8.1 Description

The Interconnect Service Center (ISC) Support Review is a comprehensive operational analysis of the service center processes developed by U S WEST to support Resellers and CLECs with OSS questions, escalations, problems, and issues related to pre-ordering, ordering, provisioning and billing of its wholesale services. Basic functionality, performance and escalation procedures will be evaluated.

24.8.2 Objectives

The objectives of this review are to:

- Determine completeness and consistency of ISC processes and responses
- Determine whether the escalation procedure is documented and known to ISC representatives and management
- Determine the accuracy and completeness of procedures for measuring ISC performance

24.8.3 Assumptions

Preparation and conduct of this review assumes:

1. No test scenarios are applicable
2. The following inputs will be utilized

- ISC Evaluation Checklist
- ISC procedural documentation

3. *The following outputs will result*

- Completed ISC evaluation checklists and interview summaries
- Summary report

- Documentation on any identified material defects in US WEST's systems, operations or documentation

24.8.4 Entrance Criteria

The following criteria must be met before the review can commence

- Global entrance criteria requirements are met per Section 27
- ISC evaluation checklist developed
- CLEC problem feedback survey completed
- ISC problem response standard survey completed

24.8.5 Review Scope

Table 24.8.5 ISC Support Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Respond to ISC Call	Answer call	Completeness and consistency of process Timeliness of answer	Inspection Performance Measure OS-2	Qualitative Quantitative
	Interface with user	Availability of user interface	Inspection	Qualitative
	Response to call	Completeness and accuracy of response	Inspection	Qualitative
	Log call	Completeness of logged information Log is kept in appropriate media for appropriate interval	Document Review Inspection	Qualitative
Process ISC Call	Access to systems to observe user problems	Ability to access user records and transactions	Inspection	Qualitative
	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review	Qualitative
Close ISC Call	Log closure information	Completeness, consistency, and timeliness of process	Inspection	Qualitative
Monitor Status	Track status	Accuracy and completeness of status tracking capability Availability of jeopardy notification	Inspection Document Review	Qualitative
	Report status	Completeness and consistency of reporting process Accessibility of status report	Inspection Document Review	Qualitative
Request Escalation	Manage escalations	Consistency and completeness of procedure	Document Review Inspection	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Manage the ISC Process	Provide management oversight	Completeness and consistency of operating management practices	Inspection	Qualitative

24.8.6 Review Activities

1. Gather information
2. Perform ISC walk-throughs, observations and documentation reviews
3. Complete evaluation checklists
4. Develop and document findings

24.8.7 Exit Criteria

- All required review activities must be completed
- All change control, verification and confirmation steps have been completed

24.9 M&R Support Center Review

24.9.1 Description

The M&R support center evaluation is an operational analysis of the maintenance and repair (M&R) processes developed by U S WEST to provide support to CLECs with questions, problems, and issues related to wholesale trouble reporting and repair operations. This review includes both the Account Maintenance Support Centers (AMSCs) for designed services and the Repair Call Handling Centers (RCHCs) for non-designed services.

24.9.2 Objectives

The objective of this test is to evaluate the effectiveness of M&R support center operations and adherence to common support center procedures. An additional objective is to analyze the nature and frequency of problems referred to the AMSC/RCHC to determine if they indicate potential problems in other M&R areas. Specifically, this evaluation is designed to:

- Determine completeness and consistency of AMSC/RCHC desk processes and procedures
- Determine whether expedite and escalation procedures are correctly documented and work effectively

- Ensure existence of reasonable security measures to ensure integrity of work AMSC/RCHC data and the ability to restrict access to parties with specific access permissions
- Determine the timeliness and accuracy in identifying and resolving problems
- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining AMSC/RCHC performance
- Determine the existence of Maintenance and Repair coordination processes and procedures, and other operational elements associated with M&R coordination activities between U S WEST and CLEC operations organizations

24.9.3 Assumptions

Preparation and conduct of this review assumes:

1. No test scenarios are applicable
2. The following inputs will be utilized

- Interview guides
- Observation checklists
- AMSC/RCHC evaluation checklists
- AMSC/RCHC center contact logs
- Process and procedure documentation
- U S WEST notification procedures for coordinated meets and coordinated testing

3. *The following outputs will result*

- Completed AMSC/RCHC evaluation checklists and interview summaries
- Summary report
- Contact analysis results report
- Documentation on any identified material defects in US WEST's systems, operations or documentation

24.9.4 Entrance Criteria

The following criteria must be met before the review can commence

- Global entrance criteria requirements are met per Section 7
- AMSC/RCHC evaluation checklist developed
- AMSC/RCHC interview guides developed
- Required documentation provided

24.9.5 Review Scope

Table 24.9.5 M&R Support Center Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Call Processing	Call Answer	Completeness of process Timeliness	Inspections Logging Interviews PM MR-2	Qualitative Quantitative
	Response to call	Completeness and accuracy of response	Inspections Documentation Review	Qualitative
	Call Logging	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Prioritization	Existence Effectiveness	Inspections Logging Interviews	Qualitative
Problem Tracking and Resolution	Documentation	Clarity Accuracy	Document Review Interviews	Qualitative
	Identify and Resolve	Timeliness Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Track Problem	Existence Accuracy	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Expedite/ Escalation Procedures	Documentation	Existence Adequacy Accuracy	Document Review Interviews	Qualitative
	Call Answer	Accessability Timeliness	Inspections Logging Interviews	Qualitative
	Escalation Logging	Accuracy	Inspections Logging Interviews	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Identify and Resolve	Timeliness	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
AMSC/RCHC Center Procedures		Accuracy Completeness	Inspections Logging Interviews	Qualitative
Joint Meet Procedures	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Coordinated Testing	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Manual Handling — Resale		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Manual Handling — UNE/UNE Combinations		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative

24.9.6 Review Activities

1. Conduct AMSC/RCHC visits and observations
2. Complete AMSC/RCHC evaluation checklists
3. Complete documentation review
4. Develop and document findings

24.9.7 Exit Criteria

- All required review activities must be completed
- All change control, verification and confirmation steps have been completed

24.10 Network Surveillance & Outage Support Review

24.10.1 Description

The network surveillance support review evaluates the processes and other operational elements associated with U S WEST are network surveillance and network outage notification processes and procedures as they relate to wholesale services. It also involves a review of the procedures followed by the Network Management Center (NMC) and/or Network Operations Center (NOC) which are related to CLEC operations.

24.10.2Objectives

The objective of this test is to determine the functionality of network surveillance and network outage notification procedures and to assess the performance capabilities of network outage notification procedures for wholesale operations.

24.10.3 Assumptions

Preparation and conduct of this review assumes:

1. No test scenarios are applicable
2. The following inputs will be utilized

- Network surveillance operational analysis plan and task checklist
- Network outage operational analysis plan and task checklist
- Evaluation guides
- Interview Guides
- Documentation of all network surveillance and outage notification procedures for wholesale
- Designated NMC/NOC personnel for interviews
- Observation schedule

3. *The following outputs will result*

- Completed network surveillance and outage evaluation checklists and interview/observation summaries
- Summary report
- Documentation on any identified material defects in US WEST's systems, operations or documentation

24.10.4Entrance Criteria

The following criteria must be met before the review can commence

- Global entrance criteria requirements are met per Section 2.6
- Network surveillance and outage evaluation checklist developed
- NMC/NOC documentation available

24.10.5 Review Scope

Table 24.10.5 Network Surveillance & Outage Support Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Network Surveillance	IOF Surveillance	Existence Reliability	Inspection	Existence Qualitative
	SS7/AIN Interconnect Surveillance	Existence Reliability	Inspection	Existence Qualitative
Outage Notification	Process Documentation	Accuracy Completeness	Inspection	Qualitative
	Notification Procedures	Timeliness Accuracy Completeness	Inspection	Qualitative
	Notification Observations	Accuracy Completeness	Inspection	Qualitative

24.10.6 Review Activities

1. Using the operational analysis plan, conduct process analysis at the NMC and NOC
2. Conduct documentation review
3. Conduct procedure interviews
4. Conduct notification observations
5. Develop and document findings

24.10.7 Exit Criteria

- All required review activities must be completed

- All change control, verification and confirmation steps have been completed

25. Interim and Final Reports

25.1 Interim Report

The TA will develop and submit to the ROC at least one interim report at approximately the mid-point of the test process, and possibly others. This report(s) will describe the test results and recommendation for each major test type. Draft interim report(s) will be provided to the TAG for review and comments and the resulting comments will be taken into consideration by the TA, P-CLEC and ROC in preparing final versions of the report(s).

25.2 Final Report

The TA will develop and submit to the ROC a final report at the completion of testing. The final report will be released in draft form to the TAG for review and comment. Changes recommended by the TAG will be reviewed by the TA and the ROC Steering Committee prior to submittal of a final report to the ROC Executive Committee.

26. Test Wrap Up

At the conclusion of the test the P-CLEC shall dismantle all datastores created for the test, return any telephone numbers used, decommission physical facilities used for establishing connectivity, and return CIC and other industry-standard codes used in the establishment of the P-CLEC.

The TA shall be responsible for responding to inquiries about the final test report and, possibly, providing testimony or support for testimony in various venues.

27. Proposed Schedule and Timeline

27.1 Purpose

This section provides a schedule for the overall planning, execution and evaluation of the ROC's collaborative 3rd Party Test of U S WEST OSS. Once the Test Administrator is selected and

begins work, it will develop a detailed internal work plan that supports the major milestones included in Figure 27.1. All direct participants in the testing effort will also have their own internal work plans that directly support the Test Administrator's detailed schedule and thereby indirectly supports the ROC's schedule shown below.

27.2 Schedule

The milestones in the following schedule focus on the early activities required by the ROC to organize the testing project, specify the scope and select the 3rd party testing vendors. Once the TA has started on the project, the ROC will work with the TA and the TAG to identify additional milestones and target start and complete dates required between vendor selection and test completion. These milestones will be incorporated in the work plan that the TA will build and execute.

Table 27.2 Schedule

Major Milestone	Responsible Party	Start Date	Target Complete Date
1. Develop ROC testing principles and scope	TAG		12/9/99
2. Develop first draft of ROC TRD	ROC/MTG		1/21/00
3. Submit comments on draft TRD to ROC	TAG		2/3/00
4. Issue notice of upcoming RFP to potential vendors	ROC/MTG		2/4/00
5. Develop first draft of RFP	ROC/MTG		2/24/00
6. Conduct workshop to refine TRD	TAG		2/9 to 2/11/00
7. Revise TRD based on workshop results	ROC/MTG		2/28/00
8. Distribute revised TRD to TAG for comment	ROC/MTG		2/29/00
9. Submit comments on revised TRD/RFP	TAG		2/25/00
10. Conduct contingency workshop if required	TAG		3/14 to 3/16/00
11. Revise TRD/RFP per contingency workshop	ROC/MTG		3/6/00
12. Issue RFP with TRD and model contract to vendors	ROC/MTG		3/7/00
13. Proposals from vendors due to ROC	Vendors		3/28/00
14. Complete vendor (s) selection	ROC/TAG		4/18/00
15. Sign MOU(s) in lieu of contract (s)	ROC/U S WEST/Vendor(s)		4/25/00
16. Plan, execute and evaluate test	All parties		4th Qtr 2000*
17. Submit final report to ROC	Test Administrator		4th Qtr 2000*

* For planning purposes, the ROC OSS test execution and evaluation process is currently expected to complete in the 4th quarter of 2000. However, the actual completion date is critically dependent on the completion of military testing and all exit criteria. The concurrent consideration of 271 related matters in the U S WEST region may also impact the ability to meet this target date.

27.3 Schedule Maintenance

The above schedule will be maintained by MTG on ROC's behalf and may be changed as required to support a comprehensive, rigorous and fair test of U S WEST's OSS. All proposed changes will be presented to the ROC for review and approval and communicated to the TAG and all other interested parties in a timely fashion. All direct test participants are responsible for maintaining their own internal schedules required to support the ROC's timeline.

Appendix A: Version Control

Version	Date	Reason	Distribution
1.0	January 21, 2000	Initial Draft Release	TAG and web-site
1.1	January 27, 2000	Added Appendix A, D and F Added Section 6.7 Edits and cosmetic changes	TAG and web-site
2.0	February 28, 2000	Name changefrom MTP to TRD Integrated changes from TAG comments and 2/9-2/11 workshop	TAG and web-site
3.0	March 9, 2000	Integrated changes from TAG comments on V 2.0, added appendices E and G	Attachment 1 to RFP TAG and web-site

Appendix B: ROC OSS Performance Indicator Descriptions (PID) v1.0 dated 2/16/00

Available at www.nri.ohio-state.edu/oss/newdocs/pidv1.pdf

Appendix C: Performance Measures

This appendix consists of a summary matrix identifying all ROC performance measures and sub-measures and the current status of all issues, availability and applicability to the test. It is undergoing revision associated with on-going resolution of performance measure issues and the workshop scheduled for March 14 to16. Appendix C will be provided after the workshop. In the meantime, Appendix B is the most current description of the ROC performance measures.

Appendix D: Scenarios

Table D1 – Stand-alone Provider

	Basic Scenario	Pre-Ordering	Ordering
A	Obtain CSR	X	X
B	Validate customer address	X	X
C	Reserve telephone number(s)	X	X
D	Determine Product Availability	X	X
E	Facility check	X	X
F	Schedule appointment	X	X
G	Loop qualification information	X	X
H	Directory listing inquiry	X	X

Table D2 – UNE

UNE

	Basic Scenario	2-wire. Analog Loop	ADSL Qualified Loop	2-wire non-loaded Loop	ISDN Capable Loop	DS1 Loop	Stand Alone LNP	Inter-office Facility
A	Migrate lines from U S WEST w/o number port.	X	X	X	X	X		
B	Migrate lines from U S WEST with LNP	X		X	X	X	X	
C	Migrate from CLEC to CLEC	X	X	X	X			
D	Purchase lines for a new customer	X	X	X	X	X		
E	Add new lines to existing customer	X	X	X	X	X		
F	Add new interoffice DS1/DS3 facilities					X		X
G	Convert from Resale to UNE loop †	X	X	X	X			
H	Convert from UNE combinations to UNE loop	X		X	X			
I	Moves (inside and outside)	X		X	X			
J	Disconnect (full and partial)	X		X	X	X	X	
K	Add a new directory listing on existing account	X	X	X	X	X		
L	Add new DID service	X	X	X	X	X		

† To include Centrex as used by McLeodUSA

Table D3 – Resale

Resale

	Basic Scenario	Res. POTS	Res. ISDN	Bus. POTS	Bus. ISDN	Centrex*	Private Line	PBX
A	*Migration from U S WEST "as is"*	X	X	X	X	X		X
B	*Migration from U S WEST "as specified"*	X	X	X	X	X		
C	*CLEC to CLEC migration*	X	X	X	X			
D	*New customer*	X	X	X	X	X	X	
E	*Add lines (L)/trunks (T)/ circuits (C)*	X L	X L	X L	X L	X L	X C	X T
F	*Feature changes to existing customer*	X		X		X		
G	*Telephone number change*	X	X	X	X			
H	*Directory change*	X	X	X	X	X		
I	*Convert line to ISDN*	X		X				
J	*Migrate customer with voice mail*	X	X	X	X			
K	*Moves (Abeyed)*							
L	*Suspend/restore service*	X	X	X	X			
M	*Disconnect (full and partial)*	X	X	X	X	X	X	X
N	*PIC/LPIC changes*	X	X	X	X	X		X

* To include Centrex as used by McLeodUSA, see Table D6

UNE Combinations Involving Switch Ports

	Basic Scenario	Res. POTS	Res. ISDN	Bus. POTS	Bus. ISDN
A	Migration from U S WEST "as is"	X	X	X	X
B	Migration from U S WEST "as specified"	X	X	X	X
C	Migrate from CLEC to CLEC	X	X	X	X
D	New customer	X	X	X	X
E	Add lines (L)/trunks (T)/ circuits (C)	X (L)	X (L)	X (L)	X (L)
F	Feature changes to existing customer	X		X	
G	Telephone number change	X	X	X	X
H	Directory change	X	X	X	X
I	Full and partial migration with DL changes	X	X	X	X
J	Adds and changes to DID	X	X	X	X
K	Convert line to ISDN	X		X	
L	Convert line to ADSL	X		X	X
M	Add new ADSL loop with line sharing	X	X	X	X
N	Convert from Resale to UNE-Combinations	X	X	X	X
O	Migrate an account with ILEC-initiated blocking	X	X	X	X
P	Migrate an account with pending service order	X	X	X	X
Q	Establish new user with vanity TN	X	X	X	X
R	Migrate ADSL from US WEST retail to UNE-P	X	X	X	X
S	Moves (Abeyed)				
T	Suspend/restore service	X	X	X	X
U	Disconnect (full and partial)	X	X	X	X
V	Change PIC/LPIC	X	X	X	X

Table D5 – Maintenance and Repair

Maintenance & Repair*

	Conditions to be Tested Across Basic Scenario	Res. Lines	Res. ISDN	Bus. Lines	Bus. ISDN	Centrex	Private Line	PBX
A	Short on outside plant facility	X	X	X	X	X	X	X
B	Open on outside plant facility	X	X	X	X	X	X	X
C	Short on the line within the central office	X		X		X	X	
D	Open on the line within the central office	X	X	X	X	X	X	X
E	Noise on line	X		X	X			
F	Echo on line	X		X				
G	Customer w/ LNP not receiving incoming calls	X		X				
H	Customer receiving incoming calls intended for another customer's number	X						
I	Call waiting not working	X		X				
J	Repeat dialing not working	X						
K	Customer cannot call 900 numbers	X						
L	Calls do not roll-over for customer w/ multiline hunt group			X		X		
M	Call forwarding not working	X		X				
N	Caller id not working	X		X				
O	Pick-up group order for large centrex customer not functioning properly					X		
P	DS1 loop MUXed to DS3 IOF not functioning							X
Q	Submit electronic TT against new loop. How long before can run MLT?**	X	X	X	X			

* See TRD Section 16.4 for an overview of the trouble management processes that will be addressed including: Create a trouble report, Modify a trouble report, close/cancel a trouble report, Retrieve status on a trouble report, Initiate an MLT, Receive MLT test results.

** MLT does not apply to stand alone loops.

Table D6 – Centrex

	Basic Scenario	Resale Centrex	Comments
A.	Migration from U S WEST "as is	X	
B	Migration from U S WEST "as specified	X	
C	CLEC to CLEC migration	X	
D	Migrate from CLEC to U S WEST		Not supported. The CLEC can issue a LSR to disconnect, but the retail side would issue the reconnect.
E	New Customer	X	This is done as a change order to existing common block. We don't support the install of a new common block.
F	Add lines/trunks/circuits	X	
G	Feature changes to existing customer	X	
H	Telephone number change	X	
I	Directory change	X	
J	Convert line to ISDN	X	
K	Moves (inside and outside)	X	US WEST supports outside moves only.
L	Suspend/restore service		Do not support
M	Disconnect (full and partial)	X	

In addition, US WEST supports conversion from Centrex to an unbundled loop.

Table D7 - Placeholder until approach determined.

Emerging Services		
Basic Scenario / UNE	Residence	Business
Extended End Link	X	X

Dark Fiber		X
Line Sharing	X	X
Sub Loop Unbundling		X
UNE-P DSS		

APPENDIX E – ACRONYMS AND GLOSSARY

271 Application		An application to offer long distance services from an RBOC to a state or federal regulatory agency. In order to grant this application, the agency must find the applicant is in compliance with the 14 point competitive checklist described in the 1996 Telecommunications Act.
ACD	Automatic Call Distributor	
ALI	Automatic Line Information (for 911/E911 systems)	
ASR	Access Service Request..	Form used to order interoffice facilities such as dedicated trunk ports
BAN	Billing Account Number	
Benchmark		A benchmark is established for a performance measure to serve as a standard when there is no appropriate retail analog.
Billing Domain		Tests related to creation of correct carrier bills.
BRI	Basic Rate Interface (type of ISDN service)	
Capacity Testing	Capacity Test	Test ability of new mechanized systems to support expected future workloads.
CARE	Customer Account Record Exchange	Industry standard for formatting exchange of subscription information.
Centrex		A business telephone service offered from a local CO that offers PBX-like functionality to the end user without the end user having to purchase CPE.

Change Management		The process by which changes are introduced at U S WEST. Important steps include: 1) Advance notification that a change will occur. 2) CLEC input is considered when making changes; and 3) Smooth roll-out of the change.
CLEC	Competitive Local Exchange Carrier	A communications company which sells/re-sells communications services in direct competition with the Incumbent Local Exchange Carrier (ILEC)
CLEC Live Data		Production data delivered through interfaces that are already operational for real CLEC customers.
CLLI	Common Language Location Identifier	An 11 digit alphanumeric code used as a method of identifying physical locations and equipment i.e., central offices relay racks etc.
CO	Central Office	Facility where subscribers' lines connect to switching equipment
Completion Notice		A notification the ILEC provides to the CLEC to inform the CLEC that the requested service activity is complete.
CPE	Customer Premise Equipment	Customer-owned equipment
CSR	Customer Service Record	A record of customer specific information such as name, address, telephone number, telecommunication services subscribed to and certain other data relating to the services provided. The CSR details a customer's fixed monthly charges billed by the local telephone company
Coordinated customer conversion		Orders that have a due date negotiated between the ILEC, the CLEC, and the customer so that work activities can be performed on a coordinated basis under the direction of the receiving carrier.
DA	Directory Assistance	
DOJ	Department of Justice	

DUF	*Daily Usage Feed*	*A daily download of usage data from the switch which is delivered to U S WEST's message processing system and directly to the CLEC*
EB-TA	*Electronic Bonding – Trouble Administration*	
EDI	*Electronic Data Interchange*	*Interface protocol that provides for mechanized order processing. Both the CLEC and U S WEST will have systems (EDI Interface) to support the EDI functionality*
End-to-End Testing		*For the purposes of this testing end-to-end is defined as testing to demonstrate the flow-through capability of providing local service requests to the CLECs in parity to existing retail.*
Entrance and Exit Criteria		*The necessary conditions for starting or completing individual tests described in the Test Plan.*
Existence Criteria Type		*These are criteria where only two possible test results can exist (e.g., true/false, presence/absence), such as whether a document exists or does not exist*
FCC	*Federal Communications Commission*	
FID	*Field Identifier*	*A code used when administering usage limits on residence and business end users. Also refers to fields of information used in the service order*
Flow-through		*The term used to describe whether an LSR is passed electronically from the OSS interface to the ILEC legacy system to automatically create a service order. LSRs that do not flow through require manual intervention for the service order to be created in the ILEC legacy system.*
FOC	*Firm Order Confirmation*	*Notice the ILEC sends the CLEC to notify the CLEC that it has received the CLEC service order, created a service request, and assigned it a due date.*

Functional Testing	*Functionality Test*	*A documented set of instructions designed to test and/or validate specific functions of a process or system*
GUI	*Graphical User Interface*	*A simplified method of accessing programs within a computer by using a mouse to point to icons, which in turn cause the programs to perform a specific function*
IABS	*Interconnect Access Billing System*	
ILEC	*Incumbent Local Exchange Carrier*	
IMA	*Interconnect Mediated Access*	
Instantiation		*To represent an abstraction or construct by a concrete instance*
ISDN	*Integrated Services Digital Network*	*Digital services designed for use with desktop applications, telephone switches, computer telephony and voice processing systems*
Jeopardy		*With regard to provisioning, a condition experienced in the service provisioning process which results potentially in the inability of a carrier to meet the committed due date on a service order. With regard to the OSS test, a notice that is issued whenever a key project milestone and/or commitment is at risk according to the Master Test Plan*
LERG	*Local Exchange Routing Guide*	
LIDB	*Line Information Data Base*	*Database used primarily for residential customers*
LIS	*Local Interconnection Service Trunks*	
LNP	*Local Number Portability*	
	Loop	*A transmission path that connects an end-user's premises to a U S WEST Central Office*

LSR	*Local Service Request*	*A form prepared by the CLEC to request U S WEST to provide the services as specified in the specific tariffs/contracts agreements. Information required for administration, billing and contact details is provided for in the various fields within the LSR.*
M&R	*Maintenance and Repair*	*Ability to provide for requests, status and resolution of potential troubles*
M&R Domain		*Tests related to processing and management of trouble-related reports.*
MDF	*Main Distribution Frame*	*The primary point at which outside plant facilities terminate within a Wire Center for interconnection to other telecommunications facilities within the Wire Center*
Migration		*Refers to "conversion as is" or "conversion as specified."*
MLT	*Mechanized Loop Test*	*A mechanized test used to determine loop situations*
MTP	*Master Test Plan*	
OBF/TCIF	*Ordering and Billing Forum/ Telecommunications Interface Forum*	*Industry Standards Organizations dedicated to resolving critical issues such as billing format issues between competing local exchange carriers, etc.*
OCN	*Operating Company Number*	*A four-digit number assigned to uniquely identify CLECs.*
Operational Analysis		*Operational analysis focuses on the form, structure, and content of the business process under study. This method is used to evaluate day-to-day operations and operational management practices.*
OSS	*Operations Support Systems*	*For purposes of this test OSS refers to systems that provide for processing orders, maintenance and repair activities, and billing activities*
Parity Criteria Type		*These are criteria that require two measurements to be developed and compared, such as whether external response time is at least as good as internal response time.*

Parity measures		*Parity measures are compared to analogous wholesale performance measures to determine if there is non-discriminatory treatment of wholesale services.*
PBX	*Private Branch Exchange*	
PIC	*Primary Inter-exchange Carrier*	*Primary interexchange carrier selected by end-user.*
PM	*Performance Measures*	
POTS	*Plain Old Telephone Service*	
Pre-Ordering, Ordering, and Provisioning Domain		*Tests related to CLEC's acquisition of customer information, placing orders, and ensuring correct and timely provision and notification of order status.*
Qualitative Criteria Type		*These criteria set a threshold for performance where a range of quality values is possible, such as level of customer satisfaction*
Relationship Management and Infrastructure Domain		*Tests relating to activities, processes and documents that are focused on the establishment and maintenance of the CLEC/ILEC relationship.*
RFP	*Request For Proposal*	
Resale		*Service that allows a CLEC to purchase ILEC retail services in order to resell these services to their own end-user.*
Scalability		*The degree to which an application can be scaled to accommodate order of magnitude increases in transaction volumes and users*
SOP	*Service Order Processor*	

Standard Interval		*The interval that the ILEC publishes as a guideline for establishing due dates for provisioning a service request. Typically, due dates will not be assigned with intervals shorter that the standard. These intervals are specified by service type and type of service modification requested. ILECs publish these standard intervals in documents used by their own service representatives as well as ordering instructions provided to CLECs in the U S WEST Standard Interval Guidelines*
Supplements		*A change to an order taken after the original order was submitted, but before the order has been executed, such as a date change.*
Test Bed		*A set of fictitious customers that are designed to assist with testing. The test bed consists of working lines and provisioned products, although the owning customer is fictitious.*
Test Call Matrix		*A list of call types and the quantity of calls for each type that should be included in a particular test*
Test Case		*Test Cases are comprised of Test Scenarios duplicated with different Test End-Users to make up the required number of test cases as they relate to 3rd Party Testing*
Test Domain		*A specific testing area with defined targets, measures, scenarios, evaluation methods, and test processes.*
Test Scenario		*A specifically defined request and activity as it relates to 3rd Party Testing. These Test Scenarios include both Functionality Testing and Capacity Testing.*
TN	*Telephone Number*	*A number associated with a telephone service*
Transaction-Driven System Analysis		*Transaction driven system analysis relies upon initiation of transactions, tracking of transaction progress, and analysis of transaction completion results to evaluate the automated system under test.*

Transaction Generation		*Transaction generation is the use of live, historical, and/or generated data and data processing capability to evaluate an automated and/or manual system under test*
TRD	*Test Requirements Document*	
UDIT	*Unbundled Dedicated Interoffice Transport*	
UNE	*Unbundled Network Elements*	
UNE-C	*UNE-Combination*	*A preexisting combination of legally binding and effective UNEs.*
	UNE Loop	*A transmission path that connects an end-user's premises to a U S WEST Central Office*
UNE-P	*UNE-Platform*	*UNE Platforms are available as for existing POTS, PBX trunks and ISDN service*
USOC	*Universal Service Order Codes*	
Verification and Validation		*Methods used in the evaluation of activities and processes not amenable to transaction-driven testing, but which require verification and validation.*
xDSL	*"x" Digital Subscriber Line*	*A general name for an evolving high speed transmission technology which uses existing copper wire from the telephone company central office to the subscriber's premise and has electronic equipment at the central office and at the subscriber's premises, and transmits and receives high speed digital signals*

Appendix F: US West Transaction Distribution Among States

CLEC to US WEST Order Transactions

Total 1/99-10/99	AZ	CO	IA	ID	MN	MT	ND	NE	NM	OR	SD	UNK	UT	WA	WY	Total
	64389	39111	10461	1533	56531	6382	3253	23977	4400	19968	8274	122	8971	26544	1661	275577
Distr	0.2337	0.1419	0.038	0.0056	0.2051	0.0232	0.0118	0.087	0.016	0.0725	0.03	0.0004	0.0326	0.0963	0.006	1
State %	23%	14%	4%	1%	21%	2%	1%	9%	2%	7%	3%	0%	3%	10%	1%	100%
Fax distribution																
IIS-Cmplx		8	25		6		4		1	1						45
IIS-INP	179	715	1208	165	353	114	3	245	59	34	8	0	181	541	0	3805
IIS-LNP	5749	3030	3928	52	2381	13	67	8974	763	934	31	53	1254	2844	1	30074
IIS-PAL	5238	3881	1565	922	4589	736	343	680	1575	2224	600	47	1671	3223	640	27934
IIS-Resale	10866	2850	1075	204	1133	792	110	1243	144	6620	694	4	3544	6959	30	36268
IIS-UBL	1953	1124	107	9	6093	220	87	3120	884	243	20	2	1462	1602	0	16926
Total Fax	23985	11600	7883	1352	14549	1875	610	14262	3425	10055	1353	106	8112	15169	671	115007
State %	21%	10%	7%	1%	13%	2%	1%	12%	3%	9%	1%	0%	7%	13%	1%	100%
Electronic (IMA GUI & EDI - but very little or no EDI so far) Distribution																
IMA-INP	7	11	35	75	419	403	15	5	1	7	117	0	12	55	0	1162
IMA-LNP	4804	1317	118	64	1123	17	17	4323	149	573	7	4	301	1039	0	13856
IMA-PAL	86	19	6	0	19	8	1	3	3	7	1	0	2	15	2	172
IMA-Resale	31459	22539	1660	41	31810	3613	1549	5296	596	6214	6785	3	183	3975	969	116692
IMA -UBL	4048	3617	734	1	8605	466	1057	88	225	3111	11	9	361	6291	19	28643
Total Elec	40404	27503	2553	181	41976	4507	2639	9715	974	9912	6921	16	859	11375	990	160525
State %	25%	17%	2%	0%	26%	3%	2%	6%	1%	6%	4%	0%	1%	7%	1%	100%
Fax versus Electronic By State																
Total	64389	39111	10461	1533	56531	6382	3253	23977	4400	19968	8274	122	8971	26544	1661	275577
Fax	23985	11600	7883	1352	14549	1875	610	14262	3425	10055	1353	106	8112	15169	671	115007
Electronic	40404	27503	2553	181	41976	4507	2639	9715	974	9912	6921	16	859	11375	990	160525
% Fax	37%	30%	75%	88%	26%	29%	19%	59%	78%	50%	16%	87%	90%	57%	40%	42%
% Electronic	63%	70%	24%	12%	74%	71%	81%	41%	22%	50%	84%	13%	10%	43%	60%	58%

Appendix G – Statistical Approach

1. INTRODUCTION AND PURPOSE

There are two types of performance standards in the ROC test:

- Parity standards
- Benchmark standards

Parity standards are used where there is a U S WEST retail analog to the particular wholesale OSS process being considered. In order to compare U S WEST wholesale performance to a parity standard, a set of performance observations of a wholesale process is compared to a set of performance observations of the analogous retail process. These two sets of observations are compared to one another in order to evaluate whether observed differences between U S WEST's performance toward itself and U S WEST's performance toward CLECs are significant to a specified degree of confidence.

For benchmark testing the ROC must decide whether test evaluation is to be based on simply meeting or not meeting the benchmark, or whether statistical methods (similar to those used for parity testing) are to be used. In the BANY test evaluation, the former approach was taken.

As random variations exist in any type of repeated performance, the purpose of statistical methods is to provide a way to distinguish between differences that may be due to such random variations and differences that may be due to other factors

In comparing two populations by comparing samples drawn from the two it is possible to draw a conclusion in error. In parity testing, there are two possible types of error:

- Difference in service quality is detected where none exists
- Difference in service quality exists but is not detected

Statistical methods provide a means to limit the risk of making these kinds of errors. Additionally, statistical methods provide a framework and language for describing the tests (e.g. "confidence level") and test results that are widely accepted and understood among the parties to the test.

Once the acceptable level of risk of making errors is decided, statistical methods can be used to assist in designing the test, analyzing the results (i.e. comparing wholesale and retail samples), and describing the approach and results in commonly understood terms.

The ROC must formulate a position regarding the acceptable level of risk in making the errors described above. A framework for defining the acceptable level of risk of drawing an incorrect conclusion is described in Section 2 in terms of six specific questions. Section 3 describes the process whereby the answers to the six questions will be made definitive for the ROC test.

The adoption by the ROC of particular statistical methods and standards are not binding on individual states for the purpose of evaluating test results. The statistical methods and standards will govern the design and conduct of the test, including establishing a stopping point for the test, and facilitate evaluation of the results. However, states are free to depart from the critical values or benchmarks adopted for the test when they evaluate test results submitted by U S West as part of state Section 271 applications.

2. Statistical Policy Questions

2.1 What are the null and alternative hypotheses?

In statistical testing it is often convenient to set up two mutually exclusive hypotheses representing possible test outcomes:

- Null hypothesis: The null hypothesis stands unless rejected by the test
- Alternative Hypothesis: The alternative hypothesis stands if the null hypothesis is rejected

The logical purpose of the test is to evaluate whether the null hypothesis stands

For the ROC test, there are two possible choices for the Null Hypothesis:

- Differences in service quality do not exist
- Differences in service quality exist

2.2 What is the desired Confidence Level / Level of Significance?

The level of significance defines the magnitude of performance differences ("cutoff point" or "critical Z value") greater than which differences are considered statistically significant. Its

complement is identified as "α." in statistics (i.e., confidence level equals "one minus α"). Also, α represents the probability of a Type I error, or the chance of incorrectly finding that the alternative hypothesis is true. The significance level that is chosen determines the critical Z value. For the ROC OSS Collaborative the critical Z value will be applied to one-tailed tests. In the BANY 271 application, the level of significance was $\alpha = 0.05$.

2.3 Use Z or Modified Z?

The Z value is determined by a mathematical expression that incorporates the means being compared, the sample size (n) for each population of service provided, and the dispersion of the populations. The dispersion is called the "standard deviation," and also is calculated using a commonly recognized mathematical expression. The BANY test used a "Modified Z" in place of the regular Z familiar to statisticians. The Modified Z uses only the standard deviation from the population of service U S West provides to itself instead of including as well the standard deviation for the population for service provided to CLECs. The motive for this modification is to remove the temptation for a BOC to manipulate service to CLECs to produce an advantageous Z value.

2.4 What is the target Type II error level?

A Type II error is the chance of failing to reject the null hypothesis when in fact it should be rejected. It is typically referred to as 'β." In the case where the null hypothesis is that *differences in service quality do not exist*, the probability of Type II error may be estimated using an assumption about the "true" mean of the CLEC population. In the case where the null hypothesis is that *differences in service quality exist*, the probability of a Type II error may be estimated using an assumption about the "true" mean of the U S WEST population. Then a sample size that produces that Type II error level is determined.

2.5 How to account for non-normal distribution?

The preceding tests and values assume a normal population distribution. The underlying distribution in OSS Performance Measures may not be normal. For example, the distribution of values for some interval tests may have a steep leading edge and a long tail. This type of measure may conform more closely to a κ^2 (Chi-Squared) distribution than to a normal distribution. Other measure may conform more closely to a bi-modal distribution (or yet another distribution) than to a normal distribution. Statistical methods, equivalent to the calculation of the Modified Z for a normal distribution, exist for other distributions. Where the

nature of the distribution of test values is in question, the TA will test the population to determine its underlying distribution. Under the guidance of the ROC, the TA will chose the correct diagnostic tool for testing the null hypothesis.

2.6 How should sample size (n) be determined for each test?

Once the choices described in 2.2, 2.3, and 2.4 are made, the sample size can be selected if the distribution is assumed to be normal. If it is not, then distribution may have to be taken into account as well, or non-parametric statistical methods (e.g., permutation testing) could be used.

3. PROCESS FOR ANSWERING THE STATISTICAL POLICY QUESTIONS

It will be the responsibility of the TA to design and implement the statistical approach, based on the ROC's answers to the statistical policy questions. This section outlines the steps in a collaborative process that will assist the ROC in making those decisions.

During the March 14 workshop there will be a presentation and discussion of statistical methods. The presentation will be a continuation of the presentation given during the February 9 workshop, and will focus on factors that affect the Type II error and considerations in determining sample size.

Subsequent to the March 14 workshop, a Request for Comment regarding the statistical approach will be issued. Comments will be received and summarized in the customary manner, and will form the basis for an initial workshop on the statistical approach. This workshop will be conducted shortly after the selection of the TA.

The workshop will provide the ROC with the detailed information and reasoning required in order to make the six required statistical policy decisions. Once that statistical workshop(s) is completed, and the policy decisions have been made, the TA will provide a design of the statistical methodology. The design will be reviewed by the TAG, approved by the ROC and included in the Master Test Plan.

Appendix H: Test Overview Matrix

Test Name	Scenarios Used	Data Source	Interface Used	Process Area	PM Number	Performance Measure Name	Track for Functional Test	Evaluate for Functional Test	Track for Functional Test	Evaluate for Functional Test
			IMA-GUI	Gateway Availability	GA-1	Gateway Availability – IMA GUI	Y	Y	Y	Y
			IMA-EDI	Gateway Availability	GA-2	Gateway Availability – IMA EDI				
		Live CLEC	EB-TA	Gateway Availability	GA-3	Gateway Availability – EBTA				
		Live CLEC	EXACT	Gateway Availability	GA-4	Gateway Availability – EXACT				
POP Pre-Order Section 12		P-CLEC	IMA-GUI IMA-EDI Retail	Pre-Order	PO-1	Pre-Order/Order Response Times				
Flow-Through Section 13		P-CLEC		Pre-Order	PO-2	Electronic Flow-through				
Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.	Etc.

The TA will collaboratively build this matrix with input from the TAG and the ROC.

Master Test Plan

The Regional Oversight Committee (ROC) 3rd Party Test

Qwest
OSS Evaluation Project
Master Test Plan

Revised Release

Version 5.2

Submitted by:

KPMG Consulting

April 9, 2002

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1. Executive Overview

Execution of a Master Test Plan (MTP) based on the Test Requirements Document (TRD) will evaluate the operational readiness, performance and capability of Qwest to provide pre-ordering, ordering, provisioning, maintenance and repair (M&R) and billing Operation Support Systems (OSS) documentation, interfaces and functionality to competitive local exchange carriers (CLECs) within the 13 participating Regional Oversight Committee (ROC) states. KPMG Consulting, in its role as Test Administrator, used the TRD and its OSS testing experience to develop this formal MTP to review and evaluate Qwest's systems and processes.

The TRD was developed in a collaborative process initiated by the ROC. This process included state commission staff, Qwest, CLECs and other industry participants referred to as the ROC Technical Advisory Group (TAG).

KPMG Consulting further refined the scenarios, and will develop the test transaction mix and volume estimates with input from the TAG. KPMG Consulting developed this MTP to be reviewed by the TAG and approved by the ROC. The overall test is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces, and processes that will impact the ability of CLECs to enter the market in the Qwest region and provide local service to regional consumers at estimated production volumes.

In constructing the TRD and this MTP many factors were considered. They include the systems and processes to be tested, the measurement points and respective evaluation criteria, and the necessary conditions required to stage a successful, efficient, and objective test.

As Test Administrator, KPMG Consulting will ensure that all tests reflected in this plan are executed. Test results and evaluations will be provided to the ROC and TAG as the test progresses. At least one Interim Report, at approximately the mid-point of the test, possibly other interim reports, and a Final Report at test completion will be produced.

Through the ROC's extensive collaborative testing effort, the TRD and MTP, the following benefits should be realized:

- ROC Commission staff, Qwest and CLECs may eliminate duplicative work across states by determining a complementary set of OSS functionalities, performance measurements and methods to be used in the test.
- Increased administrative efficiency may result in time and cost savings for all participants.

2. Introduction

2.1 Background, Purpose and Objectives

The Telecommunications Act of 1996 (the Act) and related FCC orders require Qwest to provide just, reasonable and nondiscriminatory access to its operations support systems (OSS), to provide the documentation and support necessary for competitive local exchange carriers (CLECs) to access and use these systems, and to demonstrate that Qwest's systems are operationally ready. Deleted: 1

Compliance with these requirements should allow competitors to obtain pre-ordering information, submit service orders for resold services, UNE Platform and unbundled network elements (UNEs), submit trouble reports and obtain billing information pursuant to interconnection agreements and regulatory requirements at a level deemed to be nondiscriminatory when compared with Qwest's retail operations.

Qwest offers various systems, including both application-to-application interfaces and terminal-type/Web-based systems, which CLECs can use to access Qwest's OSS in order to perform these tasks. The ROC has retained KPMG Consulting to assist it with assessing whether Qwest is meeting these requirements.

The overall objective of this document is to provide a description of a comprehensive plan to test Qwest's OSSs, interfaces and processes. This MTP shall be the basis by which individual tests are developed and executed. The test results should help the ROC to determine whether Qwest's provision of access to OSS functionality enables and supports CLEC entry in the local market. To meet these objectives, KPMG Consulting developed a test plan that is intended to provide adequate breadth and depth to evaluate the entire CLEC/ILEC relationship under real world conditions.

2.2 *Principles and Scope*

Twenty principles dealing with the 3rd Party OSS Test and its scope were agreed upon in the ROC's Testing and Scoping Principles Workshop held in St. Paul, MN on December 2nd and 3rd, 1999. These principles (which can be found in section 3 of this document) are the guiding principles used to plan, conduct, evaluate and report on the ROC 3rd Party Test of Qwest's OSS. These principles are incorporated into the MTP and the test participants shall be guided by these principles in the development, execution, analysis and report of the test.

Following this philosophy and guided by these principles, this document describes the plan to evaluate Qwest's OSSs, interfaces and processes that enable CLECs to compete with Qwest for customers' local telephone service. In determining the breadth and depth of the test, all stages of the CLEC-ILEC relationship were considered. These include the following:

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- Establishing the relationship
- Performing daily operations
- Maintaining the relationship

Further, each of the standard service delivery methods that Qwest makes available to CLECs in the ROC states – resale, interconnection, UNE Platform (UNE-P), and unbundled network elements (UNE) – are included in the scope of the test.

This plan is divided into five key dimensions to organize and facilitate testing: Test Domains, Test Types, Test Processes, Test Scenarios and Evaluation Techniques. Within each of the test types, the methods and processes to be applied to measure Qwest's performance are described along with the specific points in the systems and processes where Qwest performance will be evaluated. The results of the test will be compared against service quality measures identified by the ROC for the purpose of this test, and other measures and criteria as deemed appropriate by the ROC.

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This plan also describes the development and application of scenarios used in the test types to evaluate Qwest's OSS and related support services. KPMG Consulting developed these scenarios to test the functionality of Qwest's pre-ordering, ordering and provisioning (POP); maintenance and repair (M&R); and billing systems. The scenarios were designed to depict real world situations that CLECs currently face or may face in the near future. The scenarios will be used to develop test cases that provide a detailed description of the transactions and introduce additional variables such as errors and supplements to further simulate real world transactions.

Military Style Test

This plan will adopt the military-style test philosophy, which suggests a "test until you pass" approach. This is to be in the best interest of all parties seeking an open, competitive market for all local services in the ROC states. An Observation and Exception process will be utilized to identify and manage resolution of potentially negative test findings. Details of these processes are discussed under separate cover.

2.3 Test Administration

Section 4 defines the organization, processes and communication framework that will govern the test activities outlined in this MTP. It describes the ROC approach to the testing effort, organizational entities, and their respective roles and responsibilities. It also outlines the communications processes for written communications, documents and meetings, both open and closed. Scheduling and tracking requirements are specified along with the issue resolution process.

2.4 Test Framework and Test Elements

In order to develop a comprehensive test of Qwest's OSS, interfaces, and processes, the test framework is defined in terms of a set of elements including the following:

- Qwest's OSS System Architecture
- Test Domains
- Parity standards, Benchmarks, Qualitative Evaluations and Comparisons
- Test Data
- Entrance and Exit Criteria
- Test Process Types and Individual Tests
- Inputs, Activities and Outputs for Specific Tests

2.5 OSS System Architecture

Section 6 provides an overview of Qwest's OSS System Architecture throughout the 13-state area covered by this test. By its nature, the ROC test is somewhat unique because it is the first independent 3rd party testing effort initiated by multiple jurisdictions that will oversee the effort from its formative stage through completion. The broad geographical reach of the test expands the OSS architecture breadth as well. Qwest's current operating territory, and therefore much of Deleted: 1

Qwest's OSS legacy architecture, is the result of the merging of three predecessor Bell Operating Companies into the Qwest Regional Bell Operating Company (RBOC), including:

- Pacific Northwest Bell (PNB) covering Washington and Oregon now referred to as the Western Region
- Mountain Bell (MB) covering Arizona, Colorado, Idaho, Montana, New Mexico, Utah and Wyoming, now the Central Region
- Northwestern Bell (NWB) covering Iowa, Minnesota, Nebraska, North Dakota, and South Dakota, now the Eastern Region

2.6 Performance Measures

The performance measures to be used in the 3rd party OSS test have been collaboratively developed by the TAG. Issue resolution activities resulting from the test may result in changes to the performance measures which will be agreed upon by the TAG.

2.6.1 Performance Measurement Components

OSS performance measurement plans designed to evaluate Incumbent Local Exchange Carrier (ILEC) performance include definitions of performance measures, success criteria, other standards, and reporting requirements. The performance measures quantify the ILEC's performance of wholesale and retail processes. They are defined in terms of purpose, rules used in collecting raw data required, reporting dimensions, calculation formula, etc. Success criteria are defined as either a benchmark or a retail parity standard. A benchmark is established to identify the point at which the ILEC's performance for a wholesale process is deemed adequate for those wholesale processes for which there is no appropriate retail analog. For those wholesale processes for which there is an analogous retail process, parity standards will be used. Parity standards indicate that the wholesale performance of a process should be compared to the ILEC's performance of retail processes. Parity standards require that the ILEC's retail or internal performance is compared to analogous wholesale performance measures to determine if there is nondiscriminatory treatment of wholesale services as required by the Act and orders of state commissions and the FCC.

2.6.2 Performance Measurements in the Context of the ROC's 3rd Party Test

Performance measurements will be a key element of the ROC test of Qwest's OSS. Since the ROC test is the first effort involving multiple state commissions and jurisdictions, it presents some unique challenges. Through a collaborative process, the ROC TAG has developed a comprehensive set of measurement definitions, called the "Qwest Service Performance Indicator Definitions (PID) ROC 271 Working PID" (Appendix B). This collaboration has included an unprecedented breadth and depth of participation from commission staff, CLEC, and Qwest representatives, with the purpose of achieving a beneficial and efficient degree of consistency across Qwest's local exchange operating region. When finalized, this PID will be the document that defines what is measured and how it is to be measured, for purposes of this OSS test.

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2.1.1 ROC's Planned Approach to Performance Measurements in its Qwest OSS Test

To support a comprehensive test of Qwest's OSS in a timely manner that includes a pre-approved performance measurement system, the ROC Steering Committee has developed the following concepts:

- The performance measurements, parity comparisons, benchmarks and statistical evaluation methods should be established in advance for use during the ROC test.
- The use of performance measurements and associated parity comparisons and benchmarks has been established for the 3rd party test vendor(s) to test and evaluate the systems as required to meet the needs of the ROC states for testing purposes.
- The ROC states will use the test results and evaluation as part of the record in their individual 271 proceedings.
- The ROC states are free to modify the performance measurements (either the set of measurements or the parities/benchmarks) on a going forward basis (irrespective of the 3rd party test) as required to meet their specific needs.
- The FCC has requested and Qwest has agreed that all performance measures agreed upon for the ROC test will be collected not only during the period of the OSS test, but post testing for individual state use until a 271 application for the individual state is submitted to the FCC, or unless otherwise noted in the PID.
- The measurements taken after completion of the ROC test will not be used to re-open retesting but may be used to support future filings. This does not preclude looking at such data to help review and/or close exceptions identified during the test.

2.2 Entrance and Exit Criteria

Entrance criteria are those requirements that must be met before individual tests can commence. Exit criteria are those requirements that must be met before the test can be concluded. Global exit criteria apply to every individual test except where noted otherwise. Individual tests each have individual entrance and exit criteria. Entrance and exit criteria link the test plan with Performance Measures. Entrance criteria generally require that Performance Measures are completely defined, available and operational, and audited by Liberty Consulting.

2.3 Test Processes and Test Types

The major test types are Transaction Driven Systems Analysis and Operational Analysis. The first introduces various types of transaction-oriented test data from various sources into Qwest OSS processes and observes the results. Operational analysis assesses aspects of the trading partner/Qwest business process that are not transaction driven.

3. Test Principles and Scope

The testing principles agreed to by the TAG and used as the guide for the development of the MTP are:

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1. This test is intended to evaluate whether Qwest provides nondiscriminatory access to its OSS for resold, unbundled network elements (UNEs), and interconnection services in order to demonstrate the operational readiness of these OSSs to support sustained commercial operation. As part of nondiscriminatory access, the test will evaluate whether Qwest has deployed the necessary systems and personnel to provide sufficient access to each of the required OSS functions including pre-order, order, provisioning, maintenance and repair, and billing. The test will include an evaluation of Qwest's adherence to telecom industry guidelines for OSS interfaces. It will also evaluate whether Qwest is adequately assisting competitive local exchange carriers (CLECs) to understand how to implement and use all of the OSS functions available to them.
2. An independent test administrator (KPMG Consulting), an independent pseudo-CLEC (Hewlett-Packard [HP]) and a performance measure auditor (Liberty Consulting), performing three separate and distinct roles, under the oversight of the ROC, will conduct the test.
3. The scope of this test will be designed and scaled to represent the environment of the 13 states to ensure their ability to use the results in individual state proceedings. Once regional and state differences in Qwest OSSs are fully understood, a determination will be made on what testing will most appropriately address the impact of the differences. The MTP will be modified as appropriate to address these regional and state differences.
4. The goal of all parties for the ROC test of Qwest's OSS is an open, above-board test environment where all information relating to the test is available to all parties, except information that is commercially sensitive, proprietary, or information that will impact the blindness of the test. To that end, KPMG Consulting will establish procedures governing communications affecting the planning, execution and evaluation of the test. These procedures will include regular, open meetings between KPMG Consulting, HP, the CLEC community and ROC representatives in a manner similar to the meetings held in the Bell Atlantic-New York test. Issue identification, research, resolution decisions, and other relevant items critical to the transparency of the test will be discussed and documented.
5. The ROC test will use guidelines established by the FCC and DOJ, and will draw on input from the ROC Steering Committee (ROCSC), individual state commissions, CLECs, Qwest, and other TAG members. The CLECs and Qwest should play an active role in developing performance measurements and success criteria. The ROC will ensure that the performance measurements and success criteria are reasonably complete prior to the start of the test.
6. The OSS access that Qwest provides for itself and to CLECs will be evaluated using both qualitative and quantitative methods.
7. This MTP has been developed with input from all ROC participants and will be approved by the ROC prior to any testing activity. The MTP has been designed to maintain adequate blindness with respect to Qwest. The performance measures will be developed as a document separate from this MTP and in a timeframe consistent with principle 5 above.

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- All documentation and assistance made available to HP by Qwest for use by HP in building and/or setting up the required OSS interfaces will be made available to all participants to verify that HP is not beinggiven special treatment.
- The test will include a thorough and well-documented independent assessment of data collection and calculation processes for performance measurement data – both qualitative evaluation and against business rules.
- The test will include an independent review of the Change Management processes and procedures used by Qwest to communicate with CLECs regarding OSS system performance and system updates. This review will include an evaluation of how CLEC suggestions and requests for system corrections, enhancements or new functionalities are handled. The test will evaluate at least one significant software release implementation. Any testing flaws applicable to production will be introduced into the Qwest/CLEC Change Management process, unless otherwise determined by the ROC.
- The test will include normal, high and stress volume testing using a replicate mix of expected flow through transactions that includes normal transactions and transactions with errors, changes and supplements. Scalability of manual processes and supporting hardware and software is to be evaluated in lieu of volume testing for manual processes.
- The test will include an evaluation of the adequacy of documentation and assistance provided by Qwest to CLECs for establishing, maintaining and using OSS interfaces. HP will be used to evaluate the ability of building, maintaining and using an EDI interface and setting up, maintaining and using a GUI interface. If a CLEC has built an Electronic Bonding Trouble Administration (EB-TA) interface for M&R and is willing to make it available[1] to HP, that interface can be used to evaluate Maintenance and Repair interface maintenance and use. If no CLEC has built an interface or none is willing to make it available, KPMG Consulting should use a HP-built EB-TA interface to test business rules and ability to process transactions. Regardless of whether a new or existing EB-TA interface will be used, the documentation and assistance provided by Qwest for EB-TA will be evaluated.
- The test will be conducted using transactions (e.g. pre-orders, orders and trouble reports) from a combination of existing CLECs and HP. Similar test cases will be run by both HP and a production CLEC that has completed interface verification with Qwest in order to validate the process under the oversight of KPMG Consulting.
- The test process will include a formal, predictable and public mechanism to communicate with CLECs and Qwest on issues related to the test. This mechanism will be managed by KPMG Consulting and overseen by the ROC.
- The test scope will include functional testing of pre-ordering, ordering, provisioning, maintenance and repair, and billing. The functionalities will include a replicate mix of normal inputs, electronic transactions, errors, changes, and supplements in both flow through and non-flow through provisioning, as appropriate, with CLECs consulted on the

[1] MCI WorldCom has built an EB-TA interface for M&R and is willing to make it available to Hewlett-Packard and KPMG Consulting. It is expected that MCI WorldCom's interface will be used for the test. Deleted: 1

determination of the mix. Functional testing will be conducted on an end-to-end basis that results in orders actually being provisioned, as applicable, as determined by the ROC.

16. The 3rd party test will test significant volumes of transactions for xDSL-capable loops and include a qualitative evaluation of pre-ordering functions including loop qualification.
17. Where possible, Qwest wholesale performance measurements will be compared with analogous performance measurements of Qwest's retail performance. Where this retail parity comparison is not possible, Qwest wholesale services will be compared to a fixed benchmark.
18. Testing will also include both qualitative and quantitative evaluation of the usability, capability and accessibility of Qwest wholesale OSS interfaces compared to Qwest retail OSS interfaces.
19. As testing progresses, the need to test or evaluate new products/services or delivery methods will be determined on an individual case basis as they are identified. Based on the associated facts, the new products/services or delivery methods will either be incorporated in the test or handled separately.
20. The ROC test will use military-style testing. This approach ensures that all significant exceptions will be tested until they are corrected and the relevant success criteria are met.

4. Test Administration

The audience for this document falls into two main categories:

1. Readers using this document during the testing process
2. Interested parties who have some stake in the result of the Qwest OSS evaluation and wish to have insight into the evaluation effort.

4.1 Organization and Responsibilities

The primary user of this document is KPMG Consulting in its role as test administrator. Others are the ROC state commissions, Qwest, the CLECs, HP, Liberty Consulting, Maxim Telecom Consulting Group (MTG), the Department of Justice (DOJ) and the Federal Communications Commission (FCC).

4.1.1 Regional Oversight Committee

The Regional Oversight Committee (ROC) membership is comprised of the 14 state public utility commissions serving the states in Qwest's operating territory. These include Arizona, Colorado, Iowa, Idaho, Minnesota, Montana, North Dakota, Nebraska, New Mexico, Oregon, South Dakota, Utah, Washington and Wyoming.

State commission participation in the collaborative test will be provided through four organizational entities established for this purpose: the Executive Committee, Steering Committee, Administrative Coordinator and Project Manager, MTG. The ROC is responsible for:

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- Providing overall project management of the end-to-end test planning, execution and evaluation effort
- Overseeing the overall test development and testing process
- Determining the overall testing scope and timeline
- Managing and resolving issues escalated from the testing process as required
- Reviewing any interim reports prepared by KPMG Consulting, HP or Liberty Consulting
- Reviewing and approving the Final Report(s) prepared by KPMG Consulting and HP
- Reviewing and approving the final audit report prepared by Liberty Consulting
- Communicating progress, status and issues to all interested parties.

4.1.2 Qwest

Qwest will use the MTP in conjunction with other documents to understand the testing framework in order to prepare its test bed. The MTP describes the requirements Qwest must satisfy to prepare for and execute the tests.

4.1.3 TAG

The ROC Technical Advisory Group (TAG) consists of state commission staff, competitive local exchange carrier (CLEC) representatives, Qwest and other industry members. The Technical Advisory Group will conduct regular meetings, generally weekly, either in-person or via teleconference call to inform all members of testing progress, review current status and identify and resolve issues. Additional special-purpose TAG meetings will also be held as needed to support the test planning, execution and evaluation process. The TAG will initially be chaired by the ROC Project Manager, MTG; however, that may change during the course of the testing effort as deemed appropriate by the ROC Steering Committee and TAG membership. TAG member responsibilities include:

- Providing inputs on order volume, interface usage, product information and test process
- Assisting with scenario definition
- Assisting with issue identification, resolution and, when necessary, escalation to the ROC
- Advising ROC on technical issues

4.1.4 CLECs

The CLECs will use this document to understand the breadth and depth of the test. In addition, this document describes the elements required of the CLECs to prepare for their role in the tests.

4.1.5 Test Administrator – KPMG Consulting

KPMG Consulting has overall responsibility for the management of the testing process described in this document. This document will be used by KPMG Consulting to guide the various parties involved in this testing effort.

4.1.6 Pseudo-CLEC – HP

HP will establish the capabilities, install facilities and connectivity for the EDI, GUI, EB-TA and manual OSS interfaces to Qwest as required to process the volume and mix of transactions for tests specified in the MTP and test specifications prepared by KPMG Consulting. The test activities of HP are primarily delineated in HP Consulting's Statement of Work for the Regional Oversight Committee and Qwest Corporation (see http://www.nrri.ohiostate.edu/uploads/vendors/hp_sow.pdf). Various other documents produced in connection with the ROC's OSS Testing effort support definition of the test activities of HP, in particular the ROC's Request for Proposal, TRD and clarification issued to vendor finalists dated 4-24-00. The descriptions of the testing and evaluation activities of HP as contained in these specified documents are hereby incorporated by reference. In general, the goal is to replicate as realistically as practical the responsibilities, behavior and experiences of a true CLEC attempting to do wholesale business with Qwest in the portion of its operating territory represented by the thirteen participating states of the ROC. HP will attempt to re-create the CLEC experience to the fullest extent feasible as described in the TRD.

4.1.7 Performance Measure Auditor (PMA) – Liberty Consulting

Liberty Consulting will use this document to develop and perform an audit to insure that all aspects of Qwest's wholesale performance measures and retail parity standards are sound and in compliance with the collaboratively developed ROC PID.

4.1.8 Federal Communications Commission (FCC)

The Federal Communications Commission may observe the process of developing, conducting and evaluating the tests.

4.1.9 Department of Justice (DOJ)

The Department of Justice may observe the process of developing, conducting and evaluating the tests.

4.2 Assumptions

This section describes the assumptions made in the development of this Test Plan.

- Qwest, KPMG Consulting, HP and Liberty Consulting will provide suitable resources in sufficient numbers to assist with the evaluation effort.
- Qwest will provide access to appropriate documentation.
- Qwest will provide the necessary resources, facilities and support to set up the work environment and the test bed required to execute the tests (i.e., office space, equipment, IDs, security access, customer accounts and addresses, and appropriate company codes).
- Qwest will process test transactions as part of normal processing including the provisioning of some scenarios/test cases.
- Qwest will provide the test bed facilities required to establish the working lines needed for portions of this test.

- One or more CLECs will volunteer to participate and provide facilities required to execute those scenarios necessitating CLEC participation.
- Qwest and the CLECs will allow KPMG Consulting to observe retail and wholesale processes on-site during the evaluation effort.
- Qwest and the CLECs will give KPMG Consulting access to historical data and current operational reports, as needed, to complete the evaluation.
- Qwest will allow KPMG Consulting to inspect algorithms that may have a bearing on parity access, such as the algorithm used to manage trouble reports.
- KPMG Consulting, HP, Liberty Consulting and any subcontractors will use documentation generally available to the CLECs and support mechanisms to develop its interfaces.
- Regulatory, legal and confidentiality issues or concerns can be resolved without significant impact to either the intent of the tests, the ability to execute the tests, or the schedules for their execution.
- The test will be designed to not impair or impede service to customers during its planning and execution stages.

4.3 Limitations

The purpose of this section is to describe some limitations of the testing effort. These limitations are described in terms of what is to be tested and what conclusions can be drawn from the results.

- In some cases, certain order types, troubles and processes may not be practically tested by submitting transactions during a test of reasonable duration. Examples include orders with very long interval periods (such as the establishment of collocation arrangements) and high volumes of test provisioning transactions. Accordingly, the test may take the form of an interview, inspection, live orders review, review of historical performance or operational reports, or some other method that will capture the performance of Qwest with respect to the order types and processes in question. Detail Test Plans will identify the tests that can be executed live and those that must be executed by other means. Long interval tests that prove to have no alternative test methods that foreshorten the test will be referred, with a recommendation for disposition, to the ROC. The ROC will make the final decision regarding the disposition of such tests.
- Operational, time and resource constraints make it impossible to construct a completely exhaustive test suite. Significant effort has been expended to clearly portray the scope of the proposed suite, and it is believed this suite provides both extensive and sufficient coverage. Provision has been made in the plan to amend or extend the test if, in the judgment of the ROC, an amendment or extension is deemed justifiable.
- It is neither practical, nor desirable to execute certain live tests that would disrupt service to Qwest or CLEC customers. An example would be a Maintenance and Repair test that requires an equipment failure. Qwest performance for these test cases will be evaluated Deleted: 1

by other means. The Test Type Evaluation Plans will identify the tests that can be executed live and those that must be executed by other means.

- Limitations to the volume tests as described in section 15.

4.4 Written Communications and Documents

KPMG Consulting shall be responsible for:

- Providing overall communications management within the testing period
- Maintaining daily contact with HP and other participants
- Maintaining close contact with the ROC and the TAG
- Responding to test-related issues and concerns raised by individual state Commissioners or state Staff Members
- Maintaining an electronic contact list (e.g., subject matter experts, escalation) for each test participant, the TAG, and the ROC
- Posting material on the ROC OSS Web site
- Distributing exception reports and soliciting comments on the exceptions from Qwest and the CLECs
- Distributing test management jeopardy reports, as defined in section 4.12, to the appropriate audience as determined by KPMG Consulting
- Maintaining data used to execute the test of Qwest's OSS including the test data base provided at the beginning of the test, the transaction files generated and used during the tests to convey CLEC-to-Qwest and Qwest-to-CLEC transactions over the interfaces, and printed documents related to test processing not otherwise retained in electronic form.

4.5 Principles Governing Written Communications

There are competing forces that must be balanced in determining the principles governing written communications. On one hand, an open communications process is important to maintain both the perception and actuality of a credible test. On the other hand, there are instances where the blindness of Qwest with regard to some aspects of the tests is also critical.

4.6 Formal Documents

Formal documents shall be assumed to be open and available unless:

- They are internal to an entity;
- They contain un-redacted proprietary information; or
- Their distribution would compromise the blindness of the test

Documents that were not made public during the test in order to preserve blindness shall be made available to all participants at the conclusion of the test, and prior to KPMG Consulting's drafting of the Final Report. Documents not made public during the test because they were internal documents or contained proprietary information need not be made available at the

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conclusion of the test. Disputes regarding whether or not a document should be considered proprietary will be settled by the ROC.

4.7 ROC Web Site

The ROC has established a Web site for this test (http://www.nrri.ohio-state.edu/oss.htm). Formal written communications shall be placed on this Web site unless they meet one or more of the previously agreed to criteria. A posting procedure is in place and will be followed by the vendors.

4.8 Informal Communications

Informal communications, such as emails between subject matter experts discussing technical details of an aspect of the test, shall not be posted or otherwise made available unless they become germane to a dispute and are requested by the ROC Executive Committee. KPMG Consulting, Liberty Consulting and HP shall maintain electronic versions of informal communications for a period of one year after the conclusion of the test.

4.9 Management and Administration of the MTP

Once the MTP and PID have been approved by the ROC, the management and administration of the MTP and the PID shall be the responsibility of KPMG Consulting. The ROC Project Manager will work with the TAG and KPMG Consulting to establish a Change Control Process that governs how changes to the MTP are proposed, discussed and implemented. Changes to the MTP and the PID shall be communicated in a timely and open manner to all parties concerned unless the changes contain information that might compromise the blindness of the test. In this case, the changes shall be communicated to all concerned parties except for Qwest. KPMG Consulting shall also establish, publish, and adhere to a rigorous version control process for the MTP, the PID and associated documentation. For relevant documentation, all vendors will use a document control section similar to that shown in Appendix A.

4.10 Meetings

4.10.1 Purpose

Beginning with the 3rd party test of Bell Atlantic-New York's OSS, striking the appropriate balance between an open and transparent testing process and blindness to preserve the realism and integrity of the test has been an important consideration in the conduct of 3rd party tests.

Blindness, for the purpose of this Test, extends beyond keeping the identity of the P-CLEC from Qwest. Blindness is the withholding from certain parties to the test of specific test information in order to protect vendor property, to maintain fairness in reporting test results, or to preserve the veracity of the test. This may result in CLECs and/or Qwest being excluded from meetings or other communications.

The following figure provides a structure that can foster openness except where blindness is required.

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Figure 4.10.1.1

	Qwest	CLECs	KPMG Consulting	HP
[illegible]	[illegible]	Generally Open Announced Open Conference Bridge Notes on Web Closed to Qwest as Appropriate for Blindness Openly Announced Restricted Conference Bridge Notes to ROC Published after Project	Generally Open Announced Open Conference Bridge Notes on Web Closed to Qwest as Appropriate for Blindness Openly Announced Restricted Conference Bridge Notes to ROC Published after Project	Generally Open Announced Open Conference Bridge Notes on Web Closed to Qwest as Appropriate for Blindness Openly Announced Restricted Conference Bridge Notes to ROC Published after Project
[illegible]	[illegible]	Generally Open Announced Open Conference Bridge Notes on Web	Generally Open Announced Open Conference Bridge Notes on Web Closed to Qwest as Appropriate for Blindness Openly Announced Restricted Conference Bridge Notes to ROC Published after Project	Generally Open Announced Open Conference Bridge Notes on Web Closed to Qwest as Appropriate for Blindness Openly Announced Restricted Conference Bridge Notes to ROC Published after Project
[illegible]	[illegible]	[illegible]	[illegible]	Generally Open Announced Closed to Qwest as Appropriate for Blindness Restricted Conference Bridge Notes to ROC Published after Project

Liberty Consulting is not included in the above table because openness/blindness principles do not apply to Liberty Consulting. Liberty Consulting is required to exercise its independent judgment in conducting its audit of the performance measures and inform the ROC and TAG of progress and findings.

4.10.2 General Principles

Meetings will be open unless specifically closed for purposes of blindness.

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4.10.3 Open Meetings

The following guidelines will apply to open meetings:

- A meeting announcement and agenda will be posted on the ROC web site
- An open conference bridge will be made available, with the dial in number and pass code provided in the meeting announcement
- Meeting notes will be posted on the ROC web site

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These guidelines are generally intended to apply to all contacts between Qwest and KPMG Consulting, and Qwest and HP. At the same time, it is expected that Qwest will have incidental contact with KPMG Consulting and/or HP before and during the testing process. These guidelines are not intended to be rigidly applied to incidental contacts between Qwest and KPMG Consulting, or Qwest and HP.

4.10.4 Meetings Closed to Qwest to Preserve Blindness

The following guidelines will apply to meetings closed for purposes of blindness:

- A meeting announcement will be posted on the ROC web site
- A restricted conference bridge line will be made available, with the dial in number and pass code provided via email
- Meeting notes will be archived
- ROC MTG may monitor any meeting
- Meeting notes will be published following the completion of testing and prior to the drafting of the Final Report

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4.11 Scheduling and Tracking

The ROC Project Manager, MTG, will maintain a high-level project plan for the ROC's overall 3rd party testing endeavor that covers the initial formation of the ROC 3rd Party Testing Organization through the delivery of KPMG Consulting's Final Report to the ROC.

4.12 Operational Reporting

KPMG Consulting will prepare and deliver operational reports of five types to the ROC Project Manager (MTG) and the TAG. These include:

- **Weekly Operational Report** - Overall progress reports will be provided weekly that describe the status on all major milestones and identify new issues requiring resolution.
- **Daily Report** - Detailed status reports on specific transaction tests including potential areas of concern and technical issues.
- **Issue Tracking Report** – Description of the nature of an issue, issue status, action items, responsibility and schedule for resolution.
- **Jeopardy Reports** – Issued when an event causes impact on the project's goals and expectations (such as the schedule) as defined in this MTP.

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- **Observation and Exception Reports** – Description of observation and exceptions to the expected outcomes and other conditions encountered during testing are documented by KPMG Consulting, HP, or Liberty Consulting in exception and observation reports which are posted on the web site.

4.13 Issue Resolution

The Issue Resolution process handles any issues which are not addressed in the Observation and Exception process. The Issue Resolution process consists of five steps designed to embrace the open and collaborative spirit of the test, promote timely and reasonable remedies and provide a final decision on contested issues, as required. The steps are:

1. Test participants refer all testing issues to KPMG Consulting for inclusion in the issue resolution process.
2. KPMG Consulting provides the first level of issue management for all testing related issues including the assignment of accountabilities, action plan, tracking, reporting and escalation. KPMG Consulting will enlist the assistance of Qwest, CLECs, HP, and the TAG as required to resolve the issue.
3. If the issue is not resolved in the collaborative process, it may be decided by MTG on behalf of the ROC Steering Committee.
4. If an issue is of sufficient magnitude and/or contention as to warrant broader debate and decision participation to ensure the results are compatible with ROC goals, it will be referred by MTG to the ROC Steering Committee for consideration. The referral will include a description of the issue, alternative positions regarding the issue and a preliminary recommendation. Other test participants may participate in the discussion/debate as deemed appropriate by the ROC Steering Committee.
5. If the issue is not resolved by a decision at the Steering Committee level, it will be referred to the ROC Executive Committee for final resolution. Once a resolution is determined, it will be communicated to all testing participants, included in the issues report and implemented in the testing process.

5. Test Plan Framework and Test Elements

The overall test of Qwest's OSS is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces, and processes that fall within the scope of the testing effort. In constructing this MTP, many factors were considered, including the systems and processes to be tested, the measurement points and respective evaluation criteria, and the necessary conditions required to stage a successful, efficient, and objective test.

In order to develop a comprehensive, complete, and thorough test of Qwest's OSS systems, interfaces, and processes, the MTP framework is defined in terms of a set of elements including the following:

- Parity Standards, Benchmarks, Qualitative Evaluations and Comparisons
- Test Domains
- Test Types

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- Test Processes
- Evaluation Techniques

The *test domains* provide a functional classification of the systems and processes to be tested. The *test types* organize the types of tests to be performed on the systems and processes. The *test processes* define the techniques, measures, inputs, activities and outputs of each component test. The *test scenarios* provide the contextual basis for testing by defining the transactions, products and other variables that must be considered and included during portions of the testing. *Evaluation techniques* serve as the basis for evaluation by defining the norms against which test results are compared.

The test framework and test elements are introduced at a high level in this section. In the remainder of the document, each test element will be described to the extent required to form a comprehensive and detailed set of testing requirements that will govern the conduct of the test. Based on these requirements, KPMG Consulting will create detailed test specifications.

5.1 Parity Standards, Benchmarks, Qualitative Evaluations and Comparisons

The specific parity standards, benchmarks and other performance indicators used in this test have been developed in detail and agreed upon through a collaborative process including performance measurement workshops. Parity standards and benchmarks have been established consistent with those generally accepted within the Telecom industry and are designed to ensure compliance. When appropriate, actual performance measurement data will be taken during the test and compared to the parity standards and benchmarks.

5.2 Test Domains

The areas subject to testing exist in four domains that correspond to major business functions performed by a telecommunications carrier:

- Pre-order, Order, and Provisioning (POP)
- Maintenance and Repair (M&R)
- Billing
- Relationship Management and Infrastructure

These four domains correspond to four respective business functions that comprise the Qwest/CLEC relationship. The domains are useful in defining the areas to be tested and the specific tests to be conducted.

5.2.1 Pre-order, Order, and Provisioning Domain

This domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for pre-ordering, ordering, and provisioning activities for resale, interconnection, and UNE-Platform services and unbundled network elements. The purposes of the POP tests are to evaluate the functionality and performance of Qwest's wholesale systems and procedures; to evaluate compliance with prescribed performance measures, and to provide a basis for comparing this operational area to parallel systems and processes supporting Qwest's retail operations. Deleted: 1

5.2.2 Maintenance and Repair Domain

This domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for wholesale maintenance and repair activities. Tests associated with this domain provide a basis for comparing this operational area to parallel systems and processes supporting Qwest's retail operations.

5.2.3 Billing Domain

This domain is comprised of the systems, processes and other operational elements associated with Qwest's support for wholesale billing. Tests associated with this domain are designed to evaluate Qwest's compliance to measurement agreements and to ensure adherence to sound management practices.

5.2.4 Relationship Management & Infrastructure Domain

This domain is comprised of the systems, processes and other operational support elements associated with establishing and maintaining business relationships with the CLECs. Included in this domain are the network provisioning activities that must be jointly performed by Qwest and the CLEC in order to build the CLEC network that supports the CLECs business.

5.3 Test Types and Test Processes

5.3.1 Transaction Driven System Analysis

Tests utilizing transaction-driven system analysis rely on initiation of transactions, tracking of transaction progress, and analysis of transaction completion results to evaluate a system under test. Transaction-driven system analysis requires defining several key facets of testing, including the data sources (e.g., CLEC live data, Qwest historical data), the system components under test (e.g., application-to-application interfaces, graphical user interfaces), and volumes (e.g., normal, stress) and related performance measures.

One element of transaction driven systems analysis is a structured assessment of the overall quality of the results of the execution of test scenarios.

The transactions, or test instances, used in each transaction-driven system analysis test will be derived from higher level sets of transaction templates called test cases, which in turn have been developed from test scenarios.

Tests that employ Transaction Driven Systems Analysis as the primary test process include, but are not limited to, the following:

- Section 12: Evaluation of POP Functionality and Performance Versus Parity standards and Benchmarks
- Section 13: Order Flow Through Evaluation
- Section 14: Provisioning Evaluation
- Section 15: POP Volume Performance Test
- Section 16: CEMR Trouble Functional Evaluation

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- Section 17: MEDIACC (EB-TA) M&R Trouble Functional & Performance Evaluation
- Section 18: M&R End to End Trouble Report Processing
- Section 19: Billing Usage Functional Evaluation
- Section 20: Carrier Bill Functional Evaluation

5.3.3 *Operational Analysis*

Tests utilizing operational analysis focus on the form, structure, and content of the business process under study. This test method will be used to evaluate day-to-day operations and operational management practices, including procedural development and procedural change management. Operational analysis validates and verifies the results of a process to determine that the process functions correctly according to documentation and expectations. Tests that employ Operational Analysis as the primary test process include, but are not limited to, the following:

- Section 5: Evaluation of Qwest's Wholesale Performance Measurement Process
- Section 9: Evaluation of Qwest's Parity Standards Calculation Process
- Section 10: Evaluation of Qwest's Order and Transaction Creation Documentation
- Section 22: CLEC Network Provisioning Test
- Section 23: Change Management Test
- Section 24: Qwest CLEC Support Processes & Procedures Review

5.3.4 *HP Transaction Generator*

HP provides the capability to generate the full suite of real world test instances by submitting transactions via Qwest's wholesale transaction interfaces and collecting information about the response times, intervals and other compliance measures.

HP will also generate and submit the required number of transactions to test the expected normal and stress volumes, ensure the processing of the full breadth of transactions during the test period and repeat test cases in the required volumes in a controlled test environment. A work center will be established to provide for interactive processing, such as handling errors, exceptions and re-submittals. This work center will also submit manual transactions to Qwest and await responses.

Further, HP will be required to document its ability to build, test and place in operation the functionality required to successfully process transactions utilizing Qwest's documentation, account management, help desk and training support.

5.3.5 *CLEC Involvement in Transaction Testing*

CLECs operating in the ROC states will be asked to volunteer to participate in certain portions of this test. The inclusion of selected CLEC live transactions provides an alternative test method for transactions which may not be practical to provide through HP, and further facilitates a more realistic depiction of real world production. CLEC participation will also be solicited to execute real test cases (e.g. EB-TA) during the test period.

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Use of CLEC live transactions allows for an element of blind testing and tracking performance in a real world environment. It also provides a means to help control for "test bias." Use of these transactions will require extensive participation by KPMG Consulting to observe the execution of the transactions in order to measure, audit, inspect and monitor progress and report results or otherwise verify and validate the observed results.

Additionally, some of the transaction types submitted by HP can only be properly executed with direct involvement from the CLECs. One category of such tests is those that include complex transactions involving physical CLEC facilities. For example, UNE orders involving LNP require a physical switch and an operational CLEC in order to be fully completed.

Further, there are instances where re-progress transactions cannot be obtained, or are not practical to execute, in a test environment. These will be evaluated utilizing observations of CLEC personnel actively where possible.

The successful execution of those portions of the test requiring CLEC participation is dependent on the extent of that participation. KPMG Consulting will meet with those CLECs who volunteer to participate to mutually agree on the nature and extent of the participation.

5.4 Evaluation Techniques

Each test relies on one or more techniques to collect and record measurements and analyze the results. The five types of techniques defined for this test are described in the chart below.

Table 5.4.1 Evaluation Techniques

Test Element	Description
Transaction Generation	Transaction generation is the use of live, historical and/or generated data that is executed through the system under review. The results of this test are evaluated for quality.
Data Review	Review and analysis of historical data, reports, metrics and other information in order to assess the effectiveness of a particular system or business function. This includes performance measurement reports and other management reports.
Observation	Physical review of process activities and products including site visits, walk-throughs, read-throughs and work center observations.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
Document Review	Compilation and review of books, manuals and other publications related to the process and system under study.

6 Qwest OSS System Architecture

6.1 Overview

Qwest states that it has developed uniform CLEC-facing OSS interfaces in support of its wholesale services business line. These uniform interfaces support Pre-Ordering, Ordering and Maintenance and Repair transactions initiated by CLECs across all of the 13 states participating in the KPMG 3rd Party Test. Behind the uniform CLEC-facing interfaces are downstream OSS applications that may vary somewhat by region and state, depending on the specific application. Deleted: 1

An overview of the uniform CLEC-facing interfaces, and known regional and state variations to downstream OSS applications, can be found in Appendix F.

7. Global Exit Criteria

Exit criteria are the requirements that must be met before the tests defined in the Test Plan can be concluded. Exit criteria pertaining to specific tests are listed in respective test sections.

1. **All required test activities have been completed.**

   For each test, all fact finding and analysis activities must be completed to the satisfaction of the ROC. All results and test methodologies have been documented.

2. **Military testing has been successfully completed.**

   Tests have met success criteria. Tests not meeting success criteria have been retested in accordance with the Observation and Exception processes detailed in a separate document.

3. **All change control, verification and confirmation steps have been completed.**

   The results of test activities must be documented and reviewed for accuracy. Any results that require clarification or follow-up are confirmed.

4. **All specific test issues have been closed/resolved or declared at impasse for referral to the ROC.**

   Issues that have been recorded and tracked throughout the conduct of a specific test must be closed or resolved with sufficient documentation that describes the means employed to close or resolve each issue. Any issues that are identified as being at impasse between the parties will be referred to the ROC by KPMG Consulting.

In addition to these global exit criteria, test-specific exit criteria, where applicable, are defined within each test. Participants may elect to escalate test issues declared at impasse to the ROC issues resolution process described in Section 4.7.

Table 7.1 Global Exit Criteria

Criteria	Responsible Party
All required test activities have been completed	KPMG Consulting
Military testing has been completed	KPMG Consulting
All change control, verification, and confirmation steps have been completed	KPMG Consulting
All specific test issues have been closed resolved or declared at impasse	KPMG Consulting

8. Evaluation of Qwest's Wholesale Performance Measurement Processes

8.1 Description

Performance measurements are the yardsticks or standards to which Qwest OSS performance is compared. There are four primary types of quantitative performance measures.

- Parity measurements
- Benchmarks measurements
- Diagnostic measurements
- Parity-by-design measurements

A parity measurement is a yardstick that is calculated through measurement of a particular aspect of access to, functionality and performance of Qwest's OSS in support of its wholesale CLEC and retail operations. Parity measurements are identified in the PID with the word, "parity," in the "standard" box of the definitions of the measurements. Where analogous processes (or agreed-upon proxies) exist between Qwest's retail operations and their wholesale CLEC operations the two processes are compared to the parity of treatment between the two. A typical example where parity measurements are defined is the comparison of performance between Qwest's installation of a new retail customer and Qwest's "installation" of a CLEC's resale customer. The calculation of parity measurements results is accomplished through a formalized and controlled process (See Section 9). Because natural randomness is inherent in any performance, statistical methods (defined in Appendix G) are used to distinguish differences that are significant enough to not be explained merely by randomness. Parity measurements are the only category in which statistical methods are used.

A benchmark measurement is a yardstick that is calculated and compared directly with a fixed level of performance (percentage or interval). In setting the benchmarks, the parties took into account the agreement that statistical methods would not be employed in comparing performance to benchmarks. Generally, benchmark measurements are used where there are no analogous operations that can be compared between Qwest's retail and wholesale operations. For example, there is currently no identifiable retail analog for the Firm Order Confirmation (FOC) interval measurement. In these cases, a quantitative benchmark is used to set a threshold for performance where a numerical range of values is possible.

Quantitative performance measurements, both parity measurements and fixed benchmark measurements, to be used in the 3rd party OSS test have been collaboratively developed. The process began with a straw-man proposal provided to the TAG for comment in December, 1999. The comments were discussed in the ROC's Performance Measurements Workshop held in Salt Lake City, UT on January 19-21, 2000. Issue resolution activities resulting from the workshop along with amendments, additions and deletions to the performance measurement plan continue in subsequent collaborative forums. The primary document that describes quantitative performance measurements, the retail analog (for parity measurements), the numeric value (for fixed benchmarks), the calculation method, scope, restrictions, etc. is the ROC OSS Test PID. (See Appendix B.)

Once quantitative performance measurements are finalized via the collaborative process referenced above, and the quantitative performance measurement process has been validated, the measurements will be used to judge the performance levels resulting from the conduct of the various tests. Quantitative performance measurements are used predominantly, but not exclusively, in judging the results of transaction driven tests. The Qwest systems and processes comprising the validated process will be identified by release and version.

While benchmark and parity measurements both have the same basic function—they are yardsticks to measure the performance of Qwest OSS during the test—they are calculated differently. Fixed benchmarks, as established in the PID, are static throughout the test. Parity measurements use retail operations performance as the standard to be met. In order to provide a valid yardstick for the wholesale operations performance that they are to measure, wholesale and retail performance measurements must be derived contemporaneously.

In addition to parity and benchmark measurements, there are also diagnostic and parity-by-design measurements, for which no standards are set. These are designed primarily for data gathering only. Diagnostic measurements are identified in the PID with the word "diagnostic" in the "standard" box of applicable measurement definitions. Results from diagnostic measurements are used, where useful, in understanding the context of parity or benchmark measurements. Parity-by-design measurements are identified in the "standard" box of applicable measurement definitions with the words, "parity by design." Validation that parity does or does not exist in the processes underlying parity-by-design measurements is one of the objectives of the test, and issues therewith will be handled through the observation and exception processes discussed under separate cover.

Qualitative benchmarks set a threshold for performance where a range of qualitative values is possible. For example, an evaluation of the scalability of a process or evaluation of a support organization is qualitative by nature, and such an evaluation would be based on whether the process or organization contributes to a meaningful opportunity to compete.

Existence criteria are those where only two possible test results exist. For example documentation defining daily billing feeds either exists or does not exist.

8.2 Objectives

Rigorous, scientific measurement of any process, quantity, etc. requires that the measurement processes, standards and yardsticks themselves be validated in a rigorous, scientific manner. The objectives of the Performance Measurement Audit are to:

- Validate that all aspects of Qwest's processes, procedures, business rules, calculation methods, etc. used in measuring wholesale operations processes are valid and that Qwest personnel adhere to those processes
- Provide a qualitative assessment of the process for developing wholesale and retail measurements
- Provide a verification that parity-by-design measurements are indeed at parity due to the design of the data or traffic delivery process – including DB-1, DB-2, DA-1, DA-2, OS-1, OS-2, and others as identified in the final PID agreed upon for use in testing Deleted: 1

- Verify that the Interconnect Mediated Access Response Time Measurement (IRTM) application that is used by Qwest to measure pre-order query response times (ROC PID PO-1) for both CLEC and retail queries produces results that are accurate and consistent with results seen by actual CLEC and Qwest customer service representatives.

8.3 Entrance Criteria

Table 8.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
Pass/retest criteria have been identified	ROC, Liberty Consulting
Performance measurement documentation (PID) has been approved	ROC
Qwest wholesale performance measurement processes, systems and software are complete and available for inspection and testing	Qwest
Product descriptions and business rules for all performance measurements to be evaluated are available	Qwest
Interview guides are available	Liberty Consulting
Qwest subject matter experts to be interviewed are projected to be available	Qwest

8.4 Test Scope

All aspects of the wholesale performance measurement process, and all of the performance measurements described in the PID are within the scope of this test.

8.5 Test Scenarios

None

8.6 Test Approach

8.6.1 Inputs

1. Performance measurement definitions / PID
2. Product descriptions and business rules for all performance measurements to be evaluated
3. Description of wholesale performance measurement architecture, processes, systems, reports, etc.
4. Interview Guides
5. At least two months raw performance data (transaction specific results data before any exceptions or exclusions are applied by Qwest)
6. Qwest performance results reports

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8.6.2 Activities

1. Prepare performance measurement process and system evaluation framework and plan
2. Validate framework and plan with TAG
3. Identify subject matter experts and schedule interviews
4. Conduct interviews
5. Evaluate the process design for measurements identified as "parity by design"
6. Conduct the Evaluation, to include:
   - Assess data collection process and system architecture
   - Evaluate data collection operations
   - Review calculation of performance measurements
   - Independently calculate results, using data provided by Qwest
   - Analyze interview results
   - Independently calculate the appropriate statistics for the performance measurement evaluation
   - Comparison with the same statistics as computed by Qwest
7. Identify observations and exceptions in accordance with established guidelines
8. Recommend approach to clearing exceptions
9. Verify that exceptions are cleared
10. Define monitoring plan
11. Write Final Report

8.6.3 Outputs

1. Performance measurement evaluation framework and plan
2. Observation and Exception reports
3. Monitoring plan
4. Final report

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8.7 Exit Criteria

Table 8.7.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7
All Observations and Exceptions cleared	ROC, Liberty Consulting
Monitoring plan is complete	Liberty Consulting, TAG
Final report is complete	Liberty Consulting, TAG

9.0 Evaluation of Qwest's Retail Parity Measurements Calculation Process

9.1 Description

Unlike fixed benchmarks, which are numerical values that are set by collaborative agreement, parity measurements are derived through Qwest's measurement of its own retail processes, for comparison with the same measurement applied to its wholesale processes. This section describes a process whereby Liberty Consulting verifies that the retail analogues established in the PID for parity measurements do, in fact, represent the actual access, functionality and performance characteristics of Qwest's OSS in support of its own retail operation.

9.2 Objectives

Parity standards are measures or yardsticks that are established through Qwest's measurement of its own retail processes. The objective of this test is to validate that all aspects of Qwest's process procedures, business rules, calculation methods, etc. used to establish the numerical values of the retail analogues established for parity measurements, as defined in the PID, are valid and that Qwest personnel are following those processes.

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9.3 Entrance Criteria

Table 9.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
Pass/fail criteria have been identified	ROC, Liberty Consulting
Performance measurement documentation (PID) has been approved	ROC
Qwest retail performance measurement processes, systems and software are complete and available for inspection and testing	Qwest
Product descriptions and business rules for all retail measures to be evaluated are available	Qwest
Interview guides are available	Liberty Consulting
Qwest subject matter experts to be interviewed are projected to be available	Qwest

9.4 Test Scope

All aspects of the retail and wholesale performance measurement process and all of the parity measurements described in the PID are within the scope of this test.

9.5 Scenarios

None.

9.6 Test Approach

9.6.1 Inputs

1. Performance measurements / PID and associated documents
2. Product descriptions and business rules for all parity measurements to be evaluated
3. Description of retail performance measurement architecture, processes, systems, reports, etc.
4. Interview guides
5. Raw performance data (transaction specific results data before any exceptions or exclusions are applied by Qwest)
6. Qwest performance results reports

9.6.2 Activities

1. Prepare parity measurements calculation process and system evaluation framework and plan
2. Validate framework and plan with TAG
3. Identify subject matter experts and schedule interviews
4. Conduct interviews

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5. Conduct the Evaluation, to include:
   - Assess data collection process and system architecture
   - Evaluate data collection operations
   - Review the calculation of performance measurements
   - Validate that consistency exists between the business rules for calculation and the actual processes the systems use to perform the calculations
   - Analyze interview results
   - Independently calculate results, using data provided by Qwest
   - Independently calculate the appropriate statistics for parity measurements evaluation
   - Compare with the same statistics as computed by Qwest
6. Identify Observations and Exceptions in accordance with the established guidelines
7. Recommend approach to clearing Exceptions
8. Verify that Observations and Exceptions are cleared
9. Define monitoring plan
10. Write final report

9.6.3 *Outputs*

1. Parity measurement evaluation framework and plan
2. Observation and Exception reports
3. Monitoring plan
4. Final report

9.7 *Exit Criteria*

Table 9.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*
All Observations and Exceptions cleared	*Liberty Consulting, TAG*
Monitoring plan is complete	*Liberty Consulting, TAG*
Final report is complete	*Liberty Consulting, TAG*

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10. Evaluation of Qwest's Order and Transaction Creation Documentation and Maintenance

10.1 Description

This evaluation is designed to evaluate the guidelines and business rules documentation available to the CLEC community to instruct them on how to prepare the forms and other documents required to submit orders and other transactions to Qwest's OSSs. Principles 8 and 12 will be applied in the evaluation of documentation available to CLECs for the creation of orders and transactions.

It evaluates the documentation created for manual as well as electronic transactions. This documentation is used by CLECs to prepare the necessary forms and other documents to submit/receive transactions via interfaces such as Qwest's IMA GUI interfaces, application-to-application interfaces and data transfer interfaces for the following activities:

- Pre-ordering
- Ordering
- Provisioning

This test will rely on checklists and inspections.

10.2 Objectives

The objectives of this test are:

- To verify that all orders and transactions to be submitted to Qwest via GUI and EDI interfaces, and those capabilities provided via manual interfaces rather than electronically, can be created using documentation and assistance provided by Qwest.

10.3 Entrance Criteria

Table 10.3.1 Entrance Criteria

Criteria	***Responsible Party***
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/fail test criteria have been identified	*ROC, KPMG Consulting*
Pre-ordering, ordering and provisioning transactions and related transaction documentation available	*Qwest*
Process evaluation checklist is available	*HP*

10.4 Approach

This test will be a qualitative test of methods and procedures, practices, and documentation available to CLECs to develop orders and transactions to be sent to Qwest's OSS across GUI and EDI, as well as manual, interfaces. Deleted: 1

10.4.1 Inputs

1. Qwest order and transaction documentation
2. Industry standards documentation
3. Other procedural and technical documentation
4. Evaluation checklists

10.4.2 Activities

1. Determine areas that require validation or retest
2. Gather information
3. Perform documentation reviews as required for validation or retest
4. Complete evaluation checklists
5. Develop and document findings

10.4.3 Outputs

1. Completed evaluation checklists
2. Comparison of actual versus expected results for order and transaction creation deliverables
3. Observation and Exception reports
4. Final report

10.5 Exit Criteria

Table 10.5.1 Exit Criteria

Criteria	***Responsible Party***
Global exit criteria satisfied	*See Section 7*
All Observations and Exceptions cleared	*HP*
Final report is complete	*HP*

11. Transaction Processing Test Data

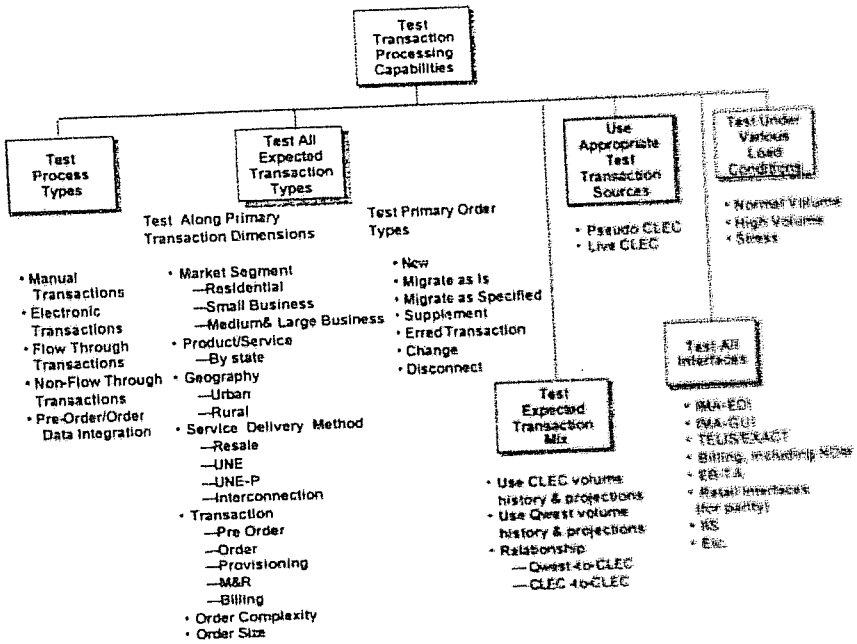
Test data provides the input or stimuli to systems and processes so that functionality and performance can be observed by means of transaction driven system analysis.

Principles numbered 11, 13 and 14 apply to test data.

11.1 Test Data Dimensions

Figure 11.1.1 reflects a testing framework agreed to at the St. Paul workshop that describes the major dimensions and attributes to be incorporated in test data transactions. Deleted: t

Figure 11.1.1 Test Data Dimensions



11.2 Scenarios

Based on industry experience, the knowledge gained from 3rd party testing in other jurisdictions, a review of other OSS tests, as well as a review of the available offerings in the thirteen participating ROC states, KPMG Consulting has developed a representative set of test scenarios. Each test scenario describes a real world situation that will be used to create realistic test cases in which CLECs purchase wholesale services and network elements from Qwest to be resold or repackaged to the CLEC's end-user customer on a retail basis.

Scenarios serve several key purposes. Scenarios help define the products, services, and transactions that should be included for testing. In this regard, test scenarios provide the guidance and framework for developing real world test cases to simulate live production in a controlled test environment. The test cases provide actual detailed instructions required to build individual transaction test instances.

These scenarios will be used to test functionality, performance, and other attributes associated with the ability of CLECs to access information from Qwest business processes and associated systems. Scenarios provide a way to bridge across test domains and families, thereby facilitating both point-specific and end-to-end testing of various systems and processes and providing the breadth and depth of coverage of products and services to be tested.

11.3 Test Cases

Variables will be introduced into the scenarios to create a number of test cases. Types of variables include errors such as invalid USOCs, order entries that "violate" Qwest's business rules (which is a higher class of error than a typographical error), supplements (changes to an order), expedites (end user requested due dates earlier than the standard interval) and Maintenance and Repair (M&R) test situations. Test cases may also vary by the type of features that are requested and the characteristics of the customer. For example, one test case may specify call waiting as a feature but another may use caller ID instead of call waiting. Similarly, for the same scenario, one test case may specify a single-line residence customer and another may specify a five-line business customer. The test cases may also vary the timing and sequence of the transactions.

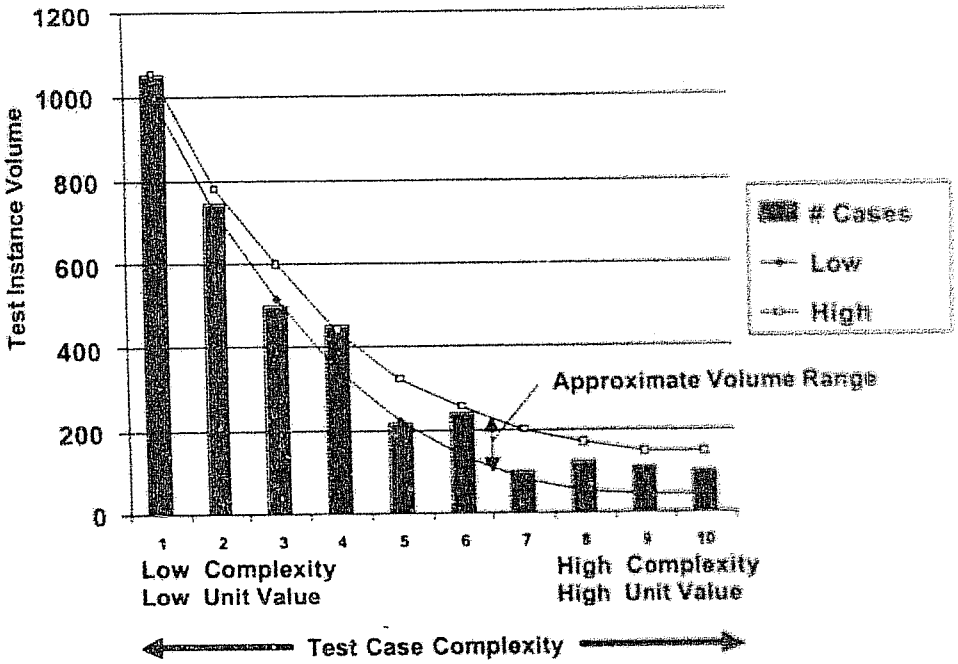
11.4 Detailed Test Instances

Detailed test instances will be generated from these test cases. A test instance represents a set of transactions described by a test case for a specific customer account. For example, a test case might specify "migrate a two-line business customer from Qwest to a CLEC and add call waiting on the primary line". A test instance would perform the necessary pre-ordering inquiries and send an order to accomplish this activity for a specific two-line business customer account.

11.4.1 Functionality Test

For functionality testing, volumes of test instances will be assigned to each of the test cases based, in part, on a determination of the sufficiency of sample sizes to determine compliance with appropriate Performance Measures. However, for practical reasons it is expected that transactions of greater complexity will tend to be executed in smaller volumes. Other considerations that will be taken into account in determining test volumes will be assurance of sufficient samples by customer type (residence vs. business) and by service delivery method. In addition, KPMG Consulting may determine, based on experience in other jurisdictions, and further analysis of CLEC forecasts and experience in the ROC states, to add additional volumes to certain scenarios.

Figure 11.4.1.1 Volume Distribution by Complexity



11.4.2 Volume Test

For volume testing, normal expected volumes will then be assigned to a selected set of the test cases based on expected future real world production. Volume testing conducted as part of this test will be based on level of demand projections that are reasonably foreseeable in a competitive market which may include regional volumes if appropriate. Individual test instances that match the test cases will be generated based on the volume that has been assigned. In addition, for pre-ordering and ordering, a stress volume test will be conducted to test the capacity and identify potential choke points of the interfaces. Peak and Stress volumes will be assigned to a subset of the test case types based on agreed upon mu ltiples of the normal expected volumes.

12. Evaluation of POP Functionality and Performance Versus Parity Standards and Benchmarks

12.1 Description

The POP Functional Evaluation is a comprehensive review of the functional elements of Pre-Ordering, Ordering, Provisioning, Pre-Order/Order Data Integration; the achievement of the prescribed measures; and an analysis of performance in comparison to Qwest's Retail systems.

The test will consist of live transactions submitted over the Qwest supported interfaces, both interactively via a graphical user interface (IMA GUI) and computer-to-computer interfaces. Current plans call for testing the following Qwest interfaces: IMA GUI and IMA EDI for LSRs, and EXACT/TELUS for ASRs. The following table depicts the functionality with which each interface will be tested:

Table 12.1.1 Functionality and Interfaces

Functionality	*IMA GUI*	*IMA EDI*	*EXACT/TELUS*
Pre-order	*X*	*X*	
Order	*X*	*X*	*X*
Pre-order/Order Data Integration	*X*	*X*	

The master interface list will be finalized during the actual testing to allow for any corrections/additions to be made as interfaces change.

The EDI interface will be tested using an interface built by HP according to specifications and processes provided to CLECs by Qwest. The GUI will be tested through transactions entered directly into the appropriate GUI interface. The ASR interface will be tested through transactions entered into TELUS or an existing CLEC's EXACT interface. Where appropriate, manual transactions will be submitted as well.

Data on the POP processes will be collected, analyzed and used to produce the output reports. The POP functional and performance evaluation will examine an end-to-end view of the pre-ordering through provisioning process. It will include a mix of stand-alone pre-ordering and ordering transactions, along with pre-order transactions followed by orders, supplements, and cancels. KPMG Consulting will collect data provided by HP on transaction submissions and responses, and on Qwest provisioning activities. Where possible and appropriate, this information will be collected and maintained electronically. Both ASR and LSR orders will be tested. Erred as well as error free transactions will be tested. Not all orders will go through the physical provisioning process. Some will be future dated, and others will be canceled before provisioning activities commence. Verification and validation of provisioning activities will be performed in Section 14.

As part of the POP Functional Evaluation, KPMG Consulting will also seek both qualitative and quantitative data on the real world experience of CLECs operating in the thirteen participating Deleted:

ROC states. CLECs willing to participate in this test will be interviewed and their experiences will be incorporated into the test results after validation by KPMG Consulting. In addition, for some types of transactions, involvement will be sought from willing CLECs to participate in some aspects of the live transaction testing. This will be done for two principal purposes.

First, CLEC participation will be important for complex orders that cannot be simulated adequately in the test environment. Examples include complex facilities-based orders and orders, like those for unbundled loops with LNP, which require an actual CLEC switch to fully complete. Second, it is important to attempt to incorporate information to help control for "experiment bias" of the results. Therefore, KPMG Consulting will ask CLECs to execute live orders that replicate those sent over the test systems.

Successful completion of all of these aspects of the test requires active participation of one or more CLECs. However, CLEC participation is voluntary, and the scope of that participation is up to each individual CLEC.

12.2 Objective

The objective of this test is to validate the existence, functionality, and behavior of the interfaces and processes required by Qwest for pre-ordering, ordering, and provisioning transaction requests and responses. The POP functions tested will also be validated against the Qwest documentation that specifies which functions are and are not available within the Qwest OSS.

12.3 Entrance Criteria

Table 12.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*Qwest, ROC*
The ROC has verified measu rements to be used in the test	*ROC, Liberty Consulting*
All required Qwest interface capabilities must be operationally ready	*Qwest, HP*
HP is operationally ready	*HP*
The statistical plan is in place	*ROC, TAG, KPMG Consulting*
The pass/retest criteria have been identified	*ROC, KPMG Consulting*
Interfaces are built and tested	*KPMG Consulting, HP*
EDI interface is "certified" by transaction/product type	*Qwest*
Inventory of all Qwest relevant (company-wide and regional) systems and interfaces identifying release number and version has been documented	*KPMG Consulting, HP, Qwest*
Wholesale and retail measurement processes evaluated	*ROC, KPMG Consulting, Liberty Consulting*
Measurement collection process is defined	*KPMG Consulting, HP*
Dial-up connectivity to GUI interface established	*Qwest, KPMG Consulting, HP*

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Criteria	Responsible Party
Business rules for all transactions to be tested are available	Qwest
Test bed accounts and facilities in place	Qwest
Test bed provisioned and validated	Qwest, KPMG Consulting
CLEC test volunteers identified	KPMG Consulting
Test cases developed	KPMG Consulting
Specific test cases to test in conjunction with CLEC volunteers have been identified	KPMG Consulting
Specific evaluation techniques developed	KPMG Consulting
Evaluation criteria defined	KPMG Consulting
Help Desk log and contact checklists created	KPMG Consulting, HP

12.4 Test Scope

Ordering transactions consists of three distinct, but related, processes:

- Pre-order Processing—submission of requests for information required to complete orders;
- Order Processing—submission of orders required to add/delete/change a customer's service;
- Provisioning—physical work performed by Qwest as a result of the submitted orders and software changes accomplished via submitted orders into Qwest switches and network elements.

The ordering transactions test suite will be comprised of real life, end-to-end test cases that cover the entire spectrum of pre-order, order, and provisioning. The following order types will be tested:

- Migrate "as is"
- Migrate "as specified"
- New customer
- Feature Change
- Directory Change
- Number Change
- Add lines
- Suspend/Restore
- Disconnect (full/partial)
- Move (inside/outside)
- Number Portability (LNP)

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- Change to New Local Service Provider
- UNE Loop Cut Over
- Change of service delivery method

The order types identified above will be ordered using the available and applicable Qwest service delivery methods. The following service delivery methods will be tested:

- Resale
- Unbundled Loops, including xDSL capable loops
- UNE Platform, residential and business
- Other UNE Combinations such as EELs
- Other Unbundled Network Elements such as UDIT
- Any other service delivery methods that may become available at the time of the test which are approved by the ROC for inclusion in the test

The orders will be placed using Qwest's existing interfaces: GUI, computer-to-computer, and manual. The following assumptions pertain to ordering interfaces:

- Qwest electronic interfaces, both GUI and computer-to-computer, will be tested during the Volume Performance Test
- Orders will be issued using both ASR and LSR forms, as appropriate
- The GUI will be tested from multiple terminals at the same time
- If a scenario calls for an order type that can not be submitted electronically, the request will be submitted manually.

Other important aspects of ordering will be tested:

- Flow through order types, as stated and agreed-to by Qwest, will be tested to ensure that they do not require manual handling. The complete set of identified flow through order types will be evaluated to ensure that they actually do flow through (See Section 13).
- Integration of pre-order and order data functionality which transfers values from pre-order responses to ordering documents
- Supplemental orders (changes to orders in process), including cancels, will be tested
- Multiple products and features will be tested; the tests will cover a broad range of the options available to CLECs and resellers
- Multiple switch-types, end-offices, states and cities will be included in the test
- A portion of the orders sent will be physically provisioned (See Section 14). Some orders will be future dated, allowing them to be canceled prior to work scheduling and provisioning

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- CLECs will be solicited for involvement in some aspects of the test, especially for assistance in the testing complex services, services with long lead times, and services that require network resources (e.g. loop hot-cuts)
- Timeliness of methods employed by Qwest to process UDIT ASRs
- In addition to normal orders, orders with planned errors will be sent to Qwest to check the accuracy of its system edits and service representatives
- Service locations supported by different Qwest ordering, provisioning, and CO switching and transmission configurations will be tested

As indicated by testing principle number 13, similar test cases may be run by both HP and a production CLEC that has completed interface verification with Qwest in order to validate the processes under the oversight of KPMG Consulting. This validation process is not intended to double-test every scenario by both HP and a production CLEC, and will include no more iterations than are required for validation.

The test will be conducted using the most current release of the Qwest business rules, system releases and versions, interface versions and process/procedure documentation at the time of the test. Should multiple releases be available during the course of the test, KPMG Consulting will work with the ROC to determine which releases to test, and to what extent.

HP will build a pre-order EDI interface using Qwest specifications and evaluate the results for adequacy. The data from this pre-order interface will be integrated with LSRs for ordering on a real time or near real time basis to ensure that the two interfaces can be integrated.

The following chart contains the processes and sub-processes that will be used in evaluating Qwest's pre-ordering, ordering, and provisioning functionality and performance.

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Table 12.4.1

Process Area	Sub-Process
Pre-ordering	Retrieve customer CSR
	Validate Customer Address
	Perform Loop Qualification
	Perform Facility Check
	Reserve telephone numbers
	Request information about services, features, and PIC/LPIC choices available to customers
	Determine due date/appointment availability
	Acquire Directory Listing information
Ordering	Submit order for migration of a customer from Qwest to a CLEC "as is"
	Submit order for migration of a customer from Qwest to a customer "as specified"
	Submit order for partial migration of a customer from Qwest to a CLEC
	Submit order for establishing service for a new customer of a CLEC
	Submit order for feature changes to an existing CLEC customer
	Submit order for adding lines/circuits to an existing CLEC customer
	Submit order for a telephone number change for an existing CLEC customer
	Submit order for a directory change for an existing CLEC customer
	Submit order for the outside move of an existing CLEC customer
	Submit order for suspending service of an existing CLEC customer
	Submit order for restoring service to an existing CLEC customer
	Submit order for disconnecting service from an existing CLEC customer
	Submit order for disconnecting some lines/circuits for an existing CLEC customer
	Submit order for migration of a customer from another CLEC
	Submit order for a CLEC to Qwest win-back
	Change service delivery method for an existing CLEC customer
	Order interoffice facilities
	Receive order confirmation
Provisioning	Receive notification of jeopardy or delay
	Receive completion notification

The following table contains the evaluation measures that will be used in evaluating Qwest's pre-ordering and ordering functionality and performance.

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Table 12.4.2 Pre-Ordering and Ordering Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Accessibility of GUI (excluding Interface facilities)	Transaction Generation	Quantitative
Accessibility of computer-to-computer interface (excluding Interface Facilities)	Transaction Generation	Quantitative
Accuracy and completeness of functionality	Transaction Generation	Quantitative
Timeliness of response	Logging	Quantitative
Completeness of response	Transaction Generation., Inspection	Qualitative Quantitative
Clarity and accuracy of error messages	Transaction Generation, Inspection, Document Review	Qualitative
Usability of information	Transaction Generation, Inspection	Qualitative
Consistency with retail capability	Inspection	Qualitative Quantitative

Table 12.4.3 Provisioning Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Timeliness of provisioning	Transaction Generation, Inspection, Logging	Quantitative
Frequency of delay or rescheduling of provisioning	Transaction Generation, Inspection, Logging	Quantitative
Accuracy and completeness of provisioning	Transaction Generation, Inspection, Logging	Quantitative
Completeness and consistency of process	Inspection, Document Review	Qualitative

12.5 Scenarios

The specific scenarios to be used in this test can be found in Appendix D.

12.6 Test Approach

12.6.1 Inputs

1. Test scenarios and test cases
2. Validated test bed
3. Certified interfaces
4. Documentation (ordering guides, order/pre-order business rules, etc.)

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5. Trained personnel to execute test cases
6. Help Desk log and contact checklists

12.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s).
2. Interview CLEC volunteers and coordinate joint testing activities.
3. Submit transactions. Submittal date and time and appropriate transaction information logged.
4. Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) logged.
5. Report on missing transactions (e.g. missing confirmations and completion notices).
6. Match transaction response to original transaction.
7. Verify transaction response contains expected data and flags unplanned errors.
8. Verify that pre-order data are integrated into ordering documents/processes as appropriate.
9. Manually review unexpected errors. Identify error source (KPMG Consulting, HP or Qwest). Identify and log reason for the error. Determine if test should be suspended or repeated.
10. Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and o ther behavior of functions as identified on the help desk checklist.
11. Correct expected errors and resubmit. Re-submittal date, time, and appropriate information logged.
12. Verify receipt of appropriate responses, where multiple responses are expected for the s ame request.
13. Identify transactions for which duplicate or multiple responses were received in error.
14. Record missing responses.
15. Review status of pending orders. Verify and record accuracy of response.
16. Generate HP reports.
17. Generate Qwest measurement report for test date range.
18. Obtain from Qwest measurement reports for HP, aggregate CLECs and Qwest retail for the test data range.
19. Compare KPMG Consulting-produced HP measures to Qwest-produced HP measures to ensure there is no problem with the data being collected for test reporting purposes.
20. Report CLEC aggregate measures as a data point to check for consistency.
21. Assess quality of business processes and compare, where information is available, with equivalent retail processes.

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12.6.3 Outputs

1. Reports that provide the measures to support the standards of performance defined in Appendix C
2. Variance between actual performance and the standards of performance defined in Appendix C
3. Unplanned error count by reason code and percentage of total
4. Reports of missing transactions, e.g., confirmations and completion notices
5. Rejects received after confirmation notification and percentage of total
6. Transaction counts, error ratio, response time, etc., by transaction type, product family, and delivery method
7. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
8. Transaction counts per response time/interval range per transaction set
9. Orders erred after initial confirmation
10. Completed help desk logs and checklists
11. Help desk accuracy and timeliness report
12. HP measurement reports produced by both KPMG Consulting and Qwest
13. KPMG Consulting-produced, HP data to Qwest-HP data comparison
14. Qwest-produced, HP data to Qwest retail, adjusted[2] retail or benchmark data comparison
15. Measure of parity performance between retail and wholesale
16. Observation and Exception reports
17. Final report

12.7 Loop Qualification Process "Parity by Design" Evaluation

In addition to the above elements of this POP Functionality test, KPMG Consulting will perform an evaluation of the Loop Qualification process Qwest provides to wholesale customers compared to the Loop Qualification process it provides to its own retail customers to determine if parity exists in the design, implementation and use thereof. This evaluation will examine the wholesale and retail end-to-end processes, the results of the same queries made to the two processes, and all additional avenues of follow-up or recourse available to either wholesale or retail operations or both. This evaluation should answer the following questions:

[2] Qwest's retail data for 2 wire non-loaded loops, DS-1-capable loops, and UNE-P POTS is normally disaggregated to MSA/non-MSA and interval zone 1/interval zone 2 and compared at this disaggregated level. Because the TAG has decided not to require statistically significant sample sizes at this level of disaggregation, Qwest's retail data must be adjusted in order to provide for an apples to apples comparison to the data generated by the pseudo-CLEC. Accordingly, Qwest will adjust its retail data to reflect the percentage of MSA/non-MSA and zone 1/zone 2 transactions generated by the pseudo-CLEC. For example, if the pseudo-CLEC's UNE-P transactions are spread across 70% MSA and 30% non-MSA wire centers, Qwest's actual retail comparative results will be adjusted so that the MSA results will be weighted 70% and the non-MSA results will be weighted 30% to arrive at the result for comparison. Deleted: 1

- Does a wholesale loop qualification transaction result in the same information as a retail transaction for the same loop?
- Does the loop qualification information come from the same database (directly or indirectly) with the same frequency of update?
- Are the wholesale responses returned in accordance with benchmarks set?
- Are any differences in the sub-processes or remedial options available in the retail loop qualification process versus the wholesale process?

12.7.1 Description

The Loop Qualification Process "Parity by Design" Evaluation is a review of the loop qualification processes and procedures developed by Qwest to support both retail and wholesale customers. Operational analysis techniques will be used to determine if parity exists in the design, implementation and use of the qualification process. Additionally, this evaluation will assess remedial options available in the retail process versus the wholesale process.

12.7.2 Objective

The objective of this evaluation is to determine whether the loop qualification process Qwest provides to its wholesale customers is equivalent to the process Qwest uses for its own retail customers. This will be accomplished through an examination and analysis of Qwest's internal processes and a comparison to the processes available to Qwest's wholesale customers.

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12.7.3 Entrance Criteria

Table 12.7.3.1 Loop Qualification Process Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
The ROC has verified measurements to be used in the test	ROC, Liberty Consulting
Pass/retest criteria have been identified	ROC, KPMG Consulting
Loop Qualification procedures and documentation are available	Qwest
Interview guide, questionnaire and process review checklist developed	KPMG Consulting
Interviewees identified and schedule developed	Qwest, KPMG Consulting

12.7.4 Test Scope

Table 12.7.4.1 Loop Qualification Process Evaluation Measures

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Loop Qualification Pre-Order query process	Pre-Order Receipt and Logging	Consistency between wholesale and retail processes	Inspection Document review Interview	Parity
Assemble Pre-Order Response	Delivery of error messages and queries	Consistency between wholesale and retail processes	Inspection Document review Interview	Parity
	Delivery of response	Consistency between wholesale and retail processes	Inspection Document review Interview	Parity
Escalation Process	User-initiated escalation	Consistency between wholesale and retail processes	Inspection Document review Interview	Parity
Process Management	General management practices	Consistency between wholesale and retail processes	Inspection Document review Interview	Parity
	Performance measurement process	Consistency between wholesale and retail processes	Inspection Document review Interview	Parity
Capacity Management	Capacity Management processes and procedures	Consistency between wholesale and retail processes	Inspection Document Review Interview	Parity

12.7.5 Test Scenarios

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Not applicable.

12.7.6 Test Approach

12.7.6.1 Inputs

1. Inquiry handling procedures
2. System technical documentation
3. Interview Guides
4. Process review checklist
5. Personnel to conduct interviews with Qwest
6. Personnel to conduct interviews with CLECs

12.7.6.2 Activities

1. Gather background information
2. Review procedure documents
3. Interview Qwest personnel
4. Interview CLEC personnel
5. Complete process reviews through interviews and observations
6. Create interview summaries

12.7.6.3 Outputs

1. Completed loop qualification process review
2. Completed loop qualification document review
3. Completed interview summaries
4. Observation and Exception reports
5. Final Report

12.7.7 Exit Criteria

Table 12.7.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

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12.8 POP Manual Order Processing Evaluation

12.8.1 Description

The POP Manual Order Processing Evaluation is a comprehensive review of the methods and procedures used to handle orders that have been manually submitted or require manual intervention by Qwest during order processing. Operational analysis techniques will be used to conduct this test. This test will include a review of the procedures in place to plan for and manage projected growth in order processing.

12.8.2 Objective

The objective of this test is to validate the processes and procedures used to support manual submission of orders for service and to ensure that these procedures are being uniformly followed by Qwest's personnel across the three regions.

12.8.3 Entrance Criteria

Table 12.8.3.1 Manual Order Process Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist.	*ROC, Qwest*
The ROC has verified measurements to be used in the test	*ROC, Liberty Consulting*
HP is operationally ready	*HP*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Manual orders procedures and documentation are available	*Qwest*
Interview guide, questionnaire and process review checklist developed	*KPMG Consulting*
Interviewees identified and schedule developed.	*Qwest, KPMG Consulting*

12.8.4 Test Scope

Table 12.8.4.1 Manual Order Processes

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Receive Orders for Manual Processing	Order Receipt and Logging	Completeness and consistency of process	Inspection Document review	Qualitative
Process Orders Manually	Entry of Order into SOP	Completeness and consistency of process	Inspection	Qualitative
Send Order Response	Delivery of error messages and queries	Completeness and consistency of reporting process	Inspection Document Review	Qualitative

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Table 12.8.4.1 Manual Order Processes

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Status Tracking and Reporting	Delivery of confirmations, completions and acknowledgements.	Completeness and consistency of reporting process	Inspection Document Review	Qualitative
	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative
Problem Escalation	User-initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative
Process Management	General management practices	Adequacy and completeness of processing management practices	Inspection Document review	Qualitative
	Performance measurement process	Adequacy and completeness of and adherence to manual order processing performance management practices	Inspection	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative

12.8.5 Inputs

1. Order handling procedures
2. System technical documentation
3. Interview checklist
4. Process review checklist
5. Personnel to conduct interviews

12.8.6 Activities

1. Review procedure documents
2. Interview Qwest personnel
3. Complete process reviews
4. Perform adequacy study of manual order processing performance measures
5. Create evaluation summary

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12.8.7 Outputs

1. Completed process review checklists
2. Completed interview checklists
3. Evaluation summary

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4. White paper regarding manual order processing performance measures Formatted: Bullets and Numbering

12.9 Exit Criteria

Table 12.9.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

13. Order Flow Through Evaluation

13.1 Description

The Order Flow Through Evaluation tests the Qwest systems capability to flow orders through from the CLEC through the application-to-application interface into the backend Qwest service ordering processing systems without any human intervention. Orders that qualify as flow through, i.e., orders not needing manual action, will be tested to determine compliance with eligibility to flow through with actual results.

Qwest will update the list of flow through ordering scenarios and USOC flow through indicators eligible during the testing period if changes in the Qwest business rules or systems warrant. Changes to the list will be incorporated into the test and will be noticed to the industry through the Co-Provider Interface Change Management Process ("CICMP").

Flow through orders will be submitted through both the GUI and the computer-to-computer interfaces. Any supplements and cancels that are considered to be flow through will also be submitted. The order transactions will be monitored to verify that they do not "fall out" for manual handling in the Qwest Interconnect Service Center (ISC) and are accepted by Qwest's Service Order Processor (SOP) without manual intervention.

This test will be conducted as a part of the POP functional testing (See Section 12).

13.2 Objective

The objective of the Order Flow Through Test is to verify the ability of Qwest to flow through their front end systems, without manual intervention, all order types that at the time the transactions are to be submitted are designated by Qwest to be flow through. This test will also assess that the flow through capabilities of Qwest's systems are uniform across the three regions.

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13.3 Entrance Criteria

Table 13.3.1 Entrance Criteria

Criteria	*Responsible Party*
All Section 12 entrance criteria satisfied	*See Section 12.3*
Documentation available specifying which orders are expected to flow through by service delivery type and product including any specific parameters that cause an order to not flow through that should otherwise flow through	*Qwest*
Test scenarios selected	*KPMG Consulting*
Specific test cases developed	*KPMG Consulting*

13.4 Test Scope

Flow through only pertains to the ordering process.

Table 13.4.1 Test Scope

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Submit "Flow Through" Orders	Determine if order should "flow through"	Applicability as "flow through" based on existing publicly available documentation.	Inspection	Qualitative
	Submit "flow through" order through GUI	Accessibility of interface	Transaction Generation	Quantitative
	Submit "flow through" order through EDI	Accessibility of interface	Transaction Generation	Quantitative
Monitor "Flow Through" Order	Identify orders that did "flow through"	Compliance with "flow through" standards	Transaction Generation Inspection Logging	Quantitative
	Identify orders that did not "flow through"	Compliance with "flow through" standards	Transaction Generation Inspection Logging	Quantitative
	Identify causes of order "fall out" to manual processing	Compliance with documentation	Inspection	Qualitative

13.5 Test Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix D. Deleted: 1

13.6 Test Approach

13.6.1 Inputs

1. Test cases and expected results
2. Validated test bed
3. Test case execution schedule
4. Interfaces built and certified
5. Failure reasons
6. Trained personnel to execute test cases

13.6.2 Activities

1. Submit order transactions via computer-to-computer and the GUI interfaces. Log submittal date, time and appropriate transaction information.
2. Receive transaction responses. Log receipt date, time, response transaction type, and response condition (valid vs. reject).
3. Verify transaction response contains expected data and flags unplanned errors.
4. Identify orders that had manual handling. Identify reason for manual handling. Record manual handling and order attributes.
5. If there was an error that caused the order not to flow through, identify error source (HP or Qwest). Identify and log reason for the error. Qwest errors will not be corrected.
6. Correct any HP errors and re-submit. Verify whether order flows through or not based on Qwest systems processing.
7. Verify that all orders submitted are accounted for. Log any orders that are submitted but do not appear as processed or erred by Qwest.
8. Generate reports based on Qwest manual handling rep ort and KPMG Consulting data.

13.6.3 Outputs

1. Percentage and number of orders that flowed through by order type, product family, etc.
2. Percentage and number of orders that did not flow through by order type, product family, etc.
3. Variance between actual performance and the standards of performance defined in the PID
4. Report of expected results versus actual results by reason code
5. Observation and Exception reports
6. Final report

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13.7 Exit Criteria

Table 13.7.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7

14. Provisioning Evaluation

14.1 Description

The Provisioning Evaluation test is a comprehensive review of Qwest's ability to accurately and expeditiously complete the provisioning of CLEC orders. This test will be conducted as a part of the POP functional testing (See Section 12). It will incorporate orders submitted by both the computer-to-computer and GUI interfaces, and manually where appropriate. While most types of orders will be included, the test will concentrate on those orders that require physical provisioning and/or switch software changes.

This test will involve verifying that orders submitted have been properly provisioned and that the provisioning has been completed on time. Included in the test will be orders that have been supplemented and canceled, as well as those submitted with anticipated errors, to test the impact on provisioning.

For some orders, particularly the more complex ones, the involvement of CLECs operating in the thirteen participating ROC states will be solicited to volunteer use of their facilities to enhance the real world nature of the test and to test those transactions that cannot be accomplished in a test environment without access to actual network facilities (e.g. LNP, Line splitting).

14.2 Objective

The objective of this test is to evaluate the ability of Qwest to accurately provision orders submitted by CLECs and to do so on time.

14.3 Entrance Criteria

Table 14.3.1 Provisioning Entrance Criteria

Criteria	Responsible Party
All Section 12 entrance criteria satisfied	See Section 12.3
Test scenarios selected	KPMG Consulting
Specific test cases developed	KPMG Consulting
CLEC volunteers identified	KPMG Consulting
Provisioning log and activity checklists created	KPMG Consulting

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14.4 Test Scope

The scope for this test includes the following processes:

1. UNE-Platform and Resale and associated feature provisioning
2. Loop Hot Cuts and Loop Conversions without LNP
3. New unbundled loop installations
4. Local Number Portability provisioning
5. Enhanced Extended Loops (EELs) Installation
6. xDSL Installations
7. Directory Listings provisioning

Table 14.4.1 Provisioning Functional Evaluation

Process	Sub-process	Evaluation measure
Provisioning functional evaluation	Directory Listing Provisioning	Timeliness, accuracy and completeness of provisioning
	Switch Feature Provisioning	Timeliness, accuracy and completeness of provisioning and timeliness of notifications
	Loop hot-cuts	Timeliness of provisioning and notifications Accuracy and completeness of provisioning
	New service adds	Timeliness, accuracy and completeness of provisioning and notifications
	Local Number Portability	Timeliness, accuracy and completeness of provisioning and notifications
	Inter-office facilities provisioning	Timeliness, accuracy and completeness of provisioning and notifications
	Provisioning completion notices	Timeliness, accuracy and completeness of notices

14.5 Test Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix D.

14.6 Test Approach

14.6.1 Inputs

1. Test cases and expected results
2. Provisioning documentation
3. Provisioning log and activity checklists
4. Participation from CLECs through voluntary, coordinated testing

14.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate documentation.
2. Submit computer-to-computer transactions.
3. Submit GUI and manual transactions.
4. Receive confirmations of transactions.
5. Log notification of provisioning jeopardies and delays.
6. Perform joint provisioning activities and record provisioning interactions.
7. Perform testing on provisioned services.
8. Test completion of orders. Record results in appropriate provisioning log and activity checklist.
9. Obtain from Qwest measurement reports for HP, aggregate CLECs and Qwest retail for the test date range.
10. Compare KPMG Consulting-produced HP measures with Qwest-produced HP measures.
11. Measure parity performance between retail and wholesale.

14.6.3 Outputs

1. Reports that provide the measurements to support standards of performance listed in Appendix C.
2. Variance between actual performance and standards of performance listed in Appendix C.
3. Report of expected results versus actual test case results.
4. Completed provisioning logs and checklists.
5. Provisioning accuracy and timeliness report.
6. Report CLEC aggregate measures as a data point to check for consistency.
7. KPMG Consulting-produced HP data to Qwest-HP performance results data comparison.
8. Qwest-produced HP data to Qwest retail or benchmark data comparison.
9. Measure of parity performance between Qwest retail and CLEC aggregate results.
10. Observation and Exception reports

14.7 Provisioning Process Parity Evaluation

The evaluation measures for the provisioning processes are consistency and repeatability as compared to retail. The provisioning processes will be inspected and compared to retail

14.7.1 Description

The Provisioning Process Parity Evaluation is a review of the processes, systems and interfaces that provide provisioning for CLEC and Reseller orders compared to the equivalent Qwest retail processes. The review will focus on these areas:

- Order interfaces
- Workflow definitions
- Workforce scheduling
- Memory administration
- Service activation
- Test and acceptance
- Exception handling
- Completio n notices
- Jeopardy notifications
- Capacity management

The focus of the evaluation will be "downstream" interfaces from manual processing and the gateway systems that serves as the interface to all order processing.

As appropriate, provisioning processes for different products and services will be evaluated separately. This will be required in those cases where the process and/or systems used for provisioning are different by product.

14.7.2 Objective

The objective of this evaluation is to determine the degree to which the provisioning environment supporting CLEC orders is at parity with internal Qwest provisioning for its own retail customers.

14.7.3 Entrance Criteria

Table 14.7.3.1 Provisioning Process Parity Evaluation Entrance Criteria

Criteria	*Responsible Party*
All Section 12 entrance criteria satisfied	*See Section 12.3*
Detailed Provisioning Process Parity Evaluation Checklist developed	*KPMG Consulting*
Required system documentation available	*Qwest*

Criteria	ResponsibleParty
Provisioning process documentation available	Qwest
Interview guide/questionnaire developed	KPMG Consulting
Interviewees identified and schedule developed	Qwest, KPMG Consulting

14.7.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the level of parity provided by the Qwest provisioning systems and processes to the CLECs.

Table 14.7.4.1 Provisioning Process Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Provisioning Process Parity	Workflow management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Workforce management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Jeopardy notification	Consistency and repeatability as compared to Retail	Inspection	Parity
	Service activation process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Service design process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Assignment process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Capacity management	Consistency and repeatability as compared to Retail	Inspection	Parity

14.7.5 Test Scenarios

Not applicable.

14.7.6 Test Approach

14.7.6.1 Inputs

1. Product and Service Process Flow Understanding (provides for understanding of complex versus simple services but does not conflict with traditional Qwest definition of products and services)
2. Applicable Qwest provisioning process documentation
3. Interview guide/questionnaire
4. Interviewees (per process area)

- Provisioning process owners
- Provisioning process staff
- User requirements project leader

5. Interview schedule
6. Detailed Provisioning Process Parity Evaluation Checklist
7. Appropriate System Documentation
8. Appropriate Methods and Procedures (determined via interviews)

14.7.6.2 Activities

1. Identify all process documentation needed for review
2. Identify relevant systems and interfaces
3. Identify all system documentation available for review
4. Conduct structured review of documentation using Provisioning Process Parity Evaluation Checklist
5. Conduct interviews using the interview guides and questionnaires
6. Inspect physical systems and communications environments
7. Document findings

14.7.6.3 Outputs

1. Completed Provisioning Process Parity Evaluation Checklist
2. Completed interview questionnaires
3. Interview Summaries
4. Summary Findings, Conclusions

14.8 Provisioning Coordination Process

14.8.1 Description

The POP Provisioning Coordination Process Evaluation is a review of the procedures, processes and operational environment used to support coordinated provisioning with CLECs.

The evaluation will address products and situations that require coordinated provisioning to minimize customer disruption. The requirement for coordination may come from either Qwest policy or a CLEC request. An operational analysis test approach supplemented by case studies will be used to evaluate Qwest 's Provisioning Coordination Processes.

14.8.2 Objectives

The objectives of this evaluation are to:

- Determine completeness and consistency of provisioning coordination processes
- Determine whether the provisioning coordination processes are correctly documented, maintained and published

- Determine the accuracy, completeness and functionality of procedures for measuring, tracking, projecting and maintaining provisioning coordination processes performance
- Ensure the provisioning coordination processes have effective management oversight and Qwest's personnel is adhering to the documented process
- Ensure responsibilities for provisioning coordination processes performance improvement are defined and assigned

14.8.3 Entrance Criteria

Table 14.8.3.1 Provisioning Coordination Process Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*Qwest, KPC*
Pass/retest criteria have been identified	*KPC, KPMG Consulting*
CLEC Case Study Request completed	*KPMG Consulting*
CLEC Case Study Monitoring Form completed	*KPMG Consulting*
Detailed Provisioning Coordination Process Checklist developed	*KPMG Consulting*
Interview guide/questionnaire developed	*KPMG Consulting*
Interviewees identified and schedule developed	*Qwest, KPMG Consulting*

14.8.4 Test Scope

The table below outlines the tests to evaluate the procedures and processes in place to support for joint provisioning of services by the CLEC and Qwest.

Table 14.8.4.1 Provisioning Coordination Process

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Support Provisioning Coordination Process	Provision orders requiring coordination with CLECs	Availability of personnel, procedures and methods	Document Review	Existence
		Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Request coordination	Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Notification of provisioning schedule	Completeness and consistency of processes	Document Review, Inspection	Qualitative
		Timeliness of notification	Document Review, Inspection	Quantitative
	Jeopardy notification	Completeness and consistency of processes	Document Review, Inspection	Qualitative
		Timeliness of notification	Document Review, Inspection	Quantitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Coordinate provisioning	Completeness and consistency of operating management practice	Inspection	Qualitative
		Controllability, efficiency and reliability of process	Inspection	Qualitative
		Completeness of process improvement practices	Inspection	Qualitative
		Compliance with documented practices	Inspection	Qualitative

14.8.5 Test Scenarios

Not applicable.

14.8.6 Test Approach

14.8.6.1 Inputs

1. CLEC Case Study Request
2. CLEC Case Study Monitoring Form
3. Provisioning Coordination Process Checklist
4. Interview Guide/Questionnaire

14.8.6.2 Activities

1. Send CLEC Case Study Requests to CLECs
2. Receive and compile CLEC case study input suggestions
3. Select and record case studies to monitor
4. Monitor case studies and record results on monitoring form
5. Conduct structured review of documentation using provisioning Coordination Process Checklist.
6. Conduct interviews with key process personnel using interview guide and questionnaire
7. Review coordinated provisioning case studies
8. Document findings

14.8.6.3 Outputs

1. CLEC Case Study submission and selection matrix
2. Completed CLEC Case Study Monitoring Forms
3. Completed Provisioning Coordination Process Checklist
4. Completed Interview Questionnaires
5. Interview Summaries
6. Summary Findings, Conclusions

14.9 Exit Criteria

Table 14.9.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

15. POP Volume Performance Test

15.1 Description

The Volume Performance Test will identify the capacity and potential choke points, at projected future transaction volumes, of the Qwest GUI and computer-to-computer interfaces and Qwest front end systems made available to HP at the time of the test. The Volume Performance Test will evaluate the processing of pre-ordering queries and flow through orders. The test will consist of three parts: (1) a "normal volume" test using anticipated transaction volumes during the life cycle of the system interfaces tested, (2) a "peak" test using volumes at 150% of the normal volume test, and (3) a "stress" test using volumes at 250% of the normal volume test. (Note: Per the July MTP Design Workshop, the TAG will collaborate to finalize the normal volumes, percentages and time horizons to be used for the volume test. KPMG Consulting will provide different volume projections based on Qwest and CLEC forecasts.)

The Volume Performance Test will examine the performance of Qwest's production pre-ordering and ordering systems and processes from the submission of queries to the creation of internal service orders and the return of an order confirmation. The orders submitted in the Volume Performance Test will not be physically provisioned. Transactions will be submitted via both the GUI and computer-to-computer interfaces.

The test will include a mix of stand alone pre-ordering and ordering transactions. The mix will include planned business rule errors and flow through orders. The vast majority of transactions submitted to Qwest as part of this test will be designed to flow through; those that fall out to the workcenter will be identified to KPMG Consulting by Qwest but do not need to be worked by a representative in the workcenter.

Volume testing will be conducted on certain days during the POP Functional Evaluation testing period. Volume testing will be conducted on certain days during the POP Functional Evaluation testing period. There will be one initial normal volume test, one initial peak test and one 4 hour, non-busy, production hours stress test. If test results require it, additional volume tests will be

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conducted. The normal and peak volume tests will be conducted over the course of Qwest's published production hours in a calendar day. The stress test will be run during non-busy production hours to limit the test's impact on real customers. The attributes and activities that apply to the POP Functional Evaluation (see Section 12) for pre-ordering and ordering also apply to this test. The dates of volume testing will be withheld from CLECs and Qwest to promote blindness. The ROC Project Manager and KPMG Consulting will consider the need for additional volume days if Qwest executes major system software changes during the course of the test.

15.2 Objective

The objective of the Volume Performance Test is to measure Qwest's capability and identify potential choke points of the GUI and computer-to-computer interfaces and systems made available to HP to access pre-ordering information and submit orders to Qwest at projected future volumes. The success criteria for normal volumes will be determined by the appropriate PID.

15.3 Entrance Criteria

Table 15.3.1 Entrance Criteria

Criteria	*Responsible Party*
All Section 12 entrance criteria satisfied	*See Section 12.3*
Agreement on volumes and distribution by scenario and entry mode	*ROC, KPMG Consulting*
Test scenarios selected	*KPMG Consulting*
Specific test cases developed	*KPMG Consulting*
Performance standards for peak/stress tests developed	*TAG*

15.4 Test Scope

The scope of this test includes the processes, sub-processes and measurements listed in the Table 15.4.1 below.

Table 15.4.1 POP Volume Performance Test

Process	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Submit Pre-order Transactions	Submit Pre-orders via IMA EDI	Accessibility of IMA EDI		
	Submit Pre-orders via IMA GUI	Accessibility of IMA GUI		
	Receive Pre-order Response	Timeliness of response		
	Verify that Pre-orders were Processed	Completeness of response		
Submit Order Transactions	Submit Orders through IMA EDI	Accessibility of IMA EDI		
	Submit Orders through IMA GUI	Accessibility of IMA GUI		

Process	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Receive Acknowledgement	Timeliness of response	Transaction verification Logging	Operational
	Verify that Orders were Processed	Completeness of responses (EOCs)	Transaction generation Inspection	Operational
Submit Error Transactions	Receive Order Error Responses	Timeliness of response	Transaction verification Logging	Operational
	Verify that Orders were Processed and Errors were Received	Completeness of response	Transaction generation Inspection	Operational

15.5 Test Scenarios

The specific scenarios to be used in this test will be chosen from those found in Appendix D.

15.6 Test Approach

15.6.1 Inputs

1. Test cases
2. Documentation (all ordering documentation, pre-ordering/ordering business rules, etc.)
3. Validated test bed
4. Personnel to execute test cases
5. Certified interfaces

15.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s).
2. Submit GUI and computer-to-computer transactions. Submittal date, time and appropriate transaction information are logged.
3. Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) are logged.
4. Match transaction response to original transaction. Verify matching transaction can be found and record mismatches.
5. Verify transaction response contains expecteddata and flag unplanned errors.
6. Manually review unplanned errors. Identify error source (HP or Qwest). Identify and log reason for the error. Determine if test should be discontinued.
7. Identify transactions for which responses have not been received. Where multiple responses are expected for the same request, the receipt of each response will be monitored. Record missing responses.
8. Identify transactions for which duplicate or multiple responses were received in error.
9. Review status of pending orders. Verify and record accuracy of response.

10. Generate HP reports.
11. Report CLEC aggregate measures as a data point to check for consistency.

15.6.3 Outputs

1. Reports that provide performance measurements
2. Variance between actual performance and standards of performance
3. Report of expected results versus actual results
4. Unplanned error count by type and percentage of total
5. Report of unplanned errors as the result of documentation problems
6. Transaction counts, error ratio, response time, etc. by transaction type, product family and delivery method
7. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
8. Transaction counts per response time/interval range per transaction set
9. Observation and Exception reports
10. Final report

15.7 Exit Criteria

Table 15.7.1 Exit Criteria

Criteria	*Responsible Party*
All activities completed	*KPMG Consulting*
Checklists and reports completed	*KPMG Consulting*
Global exit criteria satisfied	*See Section 7*

16. CEMR Functional and Performance Evaluation

16.1 Description

The Customer Electronic Maintenance and Repair (CEMR) functional and performance evaluation is a comprehensive review of the trouble administration functional elements of the IMA GUI, conformance to documented specifications, and an analysis of its functionality in comparison to Qwest's Retail front end systems for trouble management. The test has three major phases, Phase 1 — a basic functional evaluation, Phase 2 — a comparative functional evaluation, Phase 3 — a performance evaluation. The performance evaluation is a transaction driven test designed to evaluate the CEMR system used for M&R under load conditions. Transaction sets will be based on the level of demand projections that are reasonably foreseeable during the life cycle of the system being tested.

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16.2 Objective

The objective of this test is to validate the existence and behavior of CEMR functional elements as documented in CEMR Training Guides and other applicable documents, and to evaluate, based on both quantitative and qualitative approaches, the equivalence of CEMR functionality to Qwest's Retail front end systems for trouble management. The behavior of CEMR will be evaluated under load conditions to determine system performance in terms of response time and operability, and to identify potential future performance bottlenecks and whether that performance is consistent with specifications.

16.3 Entrance Criteria

Table 16.3.1 Basic Functional (Phases 1 & 2) Evaluation Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
The ROC has verified measurements to be used in the test	*ROC, Liberty Consulting*
All required Qwest interfaces are operationally ready	*Qwest*
HP is operationally ready	*HP*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Detailed test plan completed	*KPMG Consulting*
Test scenarios selected	*KPMG Consulting*
Documentation provided	*Qwest*
Interview guides created	*KPMG Consulting*
Specific test cases and transaction sets developed	*KPMG Consulting*
Product descriptions and business rules for all transactions to be tested are available.	*Qwest*
Basic documentation review completed	*KPMG Consulting*
Detailed functional checklist created	*KPMG Consulting*
Test bed provisioned and validated	*Qwest, KPMG Consulting*
Specific evaluation techniques developed	*KPMG Consulting*
Physical access to the CEMR established	*Qwest*
Security access to CEMR established	*Qwest*
Evaluation criteria defined and approved	*ROC*

Table 16.3.2 CEMR Performance Evaluation (Phase 3) Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
The ROC has verified measurements to be used in the test	*ROC, Liberty Consulting*
All required Qwest interfaces are operationally ready	*Qwest*
HP is operationally ready	*HP*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Test transaction sets have been built and validated	*KPMG Consulting*
Product descriptions and business rules for all transactions to be tested are available.	*Qwest*
Test bed provisioned and validated	*Qwest, KPMG Consulting*
CEMR test coordination details have been worked out	*KPMG Consulting*

16.4 Test Scope

CEMR functionality will be reviewed within the context of specific documentation addressing its use and in comparison to Qwest's Retail front-end systems for trouble management. The following table contains the processes, sub-processes, and methods for evaluating the functionality of Qwest's IMA GUI.

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Table 16.4.1 Test Scope: M&R CEMR Functional Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Trouble Reporting	Create/Enter Trouble Report (TR)	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Modify TR	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Close/Cancel TR	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Retrieve TR Status	Functionality exists as documented	Inspection	Existence Qualitative Parity
Trouble History Access	Retrieve Trouble History	Functionality exists as documented	Inspection	Existence Qualitative Parity
Access To Test Capability	Initiate MLT Test	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Receive MLT Test Results	*Functionality exists as documented*	*Inspection*	*Existence* *Qualitative* *Parity*

The CEMR performance evaluation is a transaction driven test designed to evaluate the CEMR system used for M&R under load conditions. The following table contains the processes, sub-processes, and methods for evaluating the performance of Qwest's CEMR system.

Table 16.4.2 Test Scope: CEMR Performance Evaluation

Trouble Reporting	Create/Enter Trouble Report (TR)	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative
	Modify TR	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative
	Close/Cancel TR	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative
	Retrieve TR Status	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative
Trouble History Access	Retrieve Trouble History Status	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative

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Access to Test Capability	Initiate MLT Test	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative
	Receive MLT Test Results	Timeliness, Accuracy	Transaction Generation	Quantitative, Qualitative

16.5 Test Scenarios

A subset of the Appendix D Table D5 scenarios will be used in this test. Scenarios selected for trouble reporting will include both post provisioning activity and trouble reports on existing HP service.

16.6 Test Approach

This test is broken down into three phases:

- **Phase 1** involves the use of test cases created for this test and observation of processes to evaluate CEMR functionality and to determine if the system behaves as documented.
- **Phase 2** involves observation of similar retail transactions and interviews of Retail Maintenance Administrators (MA) processing trouble calls and entering trouble reports into Qwest's Retail front end systems to assess functionality in comparison to IMA GUI.
- **Phase 3** involves load testing of CEMR by sending transaction sets structured to provide a transaction mix consistent with current system usage, projected normal volumes and stress/load volumes. Included in this mix will be planned errors. The quantity of transactions will be known as the "normal volume". A second execution known as "peak" will use a multiple of 125-150% the "normal" volumes. Finally, the "stress" execution will use transaction volumes that are 150-250% the volumes used for the "normal" test.

The number of observations and period of time over which the observations are taken for both wholesale and retail processes will be sufficient to provide a statistically valid basis for evaluation.

16.6.1 Inputs

1. Test cases
2. Documentation (CEMR Learning Guide, etc.)
3. Functionality checklists
4. Interview guide
5. CEMR systems and validated test bed
6. Personnel to interview Wholesale user and Retail Maintenance Administrators and observe their use of CEMR and retail front-end systems for Trouble Management, respectively.

16.6.2 Activities – Phase I

1. Use test cases created for this test and appropriate Qwest documentation to perform each of the functions listed on the checklist provided via the CEMR interface. Observe and interview HP as they execute the test cases to determine usability.
2. Verify that each system function behaves as documented.
3. Note any anomalies in the space provided on the checklist.
4. Note any discrepancies between CEMR documentation and behavior.
5. Ensure that all trouble reports entered in IMA have been canceled.

16.6.3 Activities – Phase II

1. Use the checklist and interview guide to conduct interviews with MA's selected from the Residence and Business M&R work centers.
2. Observe MA trouble report activities similar to those test cases used in Phase I as identified on the checklist provided.
3. Note the presence and behavior of functions identified on the checklist.
4. Identify any anomalies relative to the functions being observed.
5. Note any additional relevant information from the MA interview (e.g., additional capabilities, performance, etc.).
6. Determine and document any M&R functions that can be performed from a Retail trouble management workstation that are not available in CEMR and vice versa.
7. Perform a detailed evaluation of relative functionality and capabilities between CEMR and retail front-end systems for trouble management.

16.6.4 Activities – Phase III

1. Feed transaction sets to IMA GUI.
2. Periodically exercise CEMR functionality manually during test execution.
3. Observe and capture observations from (2) above in terms of performance and operability.
4. Capture transaction performance statistics via data test generator. (automatic)
5. Capture transaction performance statistics via IMA GUI. (automatic)
6. Monitor CEMR system interfaces to identify any bottleneck conditions. (Qwest personnel)
7. Ensure all generated trouble reports have been canceled/closed.
8. Reset test bed for next test (if required) or clean up production databases. (Qwest)
9. Execute test once with normal, projected transaction volumes and once with peak/stress volumes.
10. Analyze performance reports.
11. Review execution and observation reports.

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12. Compare HP vs. performance metric results.

16.6.5 Activities – Common

Document the results and findings from the activities conducted in Phases 1, 2 and 3.

16.6.6 Outputs

1. Completed checklists from Phases 1, 2 and 3 activities
2. Completed interview summaries
3. Summary reports of findings from each phase, including a discussion of anomalies and relevant observations relating to usability and timeliness of each system interface
4. Reports that provide the measurements to support the standards of performance defined in Appendix C
5. Variance between actual performance and the standards of performance defined in Appendix C
6. Test execution and observation reports
7. HP performance reports
8. CEMR performance reports
9. A Summary report comparing relative functionality in CEMR and Retail front end systems for Trouble Managemen t highlighting differences and contrasting ease of use of the two systems in performing the functions observed
10. Observation and Exception reports

16.7 Exit Criteria

Table 16.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*
All activities completed	*KPMG Consulting*
Checklists and reports completed by personnel participating in the test.	*KPMG Consulting*

17. MEDIACC (EB-TA) M&R Trouble Functional Evaluation

17.1 Description

The Electronic Bonding Trouble Administration (MEDIACC EB-TA) Functional Evaluation is a comprehensive review of all of the functional elements of the MEDIACC EB-TA System and their conformance to documented interface specifications.

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17.2 Objective

The objective of this test is to validate the existence and behavior of MEDIACC EB-TA functional elements as documented for CLEC trouble entry and other applicable documents.

17.3 Entrance Criteria

Table 17.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
The ROC has verified measurements to be used in the test. All required Qwest interfaces are operationally ready	ROC, Liberty Consulting Qwest
Pass/fail test criteria have been identified Detailed Test Plan completed	ROC, KPMG Consulting KPMG Consulting
Test Scenarios selected	KPMG Consulting
Specific Test Cases and Transaction Sets developed	KPMG Consulting
Product descriptions and business rules for all transactions to be tested are available	Qwest
Basic documentation review completed	KPMG Consulting
Detailed Functional Checklist created	KPMG Consulting
Test bed provisioned and validated Specific Evaluation techniques developed	Qwest, KPMG Consulting KPMG Consulting
Physical access to Qwest Trouble entry site established	Qwest
Security access to MEDIACC EB-TA established	Qwest
Evaluation Criteria defined and approved	ROC
Checklists created	KPMG Consulting

17.4 Test Scope

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Trouble Reporting	Create/Enter Trouble Report (TR)	Functionality exists as documented	Transaction Generation Documentation Review	Existence Qualitative Parity
	Add TR	Functionality exists as documented	Transaction Generation Documentation Review	Existence Qualitative Parity
	Modify TR	Functionality exists as documented	Transaction Generation Documentation Review	Existence Qualitative Parity

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Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Close/Cancel TR	Functionality exists as documented	Transaction Generation Documentation Review	Existence Qualitative Parity
	Request TR Status	Functionality exists as documented	Transaction Generation Documentation Review	Existence Qualitative Parity
	MLT Functionality	Functionality exists as documented	Transaction Generation Documentation Review	Existence Qualitative Parity

17.5 Test Scenarios

A subset of the Appendix D Table D5 scenarios will be used in this test. Scenarios selected for trouble reporting will include both post provisioning activity and trouble reports on existing HP service.

17.6 Test Approach

This test will use test cases specifically created for this test to evaluate MEDIACC EB-TA functionality and to determine if the system behaves as documented.

17.6.1 Inputs

1. Test cases
2. Documentation
3. Functionality checklists
4. Validated test bed

17.6.2 Activities

1. Use test cases created for this test and appropriate Qwest documentation to perform each of the functions listed on the checklist provided via the MEDIACC EB-TA interface.
2. Verify that each system function behaves as documented.
3. Note any anomalies in the space p rovided on the checklist.
4. Note any discrepancies between M&R Trouble Entry documentation and behavior of the MEDIACC EB-TA interface.
5. Ensure that all trouble reports entered via the MEDIACC EB-TA interface have been canceled.

17.6.3 Outputs

1. Completed checklists from activities
2. Summary reports of findings including a discussion of anomalies relating to usability and timeliness of each system function.
3. Observation and Exception reports

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17.7 Exit Criteria

Table 17.7.1 Exit Criteria

Criteria	Responsible Party
All global exit criteria satisfied	See Section 7
All activities completed	KPMG Consulting
Checklists and reports completed by personnel participating in the test.	KPMG Consulting

18. M&R End to End Trouble Report Processing

18.1 Description

This test involves the execution of selected M&R test scenarios to evaluate Qwest's performance in making repairs under the conditions of various wholesale maintenance scenarios.

18.2 Objective

The objective of this test is to evaluate Qwest's performance in making repairs under the conditions of various wholesale maintenance scenarios. The quality of the repair process is to be assessed, and compared with retail operations where the data is available.

18.3 Entrance Criteria

Table 18.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
The ROC has verified measurements to be used in the test	ROC, Liberty Consulting
All required Qwest interfaces are operationally ready	Qwest
HP is operationally ready	HP
The statistical plan is in place	TAG, KPMG Consulting
Pass/retest criteria have been identified	ROC, KPMG Consulting
Test scenarios selected	KPMG Consulting
Product descriptions and business rules for all transactions to be tested are available	Qwest
Techniques & instrumentation available	Qwest, KPMG Consulting
Test bed circuits provisioned and validated	Qwest, KPMG Consulting
Faults inserted into test-bed circuits as required by the test scenarios	Qwest, KPMG Consulting

18.4 Test Scope

Selected M&R test scenarios will be executed to evaluate Qwest's performance in making repairs under the conditions of various wholesale maintenance scenarios. The following chart contains the processes, sub-processes, and methods for evaluating the End-to-End Trouble Report Processing test:

Table 18.4.1 Test Target: Execution of M&R Test Scenarios

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End Trouble Report Processing – Resale	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative
End-to-End Trouble Report Processing – UNE/UNE Combinations	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative

18.5 Test Scenarios

This test involves the execution of selected M&R test scenarios.

18.6 Test Approach

18.6.1 Inputs

1. Test-bed circuits with embedded faults

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18.6.2 Activities

1. Conduct circuit test if applicable for each test scenario.
2. Note test results.
3. Create and submit trouble ticket via IMA.
4. Periodically monitor each trouble report throughout its life using trouble report status transactions in IMA.
5. Note significant events in the trouble report life cycle (error occurrences, corrections, trouble ticket submission time, time cleared, etc.).
6. Calculate time to repair measurements for each test scenario fault repaired.
7. Document observations.

18.6.3 Outputs

1. Reports that provide performance measurements
2. A time to repair measurement for each fault repaired
3. Summary report of observations
4. Observation and Exception reports
5. Variance between actual performance and standards of performance

18.7 M&R Work Center Support Process Evaluation

18.7.1 Description

The M&R work center support evaluation is an operational analysis of the work center/help desk processes developed by Qwest to provide support to CLECs with questions, problems and issues related to wholesale trouble reporting and repair operations.

18.7.2 Objectives

The objective of this test is to evaluate the effectiveness of M&R work center support operations and adherence to common support center/help desk procedures. An additional objective is to analyze the nature and frequency of problems referred to the work center to determine if they indicate potential problems in other M&R Domain.

Specifically, this evaluation is designed to:

- Determine completeness and consistency of work center/help desk processes and procedures
- Determine whether expedite and escalation procedures are correctly documented and work effectively
- Ensure existence of reasonable security measures to ensure integrity of work center/help desk data and the ability to restrict access to parties with specific access permissions
- Determine the timeliness and accuracy in identifying and resolving problems

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- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining work center/help desk performance
- Determine the existence of a capacity management process which addresses Qwest's ability to scale up for future growth
- Determine the existence of Maintenance and Repair coordination processes and procedures, and other operational elements associated with M&R coordination activities between Qwest and CLEC operations organizations.

18.7.3 Entrance Criteria

Table 18.7.3.1 Work Center Support Process Evaluation Entrance Criteria

Criteria	*Responsible Party*
Detailed test plan completed	*KPMG Consulting*
Techniques and instrumentation developed and approved	*KPMG Consulting and Qwest*
Process Evaluation Checklist	*KPMG Consulting*
Interview Guides	*KPMG Consulting*
Required data and documentation provided	*Qwest*

18.7.4 Test Scope

Table 18.7.4.1 Work Center Support Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Call Processing	Call Answer	Timeliness	Inspections Logging Interviews	Qualitative
	Call Logging	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Prioritization	Existence Effectiveness	Inspections Logging Interviews	Qualitative
Problem Tracking and Resolution	Documentation	Clarity Accuracy	Document Review Interviews	Qualitative
	Identify and Resolve	Timeliness Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Track Problem	Existence Accuracy	Inspections Logging Interviews	Qualitative

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Table 18.7.4.1 Work Center Support Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Expedite Escalation Procedures	Log Status and Close	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
	Documentation	Existence Clarity Accuracy	Document Review Interviews	Qualitative
	Call Answer	Accessibility Timeliness	Inspections Logging Interviews	Qualitative
	Escalation Logging	Accuracy	Inspections Logging Interviews	Qualitative
	Identify and Resolve	Timeliness	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Work Center Procedures		Accuracy Completeness	Inspections Logging Interviews	Qualitative
Joint Meet Procedures	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Coordinated Testing	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Manual Handling -- Resale		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Manual Handling -- UNE/UNE-P		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of and adherence to capacity management process	Inspection Document review Interview	Qualitative

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18.7.5 Test Scenarios

Not applicable.

18.7.6 Test Approach

18.7.6.1 Inputs

1. Interview guides
2. Observation checklists
3. Work center/help desk evaluation checklists
4. Work center contact logs
5. Process and procedure documentation
6. Qwest notification procedures for coordinated meets and coordinated testing

18.7.6.2 Test Activities

1. Conduct Maintenance and Repair center visits
2. Conduct work center/help desk evaluations
3. Establish work center contact logs
4. Analyze and collate contacts by type
5. Report negative observations via the Observation/Exception process as appropriate

18.7.6.3 Outputs

1. Completed checklists from the work center/help desk evaluations
2. Summary report
3. Contact analysis results report
4. Observation and Exception reports

18.8 End-to-End Maintenance and Repair (M&R) Process Evaluation

18.8.1 Description

The End-to-End M&R Process Evaluation test evaluates the functional equivalence of Qwest's End-to-End M&R Process for retail and wholesale trouble reports. The test encompasses all activities from the moment a trouble ticket is captured in Qwest's systems until the same trouble ticket is closed and the customer is notified of the resolution.

18.8.2 Objectives

The objectives of this test are to evaluate Qwest's wholesale M&R trouble reporting process and the equivalence of Qwest's end-to-end processes for trouble reporting and repair of retail and wholesale services.

Additional objectives are to (1) evaluate the comparability of M&R retail and wholesale work center support operations and adherence to common work center procedures, and (2) analyze the

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nature and frequency of problems referred to the work centers to assess the level of parity between retail and wholesale trouble reporting activities.

18.8.3 Entrance Criteria

Table 18.8.3.1 M&R Process Evaluation Entrance Criteria

Criteria	*Responsible Party*
Detailed test plan completed	*KPMG Consulting*
Techniques and instrumentation developed and approved *Process Evaluation Checklist*	*KPMG Consulting and Qwest* *KPMG Consulting*
Interview Guides	*KPMG Consulting*
Required data and documentation provided	*Qwest*

18.8.4 Test Scope

Table 18.8.4.1 M&R Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End M&R Process: Resale and UNE/UNE-P	Process flow	Comparison with retail Completeness, consistency, and timeliness of the trouble reporting process	Interview Inspection Document review	Parity Qualitative
Document Management	Document management processes	Completeness of document management process	Interview Inspection Document review	Parity Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Parity Qualitative

18.8.5 Test Scenarios

Not applicable.

18.8.6 Test Approach

18.8.6.1 Inputs

1. Retail and wholesale M&R process flow documentation
2. Other procedural documentation
3. Evaluation checklists
4. Interview Guides
5. Retail analogs (as applicable)

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nature and frequency of problems referred to the work centers to assess the level of parity between retail and wholesale trouble reporting activities.

18.8.3 Entrance Criteria

Table 18.8.3.1 M&R Process Evaluation Entrance Criteria

Criteria	*Responsible Party*
Detailed test plan completed	*KPMG Consulting*
Techniques and instrumentation developed and approved *Process Evaluation Checklist*	*KPMG Consulting and Qwest* *KPMG Consulting*
Interview Guides	*KPMG Consulting*
Required data and documentation provided	*Qwest*

18.8.4 Test Scope

Table 18.8.4.1 M&R Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End M&R Process: Resale and UNE/UNE-P	Process flow	Comparison with retail Completeness, consistency, and timeliness of the trouble reporting process	Interview Inspection Document review	Parity Qualitative
Document Management	Document management processes	Completeness of document management process	Interview Inspection Document review	Parity Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Parity Qualitative

18.8.5 Test Scenarios

Not applicable.

18.8.6 Test Approach

18.8.6.1 Inputs

1. Retail and wholesale M&R process flow documentation
2. Other procedural documentation
3. Evaluation checklists
4. Interview Guides
5. Retail analogs (as applicable)

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18.8.6.2 Test Activities

1. Conduct M&R center visits
2. Review and compare wholesale and retail process flows
3. Identify differences between the t wo processes
4. Analyze process
5. Assess the potential impact of each difference (as applicable)
6. Document process flow analysis results

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18.8.6.3 Outputs

1. Completed checklists and interview summaries
2. Summary report
3. Contact analysis results report
4. Observation and Exception reports (as applicable)

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18.9 Exit Criteria

Table 18.9.1 Exit Criteria

Criteria	*Responsible Party*
All global exit criteria satisfied	*See Section 7*
Time to repair measurements for repaired faults	*KPMG Consulting*
Summary report of observations	*KPMG Consulting*

19. Billing Usage Functional Evaluation

19.1 Description

The Functional Usage Evaluation is an analysis of Qwest's daily message processing to ensure usage record types including access records (when appropriate), rated records, un-rated records and credit records appear accurately on the Daily Usage Feed (DUF) according to the defined schedule.

19.2 Objective

The objective of this test is to evaluate the following:

- Accuracy and completeness of all usage record types on the DUF including access records that should appear, not receiving records that should not appear, and not receiving empty set files
- Timeliness of the DUF and access records delivery

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19.3 Entrance Criteria

Table 19.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
The ROC has verified measurements to be used in the test	ROC, Liberty Consulting
All required Qwest interfaces are operationally ready	Qwest
Pass/retest criteria have been identified	ROC, KPMG Consulting
Test bed provisioned and validated	Qwest, KPMG Consulting
Product descriptions and business rules for all transactions to be tested are available	Qwest
Techniques and instrumentation developed	KPMG Consulting
Qwest resources are available to participate in the test	Qwest
Detailed Test Plan completed	KPMG Consulting
All call scripts that reflect the types, durations, terminating numbers, etc. of call that test callers are to make are provided	KPMG Consulting

19.4 Test Scenarios

Test calling is dependent on the provisioning process, which is dependent on scenarios. Test calls and service changes will occur simultaneously.

A subset of the Appendix D scenarios will be used in this test.

19.5 Test Approach

This test will use operational analysis to evaluate the accuracy and completeness of records contained in the DUF. This analysis will also examine the age of calls on the DUF. The evaluations will be accomplished by dispatching testers to various locations within the states participating in the test. These testers will place test calls and will record information about these calls including the "call from" number, "call to" number, "bill to" number, call time and duration. The data contained in these Daily Usage Feeds will then be compared to the call logs and relevant billing media. The Test Team will also record information about the contents of DUFs received by KPMG Consulting.

Test calls will be made using some customer accounts that will migrate during the test period. Migration refers to the conversion of account ownership from one LEC to another. Test calls will be made from migrating accounts before and after the migration date to ensure accurate guiding of data in the Daily Usage Feed.

For example, a Qwest retail customer migrates to a CLEC during the test. Calls made by the customer prior to migration should be guided to Qwest. Calls made by the customer after migration should be guided to the new CLEC.

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Test calls should be placed from within the Qwest calling region. Test calls will be made throughout the workday. Test calls will include a variety of call types with the exception of 911, and will be placed from various locations in order to test various switch technologies. Local and toll test calls terminating on the test lines will also be made. These calls will be subject to evaluation.

19.5.1 Inputs

1. Detailed Test Plan
2. Validated test bed, including lines, telephones and facilities

19.5.2 Activities

1. Test Team will develop Test Call Matrices, which include test call logs for each location, on each day, for each originating phone number.
2. Test Team will assemble tester resources, provide instructions and dispatch testers to calling locations.
3. Testers will complete calls and log results.
4. HP will receive DUF files from Qwest and provide to Test Team.
5. Test Team will verify that appropriate data is on the DUF.
6. Test Team will verify that calls that do not belong on the DUF are not on the DUF.
7. Test Team will verify that appropriate calls present in the DUF match the testers call log.
8. Test Team will identify DUF files that contain no billable records.
9. Using records received in the DUF files, Test Team will validate the age of calls by determining the number of business days between the call date and the day the DUF file was created.
10. Test Team will compile results.

19.5.3 Outputs

1. Call Logs Report – A report of the testers logs.
2. DUF Accuracy and Completeness Report – A report showing the validation of calls made during the test.
3. Empty DUF Files Report – A Report showing the number of empty DUF files sent by Qwest
4. Observation and Exception reports
5. Final report

19.6 Daily Usage Feed Returns, Production and Distribution Processes Evaluation

19.6.1 Description

The Daily Usage Feed Returns, Production and Distribution Process Evaluation is an operational analysis of the processes and related documentation used by Qwest to create, transmit and investigate, where necessary, to correct Daily Usage Feed (DUF) return requests from CLECs by

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issuing adjustments and/or credits. This test also includes an evaluation of Qwest's capacity management process.

The test may also include soliciting CLEC participation to gather data to help with the evaluation of the usage return process. The tester will observe the interactions of Qwest and CLECs submitting returns to verify that the procedures described by Qwest during the process evaluation are followed in practice. Inclusion of this segment of the test will be dependent on the availability of relevant CLEC data and examples.

19.6.2 Objective

The objective of this test is to determine the accuracy, completeness and timeliness of processes used to produce and distribute the DUF and to process and respond to Daily Usage Feed Return requests.

19.6.3 Entrance Criteria

Table 19.6.3.1 DUF Returns, Production and Distribution Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
All required Qwest interfaces are operationally ready	*Qwest*
HP is operationally ready	*HP*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Documentation on DUF Returns, Production and Distribution processes available	*Qwest*
Interview and walkthrough arrangements finalized	*Qwest*

19.6.4 Test Scope

The scope of this test includes the processes, sub-processes and measurements listed in the Table 19.6.4.1 below.

Table 19.6.4.1 Daily Usage Production and Distribution Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Produce Daily Usage File	Production of DUF files	Completeness and timeliness	Inspection	Qualitative
	Balancing and reconciliation of Daily Usage feed	Completeness of balancing and reconciliation procedures	Inspection	Qualitative
	Route Daily Usage	Controllability of usage	Inspection	Qualitative

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Table 19.6.4.1 Daily Usage Production and Distribution Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Daily Usage Feed Process	Data transmission and/or cartridge tape delivery to CLEC	Completeness, consistency and timeliness of the process	Inspection	Qualitative
Maintain and Re-transmit Usage History	Create Daily Usage backup	Reliability of repeatable process	Inspection	Qualitative
	Retrieve and re-transmit Daily Usage backup data	Availability and timeliness of prior period usage data to CLEC	Inspection	Qualitative
Capacity Management	Capacity management process	Adequacy, completeness of, and adherence of the capacity management process	Inspection Document review Interview	Qualitative

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19.6.5 Test Scenarios

Not applicable

19.6.6 Test Approach

19.6.6.1 Inputs

1. Detailed operational test plan
2. Qwest personnel to review procedures, systems and tools
3. Process documentation
4. Availability of HP DUF re-transmissions

19.6.6.2 Activities

1. Develop Daily Usage Production and Distribution Process Evaluation checklist
2. Prepare CLEC assistance solicitation materials
3. Select CLEC participants and arrange for observations
4. Observe DUF Returns process from CLEC perspective
5. Conduct process walk-throughs and interviews
6. Compile findings

19.6.6.3 Outputs

1. Completed test package for the Daily Usage Feed Returns, Production and Distribution Processes
2. Observation and Exception reports
3. Completed final report from the Daily Usage Feed Returns, Production and Distribution Processes Evaluation

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19.7 Exit Criteria

Table 19.7.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7

20. Carrier Bill Functional Evaluation

20.1 Description

The Carrier Bill Functional Evaluation is an analysis of Qwest's ability to accurately bill usage plus monthly recurring charges (MRC), fractional MRCs, and non-recurring charges (NRC) on the appropriate type of bill. An accurately billed item will contain the correct price and correct supporting information, such as start/end dates, duration, standard amounts, and discount amounts. This test will also evaluate the timeliness of bill delivery to the CLECs.

Monthly charges will be examined for both Resale and UNE billing on Integrated Access Billing System (IABS), Billing and Receivable Tracking System (BARTS), and Customer Record Information System (CRIS) bills. The verification of prices will consider prices charged based on Qwest tariffs, Qwest-CLEC Interconnection Agreements and Statements of Generally Available Terms and Conditions (SGATs), as appropriate. End user bills will be produced by Qwest's systems and validated by KPMG Consulting in this test. Validation of a sample of the end user bills will help verify that double billing of the end user (by Qwest and CLEC) does not occur. Table 20.1 reflects a number of key characteristics of Resale and UNE billing information that will be used in the design of test cases. Information includes the various charge components and their destination bill.

Table 20.1.1 Key Characteristics of Billing Information for Resale and UNE Customers

	Billing Component	Rating	Usage	Billing
Resale	Usage	CRIS	DUF	CRIS
Resale	MRC/NRC	CRIS	N/A	CRIS
UNE loop	MRC/NRC	CRIS	N/A	CRIS
UNE-P	MRC/NRC, usage	CRIS	DUF	CRIS
UNE-UDIT	MRC/NRC	IABS	N/A	IABS
Directory Listings	MRC/NRC	CRIS	N/A	CRIS
Line Sharing	MRC	CRIS	N/A	CRIS
Line Splitting	MRC	CRIS	N/A	CRIS
Dark Fiber	NRC/MRC	BARTS	N/A	BARTS

20.2 Objectives

This test evaluates the timely delivery of the bill and the accurate and timely appearance of charges on the appropriate bill. Appearance of charges will depend on the type of products ordered and/or class of service changes for resale and UNE. Details to be evaluated include:

- Fractional charges are accurate.
- Recurring and non-recurring charges are accurate.
- Discounts are applied correctly.
- Totals are accurate.
- Late charges are applied correctly.
- Service establishment dates are accurate.
- Adjustments appear on the bill.
- Bills are delivered to HP in a timely manner.
- All usage charges are billed accurately.

20.3 Entrance Criteria

Table 20.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
The ROC has verified measurements to be used in the test	ROC, Liberty Consulting
All required Qwest interfaces are operationally ready	Qwest
HP is operationally ready	HP
Pass/retest criteria have been identified	ROC, KPMG Consulting
All CRIS and IABS baseline bills produced from the initial test bed	Qwest
Techniques and instrumentation developed	KPMG Consulting
Product descriptions and business rules for all transactions to be tested are available	Qwest
Pricing sections of Qwest tariffs, Qwest-CLEC Interconnection Agreements and SGATs are provided	Qwest
Test bed provisioned and validated	Qwest, KPMG Consulting
Calls made during Functional Usage Evaluation processed through to the DUF and available for billing	Qwest
Availability of Qwest resources to test and produce CRIS and IABS bills	Qwest

20.4 Test Scope

Table 20.4.1 Test Scope for Carrier Bill Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Techniques	Criteria Type
Maintain Bill Balance	Carry balance forward	Accuracy of bill balance	Inspection	Quantitative
Verify Billing Accounts	Verify Billing Accounts	Completeness and accuracy of data	Inspection	Quantitative
Bills and Delivery	Verify recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify non-recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify fractional charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify Usage Charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify discounts	Completeness and accuracy of data	Inspection	Quantitative
	Verify adjustments (debits and credits)	Completeness and accuracy of data	Inspection	Quantitative
	Verify late charges	Completeness and accuracy of data	Inspection	Quantitative
	Receive bill copy	Timeliness of media delivery	Logging	Quantitative

As part of this test, a variety of products and services will be ordered. This may result in many variations in billing presentation from the Qwest billing systems (CRIS, BARTS, and IABS). Relevant bill types will be selected for review based upon the product mix and anticipated charges as defined in the expected test results.

20.5 Scenarios

A subset of the Appendix D scenarios will be utilized for billing and usage testing purposes. The set selected will include:

- Test cases for 'migration/conversion' of customers
- Test cases for disconnects, new service (add/delete), and partial disconnects
- Test cases for changes to services (modify)
- Test cases for changes to service delivery method
- All migration situations should be adequately represented, including:
  - Qwest to CLEC
  - CLEC to Qwest
  - CLEC to CLEC

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The scenarios utilized for billing and usage testing will be applied across all service delivery methods available in Qwest at the time of the test(s).

20.6 Test Approach

This test will use systems and operational analysis to evaluate the completeness and accuracy of charges that should appear on the bill based on usage information from the Functional Usage Evaluation and selected scenarios. Expected results will be defined for each test case.

Three bill periods will be processed for the same set of customers.

The first bill period consists of the baseline bills where customers created for this test are billed for the first time directly from the initial test bed. These bills are produced prior to the execution of any transaction scenarios that affect selected customers.

The second and third bill periods consist of bills produced after selected scenarios have been executed. This second set of bills will include items such as prorates, disconnects, migrations, adjustments, etc. Some customers will be created during the test execution, and will only receive second or third period bills.

The following list shows inputs, activities and outputs of the process needed to validate the full range of test cases.

20.6.1 Inputs

1. Detailed Test Plan
2. Verified Baseline Bills and CSRs
3. Selected usage from the Billing Functional Usage Evaluation
4. CSRs and completions from relevant orders

20.6.2 Activities

1. Begin first bill period by receiving baseline bills
2. Record invoice bill date and actual date received
3. Develop expected results for each test case
4. Validate test results for each applicable test case
5. Identify and resolve discrepancies on baseline bills
6. Process service order changes
7. Receive CSRs for second bill cycle
8. Receive bills for second bill period
9. Record invoice bill date and actual date received
10. Develop expected results for test cases
11. Validate test results for each applicable test case
12. Identify discrepancies

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13. Complete second bill period
14. Repeat 7-12 until third bill period is complete
15. Compile results

20.6.3 Outputs

1. An analysis of discrepancies to be included in the Final Report
2. Apply applicable performance measures to test data
3. Observation and Exception reports
4. Final report

20.7 Bill Production and Distribution Process Evaluation

20.7.1 Description

The Bill Production Process Evaluation is an operational analysis of the processes employed by Qwest to produce and distribute carrier bills.

This test will use operational analysis techniques. It will rely on the development of various evaluation checklists to facilitate a structured walk-through of the bill production and delivery processes

20.7.2 Objectives

The objective of this test is to determine whether the processes employed by Qwest to produce and distribute carrier bills result in bills that are accurate and are distributed to CLECs on a timely basis. The processes that enable a CLEC to request and obtain copies of previously received bills are also reviewed.

20.7.3 Entrance Criteria

Table 20.7.3.1 Bill Production and Distribution Process Evaluation Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Wholesale billing process flow documentation available	*Qwest*
Process Evaluation Checklist developed	*KPMG Consulting*
Interview Guides/questionnaire developed	*KPMG Consulting*
Interviewees identified and scheduled	*Qwest, KPMG Consulting*

20.7.4 Test Scope

Table 20.7.4.1 Bill Production and Distribution – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Balance Cycle	Define balancing and reconciliation procedures	Completeness and effectiveness of bill balancing and reconciliation procedures	Inspection	Qualitative
	Produce Control Reports	Completeness and accuracy in generation of control elements	Inspection	Qualitative
	Release cycle	Compliance to balancing and reconciliation procedures	Inspection	Qualitative
Deliver Bill	Delivery of bill media	Timeliness and controls of media delivery	Inspection	Qualitative
Maintain Bill History	Maintain billing information	Timeliness and controllability of billing information	Inspection	Qualitative
	Access billing information	Accessibility and availability of billing information	Inspection	Qualitative
Request Resend		Timeliness and accuracy of the delivery	Inspection	Qualitative

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20.7.5 Test Scenarios

Not applicable.

20.7.6 Test Approach

20.7.6.1 Inputs

1. Detailed operational test plan
2. Qwest personnel to review procedures, systems and tools
3. Process documentation

20.7.6.2 Activities

1. Develop Bill Production and Distribution Process Evaluation checklist
2. Conduct process walk-throughs and interviews
3. Compile findings

20.7.6.3 Outputs

1. Completed test package for the Bill Production and Distribution Process Evaluation
2. Observation and Exception reports
3. Completed final report from the Bill Production and Distribution Process Evaluation

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20.8 Exit Criteria

Table 20.8.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7

21. Scalability Test

Per agreement reached during the July 18-20 MTP Design Workshop in Salt Lake City, this section has been removed. This test's objective will be covered within the other functional test areas.

22. CLEC Network Provisioning Test

22.1 NDR

22.1.1 Description

Part of the evaluation of the interaction between Qwest and a CLEC will include a review of the processes for fulfilling network design requests (NDRs). This test evaluates Qwest's methods and procedures and practices for network design requests related to establishing and maintaining a CLEC's ability to access unbundled network elements, including customized routing to Directory Assistance and Operator Services.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and Qwest parties. A key element of this test will be observing and evaluating ongoing, in production NDR processes.

22.1.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information, documentation, and technical support from Qwest to adequately prepare for and implement network designs, including those required for customized routing for Directory Assistance and Operator Services
- Determine whether network design processes are well-structured and managed to produce the intended results and to evaluate Qwest's compliance with those processes
- Evaluate the usability and completeness of NDR forecast forms and procedures
- Assess the quality of the NDR business process

20.8 Exit Criteria

Table 20.8.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7

21. Scalability Test

Per agreement reached during the July 18-20 MTP Design Workshop in Salt Lake City, this section has been removed. This test's objective will be covered within the other functional test areas.

22. CLEC Network Provisioning Test

22.1 NDR

22.1.1 Description

Part of the evaluation of the interaction between Qwest and a CLEC will include a review of the processes for fulfilling network design requests (NDRs). This test evaluates Qwest's methods and procedures and practices for network design requests related to establishing and maintaining a CLEC's ability to access unbundled network elements, including customized routing to Directory Assistance and Operator Services.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and Qwest parties. A key element of this test will be observing and evaluating ongoing, in production NDR processes.

22.1.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information, documentation, and technical support from Qwest to adequately prepare for and implement network designs, including those required for customized routing for Directory Assistance and Operator Services
- Determine whether network design processes are well-structured and managed to produce the intended results and to evaluate Qwest's compliance with those processes
- Evaluate the usability and completeness of NDR forecast forms and procedures
- Assess the quality of the NDR business process

22.1.3 Entrance Criteria

Table 22.1.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Process evaluation checklist developed	*KPMG Consulting*
Interview guides developed	*KPMG Consulting*

22.1.4 Test Scope

The evaluation will examine the following with respect to network design request-related processes:

Process Area	Sub Process	Evaluation Measure	Evaluation Technique	Criteria Type
Network Design Requests	Network Design Planning Process	Adequacy and completeness of the process. Adherence to the planning process	Inspection Document review Report review Interview	Qualitative
	Network Design Request Testing Process	Adequacy and completeness of the process. Adherence to the testing process	Inspection Document review Report review Interview	Qualitative
	Procedures for handling CLEC Network Design Confidential Information	Adequacy and completeness of the process. Adherence to the established process	Document review Report Review Interview	Qualitative
	NDR Provisioning & Notification Process	Adequacy and completeness of the process. Adherence to the communications and notification process	Document review Inspection Interview	Qualitative

22.1.5 Test Scenarios

This test does not rely upon scenarios.

22.1.6 Test Approach

22.1.6.1 Inputs

1. Procedural and technical documentation
2. Qwest instructions to CLECs for planning and implementing network designs, including those required for customized routing for Directory Assistance and Operator Services

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3. Evaluation checklists
4. Interview guides
5. CLEC data

22.1.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

22.1.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

22.1.7 Exit Criteria

Table 22.1.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

22.2 Collocation

22.2.1 Description

Part of the evaluation of the interaction between Qwest and a CLEC will include a review of the processes for fulfilling collocation requests. This test evaluates Qwest's methods and procedures and practices for collocation-related requests for establishing and maintaining a CLEC's ability to access unbundled network elements.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and Qwest parties. A key element of this test will be to observe and to evaluate ongoing, in production, collocation processes.

22.2.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information and technical support from Qwest to adequately prepare for and implement collocation facilities
- Determine whether collocation processes are well-structured and managed to produce the intended results and to evaluate Qwest's compliance with those processes
- Evaluate the usability and completeness of collocation forecast forms and procedures

- Assess the quality of the collocation business process

22.2.3 Entrance Criteria

Table 22.2.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Process evaluation checklist developed	*KPMG Consulting*
Interview guides developed	*KPMG Consulting*

22.2.4 Test Scope

The evaluation will examine the following with respect to collocation-related processes:

Collocation	Collocation Planning Process	Adequacy and completeness of the process. Adherence to the planning process	Inspection Document review Report review Interview	Qualitative
	Collocation Project Management Procedures	Adequacy and completeness of the process. Adherence to the project optimization, schedule, cost and authorization procedure and process	Document review Report Review Interview	Qualitative
	Procedures for handling CLEC Collocation Confidential Information	Adequacy and completeness of the process. Adherence to the established process	Document review Report Review Interview	Qualitative
	Collocation project activities technical Support	Adequacy and completeness of the process. Adherence to the established procedures and process	Document review Report Review Interview	Qualitative
	Collocation Testing	Adequacy and completeness of the process Adherence to the established test structures and action steps	Document review Report Review Interview	Qualitative

	Collocation Provisioning & Notification Process	Adequacy and completeness of the process. Adherence to the communications and notification process	Document review Inspection Interview	Qualitative

22.2.5 Test Scenarios

This test does not rely upon scenarios.

22.2.6 Test Approach

22.2.6.1 Inputs

1. Procedural and technical documentation
2. Qwest instructions to CLECs for planning and implementing collocations
3. Evaluation checklists
4. Interview guides
5. CLEC data

22.2.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings
5. Review production collocation performance data

22.2.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

22.2.7 Exit Criteria

Table 22.2.7.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7

22.3 Interconnection Trunks

22.3.1 Description

Part of the evaluation of the interaction between Qwest and a CLEC will include a review of the processes for providing interconnection trunks. This test evaluates Qwest's methods and procedures and practices for the provision of interconnection trunks related to establishing and maintaining a CLEC's ability to access unbundled network elements.

This test will not require test scenarios, data generation, or volume testing. This test will rely on, among other things, checklists, interviews, and inspections with both CLEC and Qwest parties. (This test is not intended to examine interconnection for other purposes, such as inter-exchange carrier's network to network interconnection.)

22.3.2 Objectives

The objectives of this qualitative test are to:

- Determine whether CLECs have sufficient information and technical support from Qwest to adequately prepare for and implement interconnection trunks.
- Determine whether interconnection processes are well-structured and managed to produce the intended results and to evaluate Qwest's compliance with those processes.
- Determine the existence and functionality of procedures for developing, publishing, conducting, and monitoring trunk forecasting efforts with CLECs.
- Verify the integration of trunk forecasting procedures with Qwest's facilities planning procedures.
- Ensure the trunk forecasting effort has effective management oversight.
- Assess the quality of the interconnection trunk forecasting process.

22.3.3 Entrance Criteria

Table 22.3.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
The ROC has verified measurements to be used in the test	ROC, Liberty Consulting
All required Qwest interfaces are operationally ready	Qwest

Pass/Fail criteria have been identified	ROC, KPMG Consulting
Process evaluation checklist developed	KPMG Consulting
Interview guides developed	KPMG Consulting

22.3.4 Test Scope

The evaluation will examine the following with respect to interconnection trunk-related processes:

Interconnection Trunks	Trunk Forecasting Procedures	Adequacy and completeness of the process. Adherence to the trunk forecasting process	Document review Report Review Interview	Existence
	Procedures for handling CLEC Trunk Forecast Confidential Information	Adequacy and completeness of the process. Adherence to the established process	Document review Report Review Interview	Qualitative
	Integration of Trunk forecasts in facility planning process	Existence of standard planning process Adherence to the established planning procedures and process	Document review Interview Inspection	Qualitative
	Interconnection Trunk Provisioning & Notification Process	Adequacy and completeness of the process. Adherence to the communications and notification process	Document review Interview Inspection	Qualitative
	Process for managing & addressing trunk order due date issues	Adequacy and completeness of the process. Existence of escalation process Adherence to the communications and notification process	Document review Report Review Interview	Qualitative

22.3.5 Test Scenarios

This test does not rely upon scenarios.

22.3.6 Test Approach

22.3.6.1 Inputs

1. Procedural and technical documentation

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2. Qwest instructions to CLECs for forecasting, planning and implementing interconnection trunks
3. Evaluation checklists
4. Interview guides
5. CLEC data

22.3.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

22.3.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

22.3.7 Exit Criteria

Table 22.3.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

23. Change Management Test

23.1 Description

This test evaluates Qwest's methods and procedures for managing changes to and change requests for OSS interfaces and business processes utilized by CLECs. This test will review Qwest's co-provided industry change management process (CICMP). The test will rely on inspection and review of Qwest documentation and on CLEC interviews.

23.2 Objective

The objective of this test is to determine the adequacy and completeness of procedures for developing, publicizing, conducting, and monitoring change management.

23.3 Entrance Criteria

Table 23.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
Pass/fail criteria have been identified	ROC, KPMG Consulting
Process evaluation checklist developed	KPMG Consulting
Interview guides developed	KPMG Consulting

23.4 Test Scope

Table 23.4.1 Change Management Evaluation Scope

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Change Management	Change Request Implementation	Completeness and consistency of change request process	Inspection Document review Report review Interview	Qualitative
	Prioritization and Escalation Process	Completeness and consistency of prioritization and escalation guidelines and process	Inspection Document review Report review Interview	Qualitative
	Developing Change Proposals	Completeness and consistency of change development process	Inspection Document review Report review Interview	Qualitative
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	Inspection Document review Report review Interview	Qualitative
	Severity levels	Completeness and reasonableness of levels and process	Inspection Document review Report review	Qualitative
	Notification Schedules	Reasonableness of notification schedules and completeness of process	Inspection Document review Report review Interview	Qualitative
	Implementing Change	Completeness and consistency of change implementation process	Inspection Document review Report review Interview	Qualitative
	Intervals	Reasonableness of change interval	Inspection Document review Report review Interview	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Documentation	Timeliness of documentation and notification updates	Inspection Document review Report review Interview	Qualitative
	Tracking Change Proposals	Adequacy and completeness of change management tracking process	Inspection Document review Report review Interview	Qualitative

21.5 Scenarios

This test does not rely on scenarios.

21.6 Test Approach

21.6.1 Inputs

1. Qwest change management process documentation
2. Other procedural and technical documentation
3. Qwest instructions to CLECs for interacting with change management functions and interpreting change management activities
4. One significant software release that has been recently implemented
5. Evaluation checklists
6. Interview guides
7. CLEC data
8. Change management process artifacts, such as notifications and updated specifications

21.6.2 Activities

1. Gather documentation and other relevant data
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

21.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

21.6.4 Executing

[redacted]

Table 23.7.1 Exit Criteria

[redacted]	Responsible Party
[redacted]	*See Section 7*

24. Qwest CLEC Support Processes and Procedures Review

24.1 Description

[redacted] was designed to evaluate the systems, processes and documentation provided by Qwest for the establishment and maintenance of business relationships with the CLECs. Areas to be evaluated include a determination of whether Qwest is adequately assisting CLECs to understand how to implement and use all of the OSS functions available to them.

24.2 Objectives

The process and procedure review includes evaluation of the following areas of support provided by Qwest to CLECs in the establishment and on-going maintenance of their wholesale interconnection relationship:

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

24.3 *Account Establishment & Management Review*

24.3.1 Description

This test evaluates Qwest's methods and procedures, processes and practices for establishing and managing CLEC account relationships.

24.3.2 Objectives

The objectives of this test are to determine the adequacy, completeness, and compliance with procedures for developing, publishing, conducting, and monitoring account management.

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Table 11.3.1 Entrance Criteria

Criteria	Responsible Party

Table 11.3.2 Systems Establishment & Management Review

		Evaluation Techniques	Criteria Type
			Qualitative
			Qualitative
			Qualitative
			Qualitative
			Qualitative
			Qualitative

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2. Qwest instructions to CLECs for interacting with account managers
3. Other procedural, technical, and customer documentation
4. Evaluation checklists
5. Interview guides
6. CLEC data

24.3.6.2 Activities

1. Gather documentation and other relevant data
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

24.3.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

24.3.7 Exit Criteria

Table 24.3.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

24.4 CLEC Forecasting Review

24.4.1 Description

This test evaluates Qwest's methods and procedures, processes and practices for requesting and managing CLEC facility and service forecasts for wholesale services.

24.4.2 Objective

The objective of this test is to determine the adequacy, completeness, and compliance with procedures for requesting, receiving, refining and utilizing forecasts from CLECs. The utilization portion of this test will include an assessment of Qwest's capacity management process for scaling the growth of its systems and staff based on projected demand.

24.4.3 Entrance Criteria

Table 24.4.31 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing	*ROC, Qwest*

Criteria	Responsible Party
the test exist	
Pass/retest criteria have been identified	ROC, KPMG Consulting
Forecast process evaluation checklist developed	KPMG Consulting
Interview guides developed	KPMG Consulting
Provision of relevant historical data	Qwest
Access to CLEC account management calls	CLEC

24.4.4 Test Scope

Table 24.4.4.1 Forecasting Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Forecast Procedures	Request process	Existence Completeness	Inspection	Existence Qualitative
	Receipt and Refinement	Existence Completeness	Inspection	Existence Qualitative
Forecast Utilization	Process Documentation	Existence Completeness	Inspection	Existence Qualitative
	Compliance	Timeliness Accuracy	Inspection	Qualitative

24.4.5 Scenarios

This test does not rely on scenarios.

24.4.6 Test Approach

24.4.6.1 Inputs

1. Qwest forecasting procedural documentation
2. Qwest instructions to CLECs for providing forecasts
3. Other procedural, technical, and customer documentation
4. Evaluation checklists
5. Interview guides
6. CLEC forecast data

24.4.6.2 Activities

1. Gather information
2. Perform interviews and documentation review
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

24.4.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

24.4.7 Exit Criteria

Table 24.4.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

24.5 CLEC Training

24.5.1 Description

This test evaluates Qwest's training documentation and practices for CLEC representatives engaged in the establishment and maintenance of the Qwest-CLEC business relationship.

24.5.2 Objective

The objective of this test is to determine the existence and adequacy of procedures for developing, announcing, conducting, and monitoring Qwest training for CLECs.

24.5.3 Entrance Criteria

Table 24.5.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Process evaluation checklist developed	*KPMG Consulting*
Interview guides developed	*KPMG Consulting*

24.5.4 Test Scope

Table 24.5.4.1 CLEC Training Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Training Program Development	Develop curriculum	Completeness of training curriculum and forums	Document review Inspection	Qualitative
		Adequacy of procedures to respond to information about training quality and utilization	Document review Inspection	Qualitative
		Adequacy of procedures to accept CLEC input regarding training curriculum	Document review Inspection	Qualitative
	Publicize training opportunities	Availability of information about training opportunities	Document review Inspection	Qualitative
Training Program Quality Assurance	Attendance/ utilization tracking	Adequacy of process to track utilization and attendance of various training tools and forums	Document review Inspection	Qualitative
	Session effectiveness tracking	Adequacy of process to survey training recipients on effectiveness of training	Document review Inspection	Qualitative
	Instructor oversight	Adequacy of procedures to monitor instructor performance	Document review Inspection	Qualitative
Process Management	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

24.5.5 Scenarios

This test does not rely on scenarios.

24.5.6 Test Approach

24.5.6.1 Inputs

1. Qwest training procedural documentation
2. Qwest instructions to CLECs for participating in training
3. Training material – manuals and handouts
4. Evaluation checklists
5. Interview guides

24.5.6.2 Activities

1. Gather information

2. Perform interviews and documentation review
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

24.5.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

24.5.7 Exit Criteria

Table 24.5.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

24.6 OSS Interface Development Review

24.6.1 Description

This test evaluates Qwest's documentation, specifications and support provided to CLECs in developing, providing, and maintaining OSS interfaces for pre-ordering, ordering, billing and maintenance & repair. This test also includes an assessment of Qwest's capacity management and growth planning processes.

24.6.2 Objective

The objective of this test is to determine the adequacy, consistency and completeness of Qwest's specifications, documentation and technical assistance provided to the CLECs for developing, testing and operating OSS interfaces for pre-ordering, ordering, billing and maintenance and repair.

24.6.3 Entrance Criteria

Table 24.6.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Process evaluation checklist developed	*KPMG Consulting*
Interview guides developed	*KPMG Consulting*

24.6.4 Test Scope

Table 24.6.4.1 OSS Interface Development Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Developing Interfaces	Interface development methodology	Adequacy and completeness of interface development methodology	Inspection Document review Report review	Qualitative
	Provision of interface specifications and related documentation	Adequacy and completeness of interface documentation distribution procedures	Inspection Document review Report review	Qualitative
Enabling and Testing Interfaces	Interface enabling and testing methodology	Adequacy and completeness of carrier-to-carrier interface enabling and testing procedures	Inspection Document review Report review	Qualitative
	Availability of test environments and technical support to CLECs	Availability and adequacy of functioning test environments, testing protocols, production cutover protocols and technical support for all supported interfaces	Inspection Document review Report review	Qualitative
	Interface enabling and testing support	Adequacy and completeness of interface enabling and testing procedural documentation	Inspection Document review Report review	Qualitative
Maintaining Interfaces	Release management	Adequacy and completeness of interface enhancement software release management and regression testing protocols	Inspection Document review Report review	Qualitative
	Capacity management	Adequacy and completeness of capacity and growth planning process	Inspection Document review	Qualitative

24.6.5 Scenarios

This test does not rely on scenarios.

24.6.6 Test Approach

24.6.6.1 Inputs

1. Procedural and technical documentation
2. Qwest instructions to CLECs for enabling, testing, and maintaining compatibility with interfaces

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3. Evaluation checklists
4. Interview guides
5. CLEC data

24.6.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

24.6.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. HP comments on its interface development process
3. Observation and Exception reports
4. Final report

24.6.7 Exit Criteria

Table 24.6.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

24.7 Wholesale Systems Help Desk Review

24.7.1 Description

This review is an evaluation of Qwest's IMA help desk functions that provide technical support for its OSS interfaces.

24.7.2 Objectives

The objectives of this review are to:

- Determine adequacy, completeness and consistency of IMA help desk processes
- Ensure IMA help desk functions have effective management oversight
- Determine whether IMA help desk escalation procedures are correctly maintained, documented and published
- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining IMA help desk performance
- Ensure existence of reasonable security measures to ensure integrity of IMA help desk data and the ability to restrict access to parties with specific access permissions

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- Determine whether IMA help desk procedures are followed as a matter of routine by Qwest personnel
- Determine whether IMA help desk procedures are subject to periodic review and amendment to assure currency and consisten cy with product and service deployments and changes in the IMA capabilities

24.7.3 Entrance Criteria

Table 24.7.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Process evaluation checklist developed	*KPMG Consulting*
Interview guides developed	*KPMG Consulting*

24.7.4 Test Scope

Figure 24.7.4.1 Wholesale Systems Help Desk Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process IMA Help Desk Call	Resolution of user question, problem or issue	Completeness and consistency of process	Inspection Document review	Qualitative
Close IMA Help Desk Call	Closure posting	Completeness and consistency of process	Inspection Document review	Qualitative
Status Tracking and Reporting	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative
Problem Escalation	User and Qwest initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative
Capacity Management	Capacity planning process	Completeness and consistency of and adherence to process	Inspection Document review	Qualitative
Security and Integrity	Data access controls	Security of process	Inspection Document review	Qualitative
Process Management	General management practices	Completeness and consistency of operating management practices	Inspection Document review	Qualitative
	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of and adherence to capacity management process	Inspection Document Review Interview	Qualitative

24.7.5 Scenarios

This test does not rely on scenarios.

24.7.6 Test Approach

24.7.6.1 Inputs

1. Procedural documentation such as internal help desk procedure manuals
2. Qwest instructions to CLECs for interacting with help desk functions
3. Evaluation checklists
4. Interview guides
5. CLEC data

24.7.6.2 Activities

1. Gather information
2. Perform walk-throughs, observations and documentation reviews
3. Complete evaluation checklists
4. Develop and document findings

24.7.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

24.7.7 Exit Criteria

Table 24.7.7.1 Exit Criteria

Criteria	*Responsible Party*
Global exit criteria satisfied	*See Section 7*

24.8 Interconnect Service Center (ISC) Support Review

24.8.1 Description

The Interconnect Service Center (ISC) Support Review is a comprehensive operational analysis of the service center processes developed by Qwest to support Resellers and CLECs with OSS questions, escalations, problems, and issues related to pre-ordering, ordering and provisioning of

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its wholesale services. Basic functionality, performance and escalation procedures will be evaluated.

24.8.2 Objectives

The objectives of this review are to:

- Determine completeness and consistency of ISC processes and responses
- Determine whether the escalation procedure is documented and known to ISC representatives and management
- Determine the accuracy and completeness of procedures for measuring ISC performance

24.8.3 Entrance Criteria

Table 24.8.3.1 Entrance Criteria

Criteria	*Responsible Party*
No legally effective orders or injunctions preventing the test exist	*ROC, Qwest*
Pass/retest criteria have been identified	*ROC, KPMG Consulting*
Process evaluation checklist developed	*KPMG Consulting*
CLEC problem feedback survey completed	*KPMG Consulting*
ISC problem response standard survey completed	*KPMG Consulting*

24.8.4 Test Scope

Table 24.8.4.1 ISC Support Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Respond to ISC Call	Answer call	Completeness and consistency of process Timeliness of answer	Inspection Performance	Qualitative Quantitative
	Interface with user	Availability of user interface	Inspection	Qualitative
	Response to call	Completeness and accuracy of response	Inspection	Qualitative
	Log call	Completeness of logged information Log is kept in appropriate media for appropriate interval	Document Review Inspection	Qualitative
Process ISC Call	Access to systems to observe user problems	Ability to access user records and transactions	Inspection	Qualitative
	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review	Qualitative
Close ISC Call	Log closure information	Completeness, consistency, and timeliness of process	Inspection	Qualitative

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Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Service Order	Track status	Accuracy and completeness of status tracking capability Availability of jeopardy notification	Inspection Document Review	Qualitative
	Report status	Completeness and consistency of reporting process Accessibility of status report	Inspection Document Review	Qualitative
Trouble Escalation	Manage escalations	Consistency and completeness of procedure	Document Review Inspection	Qualitative
Usage of IS Process	Provide management oversight	Completeness and consistency of operating management practices	Inspection	Qualitative
Capacity Management	Perform capacity management processes and procedures	Adequacy and completeness of and adherence to workforce capacity management procedures	Inspection Document review Interview	Qualitative

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24.8.5 Scenarios

This test does not rely on scenarios.

24.8.6 Test Approach

24.8.6.1 Inputs

1. ISC Evaluation Checklist
2. ISC procedural documentation

24.8.6.2 Activities

1. Gather information
2. Perform ISC walk-throughs, observations and documentation reviews
3. Complete evaluation checklists
4. Develop and document findings

24.8.6.3 Outputs

1. Completed ISC evaluation checklists and interview summaries
2. Observation and Exception reports
3. Final report

24.8.7 Exit Criteria

Table 24.8.7.1 Exit Criteria

Criteria	Responsible Party
Global exit criteria satisfied	See Section 7

24.9 Network Surveillance & Outage Support Review

24.9.1 Description

The network surveillance and outage support evaluation is a review of the processes, procedures, and other operational elements associated with Qwest's network surveillance as it relates to wholesale and retail operations. Additionally, this evaluation will review Qwest's network outage notification processes and procedures as they relate to wholesale operations.

24.9.2 Objectives

The objective of this test is to assess the functionality of Qwest's network surveillance activities and its application to the wholesale and retail customers they support. Test targets for the evaluation include the network surveillance systems and processes employed by the following Qwest operations centers: 1) Network Management Center (NMC), and 2) Network Operations Center (NOC). In addition, a review of the network blockage and outage notification procedures used by Qwest to alert affected wholesale customers of alarms and outage events will be conducted.

24.9.3 Entrance Criteria

Table 24.9.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
Pass/reject criteria have been identified	ROC, KPMG Consulting
Network surveillance and outage evaluation checklist developed	KPMG Consulting
NMC/NOC interview guide developed	KPMG Consulting

24.8.7 Exit Criteria

Table 24.8.7.1 Exit Criteria

Criteria	Responsible Party
Closure exit criteria satisfied	See Section 7

24.9 Network Surveillance & Outage Support Review

24.9.1 Description

The network surveillance and outage support evaluation is a review of the processes, procedures, and other operational elements associated with Qwest's network surveillance as it relates to wholesale and retail operations. Additionally, this evaluation will review Qwest's network outage notification processes and procedures as they relate to wholesale operations.

24.9.2 Objectives

The objective of this test is to assess the functionality of Qwest's network surveillance activities and its application to the wholesale and retail customers they support. Test targets for the evaluation include the network surveillance systems and processes employed by the following Qwest operations centers: 1) Network Management Center (NMC), and 2) Network Operations Center (NOC). In addition, a review of the network blockage and outage notification procedures used by Qwest to alert affected wholesale customers of alarms and outage events will be conducted.

24.9.3 Entrance Criteria

Table 24.9.3.1 Entrance Criteria

Criteria	Responsible Party
No legally effective orders or injunctions preventing the test exist	ROC, Qwest
Participant criteria have been identified	ROC, KPMG Consulting
Network surveillance and outage evaluation checklist developed	KPMG Consulting
NMC/NOC interview guide developed	KPMG Consulting

24.9.4 Test Scope

Table 24.9.4 Network Surveillance & Outage Support Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Network Surveillance	Inter Office Facility (IOF) Surveillance	Existence Completeness	Interview Inspection Document Review	Existence Qualitative
	Advanced Intelligent Network (AIN) Interconnect Surveillance	Existence Completeness	Interview Inspection Document Review	Existence Qualitative
Outage Notification	Process Documentation	Accuracy Completeness	Interview Inspection Document Review	Existence Qualitative
	Notification Procedures	Timeliness Accuracy Completeness	Interview Inspection Document Review	Existence Qualitative
	Notification Observations	Accuracy Completeness	Interview Inspection Document Review	Existence Qualitative

24.9.5 Scenarios

This test does not rely on scenarios.

24.9.6 Test Approach

24.9.6.1 Inputs

1. Network surveillance operational analysis plan and task checklist
2. Network outage operational analysis plan and task checklist
3. Evaluation guides
4. Interview Guides
5. Documentation of all network surveillance for wholesale and retail operations
6. Documentation of outage notification procedures for wholesale operations
7. Designated NMC/NOC personnel for interviews
8. Observation schedule

24.9.6.2 Activities

1. Using the operational analysis plan, conduct process analysis at the NMC and NOC
2. Conduct documentation review

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24.9.4 Test Scope

Table 24.9.4 Network Surveillance & Outage Support Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Network Surveillance	Inter Office Facility (IOF) Surveillance	Existence Completeness	Interview Inspection Document Review	Existence Qualitative
	Advanced Intelligent Network (AIN) Interconnect Surveillance	Existence Completeness	Interview Inspection Document Review	Existence Qualitative
Outage Notification	Process Documentation	Accuracy Completeness	Interview Inspection Document Review	Existence Qualitative
	Notification Procedures	Timeliness Accuracy Completeness	Interview Inspection Document Review	Existence Qualitative
	Notification Observations	Accuracy Completeness	Interview Inspection Document Review	Existence Qualitative

24.9.5 Scenarios

This test does not rely on scenarios.

24.9.6 Test Approach

24.9.6.1 Inputs

1. Network surveillance operational analysis plan and task checklist
2. Network outage operational analysis plan and task checklist
3. Evaluation guides
4. Interview Guides
5. Documentation of all network surveillance for wholesale and retail operations
6. Documentation of outage notification procedures for wholesale operations
7. Designated NMC/NOC personnel for interviews
8. Observation schedule

24.9.6.2 Activities

1. Using the operational analysis plan, conduct process analysis at the NMC and NOC
2. Conduct documentation review

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24.10.6.1 Inputs

1. Evaluation Checklist
2. Applicable documentation
3. Interview guides
4. Data from Test 20 (this data will be the source for the Billing Center calls)

24.10.6.2 Activities

1. Gather information
2. Perform walk-through, observations and documentation reviews
3. Place and log Billing Center calls
4. Complete evaluation checklists and interview summaries
5. Develop and document findings

24.10.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

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24.10.7 Exit Criteria

All Global Exit Criteria satisfied	*See Section 7*

25. Interim and Final Reports

25.1 Interim Report

KPMG Consulting will develop and submit to the ROC at least one interim report at approximately the mid-point of the test process, and possibly others. This report(s) will describe the test for each major test. Draft interim report(s) will be provided to the TAG for review. The resulting comments will be taken into consideration by KPMG Consulting, HP and ROC in preparing final versions of the report(s).

25.2 Final Report

KPMG Consulting will develop and submit to the ROC a final report at the completion of testing. The final report will be released in draft form to the TAG for review and comment. Changes recommended by the TAG will be reviewed by KPMG Consulting and the ROC Steering Committee prior to submittal of a final report to the ROC Executive Committee.

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26. Test Wrap Up

At the conclusion of the test HP shall dismantle all datastores created for the test, return any telephone numbers used, decommission physical facilities used for establishing connectivity, and return CIC and other industry-standard codes used in the establishment of HP.

KPMG Consulting will be responsible for responding to inquiries about the final test report and, possibly, providing tes timony or support for testimony in various venues.

Appendix A: Version Control

Version	Date	Reason	Distribution
TRD 1.0	January 21, 2000	Initial TRD Draft Release	TAG and web site
TRD 1.1	January 27, 2000	Added Appendix A, D and F Added Section 6.7 Edits and cosmetic changes	TAG and web site
TRD 2.0	February 28, 2000	Name change from MTP to TRD Integrated changes from TAG comments and 2/9-2/11 workshop	TAG and web site
TRD 3.0	March 9, 2000	Integrated changes from TAG comments on V 2.0, added appendices E and G	Attachment 1 to RFP TAG and web site
MTP 1.0	July 27, 2000	Initial Draft Release	TAG and web site
MTP 2.0	August 25, 2000	Second Draft Release	TAG and web site
MTP 3.0	October 25, 2000	Draft Final Release	TAG and web site
MTP 3.1	November 17, 2000	Final Release	TAG and web site
MTP 4.0	October 3, 2001	Revised Release	TAG and web site
MTP 5.0	December 28, 2001	Revised Release	TAG and web site
MTP 5.1	February 15, 2002	Revised Release	TAG and web site
MTP 5.2	April 9, 2002	Revised Release	TAG and web site

Appendix B: Qwest Service Performance Indicator Definitions (PID) ROC 271 Working PID v 2.0 dated 9/13/00

Available at www.nrri.ohio-state.edu/oss

Appendix C: Performance Measures

Placeholder

Appendix D: Scenarios

Table D1 – Stand alone Pre-order

Basic Scenario		Residence/ Business
A	Obtain CSRs	X
B	Validate customer address	X
C	Reserve telephone numbers	X
D	Determine Product and Feature Availability	X
E	Facility check	X
F	Schedule appointment	X
G	Loop qualification information	X
H	CFA Validation	X
I	Obtain directory listings information for an existing UNE-L customer	X

Note: All sub-functions of the above-listed preorder basic scenarios will be included in the test.

TaMe D2 – UNE

	Basic Scenario	2-wire Analog Loop	ADSL Qualified Loop	2-wire non-loaded Loop	ISDN Capable Loop	DS1 Capable Loop	Stand-Alone LNP	UDIT	EEL (see notes)	Dark Fiber	Sub Loop	Line Sharing	Stand-Alone DL
A	Migrate lines from Qwest without LNP	X	X	X	X	X			X			X	
B	Migrate lines from Qwest with LNP	X		X	X	X			X				
C	Migrate from CLEC to CLEC	X	X	X	X								
D	Purchase lines for a new customer	X	X	X	X	X			X				
E	Add new lines to existing customer	X	X	X	X	X			X				
F	Add new interoffice DS1/DS3 facilities							X		X			
G	Convert from Resale to UNE loop without LNP	X	X	X	X								
H	Convert from Resale to UNE loop with LNP	X			X								
I	Convert from UNE-P to UNE loop without LNP	X		X	X								
J	Convert from UNE-P to UNE loop with LNP	X			X								
K	Moves (outside)	X		X	X								
L	Disconnect (full)	X		X	X	X			X				
M	Add a new directory listing on existing account												X
N	Convert from line sharing arrangement to UNE-loop		X	X									
O	Obtain loop distribution at FDI										X		
P	Port number from Qwest to CLEC without facilities						X						

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Note 1: For selected test scenarios, post order LSR status and DLR queries will be conducted.

Note 2: All directory listing offerings will be tested, including complex listings.

Note 3: Currently, Qwest does not have a business process for coordinating EEL migrations with number portability.

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Table D3– Resale

	Basic Scenario	Res. POTS	Bus. POTS	Centrex*	Private Line	PBX
A	Migration from Qwest "as is"	X	X	X	X	X
B	Migration from Qwest "as specified"	X	X	X		
C	CLEC to CLEC migration	X	X	X		
D	New customer	X	X	X		
E	Add lines (L) trunks (T) circuits (C)	X L	X L	X L		X T
F	Feature changes to existing customer	X	X	X		
G	Telephone number change	X	X	X		
H	Directory change	X	X	X		
I	Migrate customer with voice mail	X	X			
J	Moves	X	X	X		
K	Suspend/restore service	X	X			
L	Disconnect (full and partial)	X	X	X	X	X
M	PIC/LPIC changes	X	X	X		X

* Includes 1) Centrex 21 and 2) Centrex as used by McLeod USA (observations).

Note 1: For selected test instances, post order LSR status and DLR queries will be conducted.

Note 2: All directory listing offerings will be tested, including complex listings.

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Table D4 – UNE – P

	Basic Scenario	Res. POTS	Bus. POTS
A	Migration from Qwest "as specified"	X	X
B	Migrate from CLEC to CLEC	X	X
C	New customer	X	X
D	Add lines (L)/trunks (T)/ circuits (C)	X (L)	X (L)
E	Feature changes to existing customer	X	X
F	Telephone number change	X	X
G	Directory change	X	X
H	Full and partial migration with DL changes	X	X
I	Convert from Resale products to UNE-P products	X	X
J	Migrate an account with Qwest initiated blocking	X	X
K	Migrate an account with pending service order	X	X
L	Establish new user with vanity TN	X	X
M	Moves	X	X
N	Suspend/restore service	X	X
O	Disconnect (full and partial)	X	X
P	Change PIC/LPIC	X	X
Q	Migrate service to a line splitting arrangement	X	X
R	Line splitting customer disconnects high speed data but maintains voice service	X	X

Note 1: For selected test instances, post-order LSR status and DLR queries will be conducted.

Note 2: All directory listing offerings will be tested, including complex listings.

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Table D5– Maintenance and Repair

	Conditions to be Tested Across Basic Scenario	Res. Lines	Bus. Lines	UNE loops	Centrex*	Private Line	PBX
A	Short on outside plant facility	X	X	X	X	X	X
B	Open on outside plant facility	X	X	X	X	X	X
C	Short on the line within the central office	X	X	X	X	X	
D	Open on the line within the central office	X	X	X	X	X	X
E	Noise on line	X	X	X			
F	Echo on line	X	X				
G	Customer w/ LNP not receiving incoming calls	X	X				
H	Customer receiving incoming calls intended for another customer's number	X					
I	Call waiting not working	X	X				
J	Repeat dialing not working	X					
K	Customer cannot call 900 numbers	X					
L	Calls do not roll-over for customer w/ multiline hunt group		X		X		
M	Call forwarding not working	X	X				
N	Caller ID not working	X	X				
O	No dial tone on multiple lines				X		
P	DS1 loop MUXed to DS3 IOF not functioning			X			
Q	Submit trouble ticket against new loop	X	X				
R	Conduct MLT on new CLEC service	X	X				

*Includes Centrex 21 only.

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Appendix E: Acronyms and Glossary

271 Application		An RBOC's application to offer long distance services submitted to a state or federal regulatory agency. In order to grant this application, the agency must find the applicant is in compliance with the 14 point competitive checklist described in the 1996 Telecommunications Act.
ALI	Automatic Line Information (for 911/E911 systems)	
ASR	Access Service Request	Form used to order interoffice facilities such as dedicated trunk ports
BAN	Billing Account Number	
Benchmark		A benchmark is established for a performance measure to serve as a standard when there is no appropriate retail analog.
Billing Domain		Tests related to creation of correct carrier bills.
BRI	Basic Rate Interface	A type of ISDN service
Capacity Testing		Look for evidence that sound management practices are in place to monitor performance and manage the capacity associated with a resource or pool thereof.
CARE	Customer Account Record Exchange	Industry standard for formatting exchange of subscription information.
Centrex		A business telephone service offered from a local CO that offers PBX-like functionality to the end user without the end user having to purchase CPE.
Change Management		The process by which changes are introduced at Qwest. Important steps include: 1) Advance notification that a change will occur; 2) CLEC input is considered when making changes; and 3) Smooth roll-out of the change.
CLEC	Competitive Local Exchange Carrier	A communications company which sells/re-sells communications services in direct competition with the Incumbent Local Exchange Carrier (ILEC)
CLEC Live Data		Production data delivered through interfaces that are already operational for real CLEC customers.

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CLLI	Common Language Location Identifier	An 8 to b11 digit alphanumeric code used as a method of identifying physical locations and equipment.
CO	Central Office	Facility where subscribers' lines connect to switching equipment
Completion Notice		A notification the ILEC provides to the CLEC to inform the CLEC that the requested service activity is complete.
CPE	Customer Premise Equipment	Customer-owned equipment
CSR	Customer Service Record	A record of customer specific information such as name, address, telephone number, telecommunication services subscribed to and certain other data relating to the services provided. The CSR also details a customer's fixed monthly charges billed by the local telephone company
Coordinated customer conversion DA	Directory Assistance	Orders that have a due date negotiated between the ILEC, the CLEC, and the customer so that work activities can be performed on a coordinated basis under the direction of the receiving carrier.
DOJ	Department of Justice	
DUF	Daily Usage Feed	A daily download of usage data from the switch which is delivered to Qwest's message processing system and directly to the CLEC
EB-TA	Electronic Bonding – Trouble Administration	
EDI	Electronic Data Interchange	Interface protocol that provides for mechanized order processing. Both the CLECs and Qwest will have systems (EDI Interface) to support the EDI functionality
End-to-End Testing Entrance and Exit Criteria		For the purposes of this test, end-to-end is defined as testing which demonstrates that the pre-order, order, provisioning, billing and M&R life cycle can be executed for a single customer. The necessary conditions for starting or completing individual tests described in the Test Plan.
EXACT/TEL US		Interface used by CLECs to order wholesale services requiring Access Service Requests (ASRs).

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Existence Criteria Type		These are criteria where only two possible test results can exist (e.g., true/false, presence/absence), such as whether a document exists ordoes not exist
FCC	Federal Communications Commission	
FID	Field Identifier	A code used when administering usage limits on residence and business end users. Also refers to fields of information used in the service order
Flow through		The term used to describe whether an LSR is passed electronically from the OSS interface to the ILEC legacy system to automatically create a service order. LSRs that do not flow through require manual intervention for the service order to be created in the ILEC legacy system.
FOC	Firm Order Confirmation	Notice the ILEC sends the CLEC to notify the CLEC that it has received the CLEC service order, created a service request, and assigned it a due date.
Functional Testing	Functionality Test	A documented set of instructions designed to test and/or validate specific functions of a process or system.
GUI	Graphical User Interface	A simplified method of accessing programs within a computer by using a mouse to point to icons, which in turn cause the programs to perform a specific function.
IABS	Interconnect Access Billing System	
ILEC	Incumbent Local Exchange Carrier	
IMA	Interconnect Mediated Access	
ISDN	Integrated Services Digital Network	Digital services designed for use with desktop applications, telephone switches, computer telephony and voice processing systems
Jeopardy		With regard to provisioning, a condition experienced in the service provisioning process which results potentially in the inability of a carrier to meet the committed due date on a service order. With regard to the OSS test, a notice that is issued whenever a key project milestone and/or commitment is at risk according to the MTP.

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LERG	Local Exchange Routing Guide	
LIDB	Line Information Data Base	Database used primarily for residential customers.
LIS	Local Interconnection Service Trunks	
LNP	Local Number Portability	
Loop		A transmission path that connects an end-user's premises to a Qwest Central Office
LSR	Local Service Request	A form prepared by the CLEC to request Qwest to provide the services as specified in the specific tariffs/contracts agreements. Information required for administration, billing and contact details is provided for in the various fields within the LSR.
M&R	Maintenance and Repair	Ability to provide for requests, status and resolution of potential troubles
M&R Domain		Tests related to processing and management of trouble-related reports.
MDF	Main Distribution Frame	The primary point at which outside plant facilities terminate within a Wire Center for interconnection to other telecommunications facilities within the Wire Center
Migration		Refers to "conversion as is" or "conversion as specified."
MLT	Mechanized Loop Test	A mechanized test used to determine loop situations
MTP	Master Test Plan	
OBF/TCIF	Ordering and Billing Forum/ Telecommunications Interface Forum	Industry Standards Organizations dedicated to resolving critical issues such as billing format issues between competing local exchange carriers, etc.
OCN	Operating Company Number	A four-digit number assigned to uniquely identify CLECs.
Operational Analysis		Operational analysis focuses on the form, structure, and content of the business process under study. This method is used to evaluate day-to-day operations and operational management practices.
OSS	Operations Support Systems	For purposes of this test OSS refers to systems that provide for processing orders, maintenance and repair activities, and billing activities

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Parity Criteria Type Parity measures		These are criteria that require two measurements to be developed and compared, such as whether external response time is at least as good as internal response time. Parity measures are compared to analogous wholesale performance measures to determine if there is nondiscriminatory treatment of wholesale services.
PBX	Private Branch Exchange	
Physical Resources PIC	Primary Inter-exchange Carrier	Test bed accounts that have a physical appearance in the central office. These resources are used for unbundled loop test activities. Primary inter-exchange carrier selected by end-user.
PID	Performance Indicator Definitions	
PM	Performance Measures	
POTS	Plain Old Telephone Service	
POP	Pre-Ordering, Ordering, and Provisioning Domain	Tests related to CLEC's acquisition of customer information, placing orders, and ensuring correct and timely provision and notification of order status.
Qualitative Criteria Type RMI	Relationship Management and Infrastructure Domain	These criteria set a threshold for performance where a range of quality values is possible, such as level of customer satisfaction Tests relating to activities, processes and documents that are focused on the establishment and maintenance of the CLEC/ILEC relationship.
Resale		Service that allows a CLEC to purchase ILEC retail services in order to resell these services to their own end-user.
Scenario		A unique business use of the system, e.g. migrate as-is of single line residential POTS account
SOP	Service Order Processor	

Standard Interval		The interval that the ILEC publishes as a guideline for establishing due dates for provisioning a service request. Typically, due dates will not be assigned with intervals shorter that the standard. These intervals are specified by service type and type of service modification requested. ILECs publish these standard intervals in documents used by their own service representatives as well as ordering instructions provided to CLECs in the Qwest Standard Interval Guidelines
SUPP	Supplement	A change to an order taken after the original order was submitted, but before the order has been executed, such as a date change.
Test Bed		A set of fictitious customer accounts that are designed to assist with testing. The test bed consists of working lines and provisioned products, although the owning customer is fictitious.
Test Call Matrix		A list of call types and the quantity of calls for each type that should be included in a particular test
Test Case Test Domain		Variation of a Scenario, e.g. migrate as specified with a different feature set A specific testing area with d efined targets, measures, scenarios, evaluation methods, and test processes.
Test Instance		Executing a specific Test Case using the information for a specific customer in the Test Bed
Test Scenario		A specifically defined request and activity as it relates to 3rd Party Testing. These Test Scenarios include both Functionality Testing and Capacity Testing.
TN	Telephone Number	A number associated with a telephone service
Transaction - Driven System Analysis		Transaction driven system analysis relies upon initiation of transactions, tracking of transaction progress, and analysis of transaction completion results to evaluate the automated system under test.
Transaction Generation		Transaction generation is the use of live, historical, and/or generated data and data processing capability to evaluate an automated and/or manual system under test

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TRD	Test Requirements Document	
UDIT	Unbundled Dedicated Interoffice Transport	
UNE	Unbundled Network Elements	
UNE-C	UNE-Combination	A pre-existing combination of legally binding and effective UNEs.
UNE-L UNE-P	UNE Loop UNE-Platform	A transmission path that connects an end-user's premises to a Qwest Central Office UNE Platforms are available as for existing POTS, PBX trunks and ISDN service
USOC	Universal Service Order Codes	
Verification and Validation Virtual Resources		Methods used in the evaluation of activities and processes not amenable to transaction-driven testing, but which require verification and validation. Test bed accounts that have no physical appearance. These accounts are used for Resale and UNE-P test activities where provisioning verification can be checking translations in the switch.
Volume Test		Test ability of systems to support expected future workloads.
Working Resources		Test bed accounts that have an appearance outside the central office. These accounts have dial tone and are used for billing usage testing, M&R testing and some provisioning tests.
xDSL	"x" Digital Subscriber Line	A general name for an evolving high speed transmission technology which uses existing copper wire from the telephone company central office to the subscriber's premise and has electronic equipment at the central office and at the subscriber's premises, and transmits and receives high speed digital signals

Appendix F: Qwest OSS System Architecture Overview

1. Interfaces

Qwest provides four uniform interfaces to CLECs for their use in pre-ordering, ordering and maintaining/repairing wholesale services. Other interfaces are provided for billing of wholesale services. A brief description of each follows.

1.1 IMA-GUI

The Interconnect Mediated Access–Graphical User Interface (IMA-GUI) is used by CLECs to perform pre-order inquiries, place orders, report troubles and obtain status via a workstation to Qwest's IMA Gateway. This human-to-computer IMA-GUI is used across all states in Qwest's territory.

1.2 IMA-EDI

The Interconnect Mediated Access – Electronic Data Interchange (IMA-EDI) is used by CLECs to perform pre-order inquiries, place orders and obtain status via a computer-to-computer interface that extends from the CLECs OSS application to the Qwest IMA-EDI Gateway. This IMA-EDI is used across all states in Qwest's territory.

1.3 MEDIACC (or EB-TA)

The Mediated Access (MEDIACC) interface is Qwest's implementation of an Electronic Bonding for Trouble Administration (EB-TA) interface for CLECs to use in maintenance and repair activities for Qwest's wholesale services. It is a computer-to-computer interface that supports trouble ticket administration and status, line record information viewing and mechanized loop testing results viewing. The MEDIACC interface is used across all states in Qwest's territory.

1.4 EXACT

The EXACT interface is used by CLECs to order wholesale services requiring Access Services Requests (ASRs).

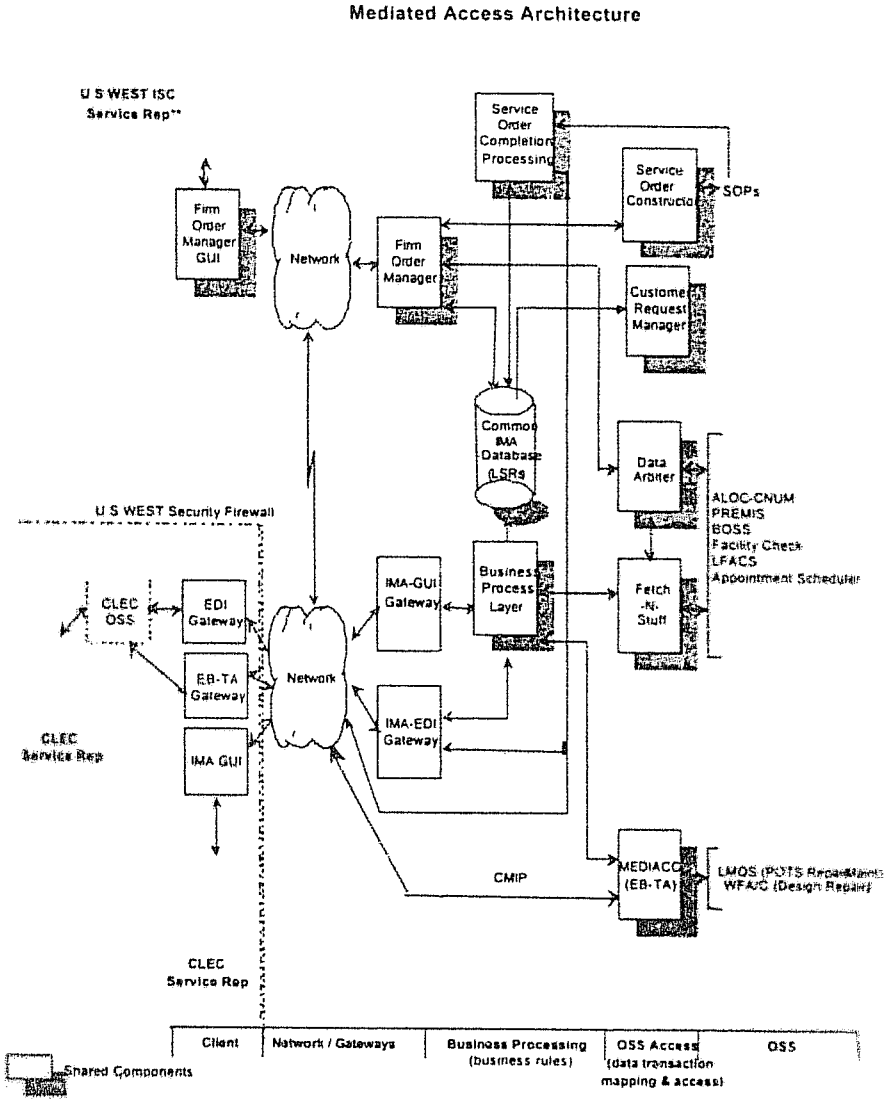
1.5 IIS

The Interconnect Image System (IIS) interface is a facsimile receipt and distribution system that facilitates the handling of orders and other transactions faxed from CLECs to Qwest. These faxed, or manual transactions, must be input to Qwest's OSS by personnel at the Interconnect Service Center.

Please refer to Figure F1 for an overview of the Mediated Access Architecture.

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Figure F1 Mediated Access Architecture



2. Initial Transaction Processing

2.1 Pre-Ordering and Ordering

Once the transaction is received by the Qwest gateway, a set of business rules is applied to determine how to process the request. To obtain information from Qwest's OSS or pass information to them, the OSS Access Layer (Data Arbiter, Fetch and Stuff, and MEDIACC) communicates with the downstream OSSs to send or retrieve the data. Regardless of whether a transaction is received by the Qwest gateway through the IMA GUI or EDI, it will be processed through the same set of business rules and travel through the same OSS Access Layer to reach the downstream OSSs.

If the transaction is the submission of an LSR, the LSR is placed in the Common IMA database regardless of whether the LSR is transmitted through the IMA or the EDI gateway. This database is updated with LSR status as the Interconnect Service Center processes the request.

2.2 Maintenance and Repair

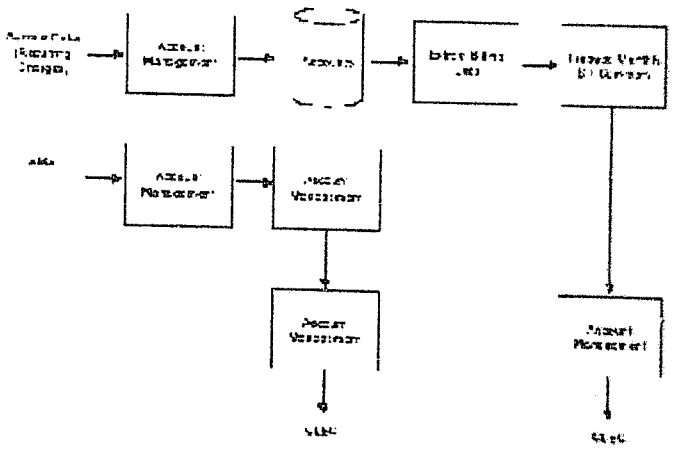
Maintenance and repair transactions are processed through IMA and MEDIACC and routed to the appropriate downstream repair OSS.

2.3 Billing

When an end-user customer's account is resold to a CLEC, the resulting service order updates the account to reflect that change. As the end-user customer generates toll usage, it is sent from the AMA system into the CRIS billing system, where it is associated with the CLEC's account. The toll usage is then forwarded to the CLEC in a daily usage feed file. Qwest produces a billing summary file with all recurring and non-recurring charges and sends it to the CLEC on a monthly basis. Figure F2 describes the billing components that produce daily usage and monthly bill information.

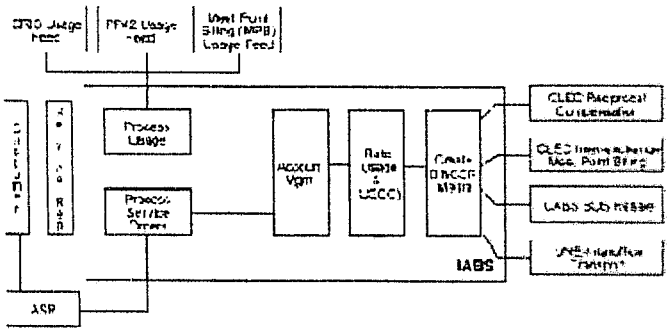
Figure F2 Billing Architecture

2.4 IABS



There are three usage feeds to the usage-processing module. Another entry point is the ASR submitted by the customer service representative. These ASRs go to the service order-processing module. Both usage and service orders are sent to the account management module to associate the usage and service order detail to accounts. After usage and service order details are associated to accounts, the accounts are rated, and bills and CSRs are produced. Outputs for reciprocal compensation, inter-exchange meet point billing, resale and UNEs are then provided to the CLECs. Figure F3 provides an overview of the billing for trunk-side UNEs and interconnection services using IABS.

Figure F3 IABS Billing Architecture



3. Systems

Qwest's downstream OSS can be categorized into four types of systems as follows:

- One OSS that is functionally and physically the same is used across all 14 states such as IMA GUI and Integrated Access Billing Systems (IABS)
- One OSS application that is used across all 14 states via multiple instances of the same application, such as Facilities Assignment and Control System (FACS)
- An OSS with the same name and basic origin that has been implemented differently across different states– for example Customer Records Information System (CRIS) East, West, and Central are all called CRIS but are actually different applications functionally
- Different applications with different names and similar functionality that are used in different states. The service order processors (SOPs) are an example of this type – SOPAD, SOLAR and R-SOLAR in Central, East and West respectively.

Figure F4 provides a summary of the systems and their usage across states.

System	AZ	CO	IA	ID	MN	MT	ND	NE	NM	OR	SD	UT	WA	WY
IMA GUI GW	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1	IMA-1
IMA EDI GW MediAcc EB-TA	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1	EDI-1 EB-TA1
BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1	BPL-1
IMA LSR DB	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1	IMA LSRDB-1
FOM	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1	FOM-1
ICADS	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1	ICADS-1
Data Arbiter	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1	Data Arbiter-1
Fetch-N-Stuff SOP	Fetch-N-Stuff-1 SOPAD (SLC)	Fetch-N-Stuff-1 SOPAD (Denver)	Fetch-N-Stuff-1 SOLAR (Omaha)	Fetch-N-Stuff-1 SOPAD (SLC)	Fetch-N-Stuff-1 SOLAR (Omaha)	Fetch-N-Stuff-1 SOPAD (SLC)	Fetch-N-Stuff-1 SOLAR (Omaha)	Fetch-N-Stuff-1 SOLAR (Omaha)	Fetch-N-Stuff-1 SOPAD (SLC)	Fetch-N-Stuff-1 R-SOLAR Bellevue	Fetch-N-Stuff-1 SOLAR (Omaha)	Fetch-N-Stuff-1 SOPAD (SLC)	Fetch-N-Stuff-1 R-SOLAR (Bellevue)	Fetch-N-Stuff-1 SOPAD (Denver)
CSR Retrieval	BOSS-C (SLC)	BOSS-C (Denver)	BOSS-E (Omaha)	BOSS-C (SLC)	BOSS-E (Omaha)	BOSS-C (SLC)	BOSS-E (Omaha)	BOSS-E (Omaha)	BOSS-C (SLC)	CARS Bellevue	BOSS-E (Omaha)	BOSS-C (SLC)	CARS (Bellevue)	BOSS-C (Denver)
SOAC	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1	SOAC-1
Premis	Premis-1 (ALB)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (ALB)	Premis-1 (Omaha)	Premis-1 (ALB)	Premis-1 (ALB)	Premis-1 (ALB)
FACS	FACS-1 (SLC)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (Omaha)	FACS-1 (SLC)	FACS-1 (Omaha)	FACS-1 (SLC)
LMOS	LMOS-1 (SLC)	LMOS-1 (SLC)	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 (Omaha)	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 Bellevue	LMOS-1 (Omaha)	LMOS-1 (SLC)	LMOS-1 (Bellevue)	LMOS-1 (SLC)
WFA	WFA-1 (SLC)	WFA-1 (SLC)	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 (Omaha)	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 Bellevue	WFA-1 (Omaha)	WFA-1 (SLC)	WFA-1 (Bellevue)	WFA-1 (SLC)
Billing	CRIS-C	CRIS-C	CRIS-E	CRIS-C	CRIS-E	CRIS-C	CRIS-E	CRIS-E	CRIS-C	CRIS-W	CRIS-E	CRIS-C	CRIS-W	CRIS-C
IABS TIRKS Facility	IABS-1 TIRKS-1 (SLC) FC-1	IABS-1 TIRKS-1 (SLC) FC-1	IABS-1 TIRKS-1 (Omaha) FC-1	IABS-1 TIRKS-1 (SLC) FC-1	IABS-1 TIRKS-1 (Omaha FC-1	IABS-1 TIRKS-1 (SLC) FC-1	IABS-1 TIRKS-1 (Omaha) FC-1	IABS-1 TIRKS-1 (Omaha) FC-1	IABS-1 TIRKS-1 (SLC) FC-1	IABS-1 TIRKS-1 (Bellevue) FC-1	IABS-1 TIRKS-1 (Omaha) FC-1	IABS-1 TIRKS-1 (SLC) FC-1	IABS-1 TIRKS-1 (Bellevue) FC-1	IABS-1 TIRKS-1 (SLC) FC-1

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System	AZ	CO	IA	ID	MN	NE	ND	NE	NM	OR	SD	UT	WA	WY
Check *	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)	(SLC, DNVR, Omaha)
Appt. Scheduler	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I	Appt Sched-I

* Facility Check is not differentiated geographically – i.e., even though it is run in 2 data centers, each server accesses the same data & can fulfill requests throughout Qwest

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F4.1 Table F4 Interpretation Notes

1. When an OSS has a – 1 suffix it means there is only one version of that application. For example, IMA GUI is the same application across all states.
2. There may be multiple instances of an application that are all identical. For example three instances of FACS serve three different regions but are all the same application.
3. There may be applications of the same name that have different functionality – i.e. CRIS – C (Central), CRIS – E (EAST) and CRIS – W (West)
4. Multiple copies of the same application can be run at different data centers (shown in parentheses in the matrix) to serve different areas that may or may not coincide with a region – i.e. An identical application of BOSS-C is run at 2 data centers to handle the total Central Region.

F4.2 Table F4 List of Abbreviations

IMA GUI – Interconnect Mediated Access Graphical User Interface Gateway
IMA EDI – IMA Electronic Data Interchange
EB-TA – Electronic bonding for Trouble Administration – Qwest's version is MEDIACC, it interacts with LMOS for POTS repair & WFA/C for Designed services repair
BPL-1 – Business Process Layer does edits against State tarriffed products and services
IMA LSR DB – Common IMA database for Local Service Requests
FOM – Firm Order Manager
ICADS – Service order constructor that translates order information to the specific service order processor
Data Arbiter – Data access layer application between IMA gateway and downstream OSS
Fetch-N-Stuff – Data access layer application between IMA gateway and downstream OSS
CSR Retrieval – Customer Service Record retrieval
Service Order Processor – Directs/processes service orders
SOAC – Service Order Analysis and Control
Premis – Premises Information System
FACS – Facility Assignment and Control System
LMOS – Loop Maintenance Operations Systems
WFA – Work Force Administration
CRIS – Customer Record Information System
CABS – Carrier Access Billing System
IABS – Integrated Access Billing System

F4.3 Table F4 Data Center Locations

ALB – Albuquerque, NM
BLV – Bellevue, WA
DVR – Denver, CO
OMA – Omaha, NE
SLC – Salt Lake City, UT

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4. *Regional Differences*

Qwest's current operating territory, and therefore much if its OSS legacy architecture, is the result of the merging of three predecessor Bell Operating Companies into the Qwest Regional Bell Operating Company RBOC, including:

- Pacific Northwest Bell (PNB) covering Washington and Oregon, now referred to as the Western Region
- Mountain Bell (MB) covering Arizona, Colorado, Idaho, Montana, New Mexico, Utah and Wyoming, now Central Region
- Northwestern Bell (NWB) covering Iowa, Minnesota, Nebraska, North Dakota, and South Dakota, now Eastern Region

As Table F4 indicates, all CLEC-facing interfaces and most downstream OSSs are the same across the three sub-regions. The three major areas of difference are:

1. Different service order processors are used in each region with SOLAR in the East, R-SOLAR in the West and SOPAD in Central.
2. Customer Service Record (CSR) retrieval is handled by BOSS in East and Central regions and by CARS in Western region.
3. Billing systems across the regions are different. Despite the fact that the three systems are all named CRIS and perform similar processes, they differ functionally.

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5. *State Differences*

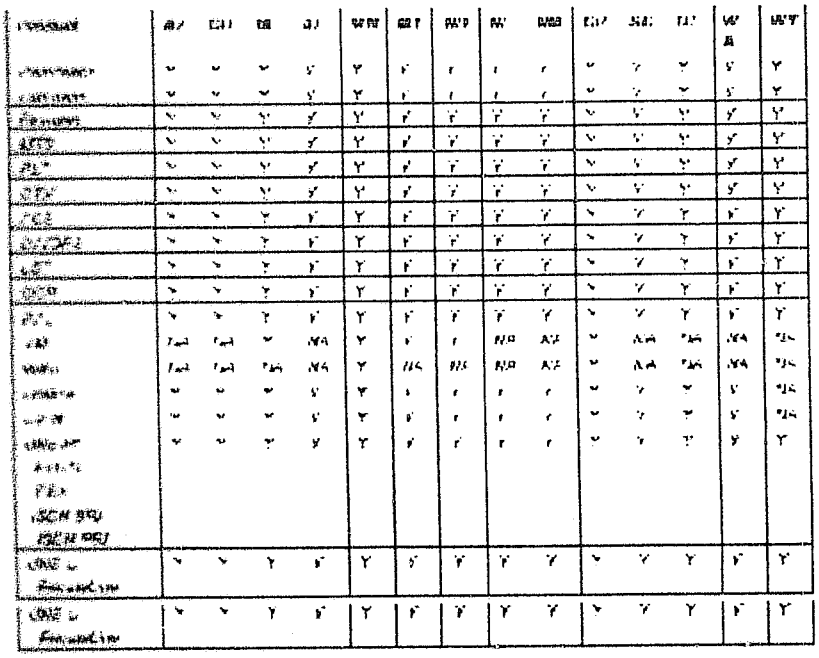
State level differences in downstream OSS are generally confined to the use of different instances of the same applications housed at different data center locations. Please see Figure F4.

6. *Product Differences*

In general, Qwest offers the same products across its 14 state operating area. However, there are a few variations resulting from various factors such as state regulatory requirements. Table F5 provides a high-level overview of these differences. These differences were further investigated by KPMG Consulting with the assistance of the TAG and reflected appropriately in the test scenarios and testing mix. KPMG Consulting issued a Regional Differences Assessment Report summarizing the results of their investigation.

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Table F5 Wholesale Products by State



*Existing combinations only (i.e. not new)
*In states where Centrex is grandfathered, conversion to resale is only allowed for existing Centrex Customers.

The following provides additional definition for the products shown in the table.

Residence – basic residential line including 911/E911 service and special needs service
Business – Basic business line including 911/E911 service
Features – Central office features such as custom calling, CLASS, etc
MTS – Intra-LATA toll (message toll service)
PLT – Private line, DS1, DS3
CTX – Centrex, which includes Centrex 21, Centrex Plus, Centrex Prime
ACS – Advanced Communications Services which includes Frame Relay, ATM Cell Relay, LAN Switching Service
DA/OPS – Directory Assistance/Operator Services
Listings – Directory Listing, Joint User Listings
OCP – Optional Calling Plans

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PAL – Public Access Lines
VM – Voice Messaging, Enhanced Service
Wire – Inside Wire and Wire Maintenance Plan
Lifeline – Services such as Link-up, Telephone Assistance Plan (TAP)
ISDN – Integrated Switched Digital Network – basic and primary
UNE-P – Unbundled Network Elements – Platform
UNE-C – Unbundled Network Elements - Combinations
NA – Not available
Y - Yes

Appendix G: Statistical Approach

1. Introduction and purpose

This appendix describes the statistical approach for designing, implementing and evaluating the ROC transaction test. The statistical analyses described in this appendix assume a set of performance standards, upon which the test will be evaluated. The assumption is also that the test will be a military style test. As such, Qwest failures will be addressed by re-testing until the standards are met or the ROC declares that no further testing is necessary.

There are two types of performance standards which will be used to evaluate the performance of the P-CLEC in the ROC test:

- Parity standards
- Benchmark standards

Parity standards are used where there is a Qwest retail analog to the particular wholesale OSS process being considered. The idea of a parity standard is that the wholesale process should be completed in an equivalent fashion to a retail analog (e.g., in the same amount of time or with the same level of accuracy as the retail analog). A benchmark standard is used when no comparable Qwest retail analog exists. The benchmark is an absolute standard, determined by the ROC, that must be achieved during the test.

The next section describes ROC's policy for defining the sample sizes and evaluating test results. These statistical methods and standards will govern the design and conduct of the test, including establishing a stopping point for the test, and facilitate evaluation of the results. However, states are free to depart from the critical values or benchmarks adopted for the test when they evaluate test results submitted by Qwest as part of state Section 271 applications.

2. Statistical Policy

2.1 The null and alternative hypotheses

In statistical testing it is often convenient to set up two mutually exclusive hypotheses representing possible test outcomes. In the context of the dual null hypothesis testing that will be employed, the hypotheses and related actions will be as follows:

First Test:

- Null Hypothesis: The P-CLEC mean minus the Qwest mean is less than or equal to zero.
- Alternative Hypothesis: The P-CLEC mean minus the Qwest mean is greater than zero.

Second Test:

- Dual Null Hypothesis: The P-CLEC mean minus the Qwest mean, is greater than or equal to a material difference factor of 0.28 Qwest standard deviations.

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- Dual Alternative Hypothesis: The P-CLEC mean minus the Qwest mean, is less than a material difference factor of 0.28 Qwest standard deviations.

Table G1 Possible Outcomes and Actions from Dual Testing

		First Test (Null Hypothesis is Parity or better)	
	Outcomes	**Fail to Reject**	**Reject**
Second (Dual) Test (Dual Null Hypothesis is Disparity ≥ 0.28 Qwest Standard Deviations)	**Fail to Reject**	Qwest passes the test conditionally, but the issue is referred to the TAG for final determination.[3]	Qwest fails the test and the issue is referred to the TAG for resolution.
	Reject	Qwest passes the test unconditionally.	Significance levels are reduced until the test results move to the cell immediately above or to the left.

2.2 *Level of Significance and Error Levels*

In making the test comparisons involving parity tests, there are two possible types of error:

- Difference in service quality is detected where none exists (Type I error)
- Difference in service quality exists but is not detected (Type II error)
-

The level of significance is typically defined as the probability of rejecting the null hypothesis, conditioned on the assumption that it is true. It is often called the Type I error level or "α" in statistics. The level of significance is generally set at $\alpha = 0.05$ for the ROC test, and assumes the null hypothesis above.

A Type II error is the chance of failing to reject the null hypothesis when in fact it should be rejected. It is typically referred to as "β." We use the Type II error to determine sample sizes, as described below. In addition, we test the alternative hypothesis at a 5% significance level, rather than calculate the Type II error after the test.

2.3 *Statistical Evaluation Method*

In order to evaluate benchmark standards, a "stare and compare" method will be used. This means that if the test result exceeds the standard, Qwest passes. If it does not exceed the standard Qwest fails. No statistical analysis is involved for this evaluation method.

[3] The determination will be based on further analysis of the power of the test of the null hypothesis at various levels of material difference and an analysis of the reasonableness of the material difference used for the alternative hypothesis.

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In order to evaluate parity standards, permutation tests will be used. In the permutation test, the test P-CLEC average will be compared to all possible averages (permuted means) of the same size, using both Qwest and test P-CLEC data.[4] The first null hypothesis is rejected if the P-CLEC mean is greater than at least 95% of the permuted means. For the second null hypothesis, the P-CLEC is first transformed using a scale parameter (which will be less than 1) such that, assuming the second null hypothesis is true, the Qwest and P-CLEC data could be considered drawn from the same distribution. Then, the second null hypothesis is rejected if the transformed P-CLEC mean is less than at least 95% of the permuted means.

2.4 *How to account for non-normal distribution*

Since permutation tests will be used, and the permutation test does not require an assumption of a normal distribution for the data, non-normal distributions are less of a concern. Instead, the permutation test assumes that, for the first null hypothesis, labeling of the CLEC and Qwest observations can be considered random. In other words, the time to complete an order, for example, gives no information about whether an order is a Qwest retail order or a P-CLEC wholesale order. Implicitly, the null hypothesis in the permutation test assumes no differences in variability between Qwest and P-CLEC orders. While the permutation test described above has some ability to detect greater variability in the P-CLEC orders, the test is not particularly useful for testing variability differences.[5]

2.5 *Sample size determination*

Sample size is determined using the following proposal by Qwest, given at the ROC Statistical Workshop:

- The sample size for each product/disaggregation level specified in the table below will be 140, on average, for a total sample volume of 1,820 for the test (per 13 product/disaggregation levels shown in the table).[6] The total sample size will be adjusted proportionately upward or downward if the parties agree to additional or fewer levels, respectively.

- KPMG Consulting will allocate the total sample volume to the individual product/disaggregation levels in a manner that optimizes the "power" of the test. In the context of numerous possible materiality assumptions, the parties have agreed that the following assumptions will be used for this purpose:

  1. Type I error (alpha) and Type II error (Beta) each will be kept at .05 or less.
  2. The materiality assumption applied to each product/disaggregation level will use the greater of the following:
     a. A "twice as bad" rule calibrated at the 90 percent retail performance level (using the "arc sine square root" transformation) applied to proportions (results reported as percentages); or

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[4] Because of practical considerations, this is done through simulations.
[5] A separate permutation test could easily be done to test variability, but the parties have agreed this is not necessary
[6] For practical reasons, and because the table has changed since the Statistical workshop, the table is not included here

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b. A ".28 standard deviations" rule applied to means (results reported as intervals or numbers).

3. If KPMG Consulting finds that more than the total sample volume defined above is exceeded to implement materiality assumptions, it will bring the issue before the TAG.

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This approach is adopted for the purpose of setting sample sizes. It sets no requirement for, nor constraints on, the analytical approach applied to the data.

The parties have basically agreed upon the determination of sample size, as described above, though some question about the precise wording remains. The null hypothesis used for this purpose is the one above. For the purposes of determining sample sizes for benchmark estimates, the exact Binomial distribution will be used, and a 90% retail performance level will be assumed.[3] For the purposes of determining sample size for interval estimates, a modified Z test will be used. This avoids the difficulties of determining the sample size for a permutation test, with little or no relevant data available. Further clarification is needed as to what assumptions should be made for the case of percentage or proportion metrics with parity standards.

For $\alpha=\beta=5\%$ for benchmark measures, with the standard at 90% and the alternative at 80% (this is the twice as bad standard above), the sample cell size is 134. The sample cell size for interval estimates, calculated based on assumptions above, is $138n_{ILEC}/(n_{ILEC}-138)$ where n_{ILEC} is the number observations in the ILEC. This means that the sample size is about 140, when ILEC observations are 10,000. It is 138 when ILEC observations are 100,000. For ILEC observations at 1000 and below, the sample cell size grows considerably. When the ILEC observations dip below 138, Qwest's proposal cannot be implemented at any sample size. Below is a table showing sample cell size as a function of ILEC observations:

ILEC Size	Cell Size
150	1,725
200	445
400	211
600	179
800	167
1,200	156
2,000	148
10,000	140

Below are the technical calculations involved in determining these sample sizes. They provide the mathematical support for the numbers given above.

Sample sizes for benchmark standards. Sample sizes for benchmark standards can be identified using standard software, without any formal derivations needed. First consider the case of

[3] In this case, when an exact test can be done, there is no need for any variance stabilizing transformation Deleted: 1

β=α=5%. We assume the benchmark standard is 90% on-time and the alternative hypothesis is 80% on-time. A sample size of 134 would allow for a test at this level (it should be noted, however, that the benchmark tests are subject to stare and compare only, so that actual type I error depends on the Null hypothesis, and for a Null hypothesis of 90%, it would be close to 50%).

Sample Size calculations for interval standards. As described above, we assume β=α=5%. We assume the null hypothesis described above. For this scenario, we use the modified Z, assume normality, and calculate β at .28 standard deviations from the ILEC mean. The modified Z test statistic is defined as

$$z = \frac{\overline{X}_{CLEC} - \overline{X}_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}}$$

In a one-sided test with α=5%, we reject when z>1.645 and accept the Null when z<=1.645. Since we want to find the sample size where β=5%, this translates to finding the sample size where the P(z<=1.645)=.05.
Thus, we have

$$P_{(\mu_{CLEC} - \mu_{ILEC} - .28\sigma = 0)}\left(\frac{\overline{X}_{CLEC} - \overline{X}_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}} < 1.645\right) = .05$$

, where the subscript to the P indicates the conditioning. Adding and subtracting a term, we get

$$P_{(\mu_{CLEC} - \mu_{ILEC} - .28\sigma_{ILEC} = 0)}\left(\frac{\overline{X}_{CLEC} - \overline{X}_{ILEC} - .28\sigma_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}} + \frac{.28\sigma_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}} < 1.645\right) = .05$$

Now, the first term is a standard Normal variable, because we have assumed Normality of the data, the Alternative hypothesis, and that the variance is the ILEC variance. Thus, substituting Z for a N(0,1) variable, we get

$$P\left(Z + \frac{.28\sigma_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}} < 1.645\right) = .05 \qquad (1)$$

- More algebra gives us

$$P\left(Z < 1.645 - \frac{.28\sigma_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}}\right) = .05 \qquad (2)$$

Now we know (from a standard Normal distribution) that P(Z<-1.645)=.05, so we can set the right hand side of the equation equal to –1.645 and solve. The equation becomes

$$3.290 = \frac{.28\sigma_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}} \Rightarrow \qquad (3)$$

$$10.8241\left(\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right) = .0784 \Rightarrow$$

$$138 = \frac{n_{ILEC}n_{CLEC}}{n_{ILEC} + n_{CLEC}} \Rightarrow$$

$$n_{CLEC} = \frac{138\,n_{ILEC}}{n_{ILEC} - 138} \qquad (4)$$

Next, consider the case where β=50% and α=5%. The calculations are the same as above, except that the right hand side is .5. Since P(Z<0)=.5, equation (3) becomes

$$1.645 = \frac{.28\sigma_{ILEC}}{\sqrt{\sigma^2_{ILEC}\left[\frac{1}{n_{CLEC}} + \frac{1}{n_{ILEC}}\right]}}$$

After some algebra, we get

$$n_{CLEC} = \frac{35\,n_{ILEC}}{n_{ILEC} - 35}$$

2.6 Other Statistical Issues

Based on a number of factors, including KPMG Consulting's regional differences analysis and decisions made by the Steering Committee, the products reflected on Appendix K will have 140 instances either at a regional level or at a 13 state level. This breakdown is reflected in a document titled "ROC Production Bed Test Mix." The test cases and test bed will be designed based on this document, which was the result of direct Steering Committee input.

Appendix H: Test Overview Matrix

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Appendix I

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Appendix J: Mapping of MTP Tests to PID

MTP Section	Test Description	Relevant Service Performance Indicator	
		Release from Audit Required Before Testing Begins	Release from Audit NOT Required Before Testing Begins
12 & 14	Evaluation of POP Functionality and Performance Versus Parity Standards and Benchmarks Versus Parity Standards and Benchmark	GA-1, GA-2, PO-1, PO-3, PO-5, PO-8, PO-9, OP-3, OP-4, OP-5, OP-6, OP-7, OP-8, OP-13,	PO-4, PO-6, PO-7, PO-10, PO-15, OP-15
13	Order Flow Through Evaluation	PO-2	
15	POP Volume Performance Test	PO-1, PO-5	
16	CEMR Functional Evaluation	GA-1	
17	MEDIACC (EB-TA) M&R Trouble Functional and Performance Evaluation	GA-3	
18	M&R End to End Trouble Report Processing	MR-2, MR-3, MR-4, MR-5, MR-6, MR-9	
19	Billing Usage Functional Evaluation	BI-1	
20	Carrier Bill Functional Evaluation	BI-2, BI-3, BI-4A	
22	CLEC Network Provisioning Test	NI-1	
23	Change Management Test	n/a	
24	Qwest CLEC Support Processes and Procedures Review	OP-2	

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The following PIDs are only relevant to the Performance Measurements Audit:

- Electronic Gateway Availability GA-4, GA-6
- Maintenance and Repair MR-7, MR-8, MR-10
- Directory Assistance DA-1
- Operator Services OS-1
- Network Performance NP-1
- Collocation CP-1, CP-2, CP-3, CP-4
- Databases DB1, DB2
- Billing BI-4B

Appendix K: Product Samples

Products Requiring Statistically Significant Samples

	Statewide	Dispatch MSA	Dispatch non-MSA	No Dispatch
Analog loop	X-R	N/A	N/A	N/A
Business POTS	N/A	X-S	-	X-R
DS1 Loop	X-S	N/A	N/A	N/A
Non-loaded 2W loop	X-R	N/A	N/A	N/A
Residential POTS	N/A	X-S	-	X-R
UNE-P	N/A	X-R	X-R	X-R
Loop w/portability	X-R	-	-	-
Centrex resale	N/A	1/2X-S	-	1/2X-S

The table shown above was originally developed during the MTP Design Workshop in Salt Lake City. Products marked with an X are those products that require the minimum of 140 samples for statistical significance across either the 13 states or across each of the three regions. Those products marked with an X-S will receive the 140 samples across the 13 states and those marked with an X-R will have 140 samples per region for each of the three regions. Products with a dash will be tested at a much smaller sample size. The ½ X in the Centrex row indicates that the sample size to be used in the two columns involved will add up to the target sample size of 140. However, there is no requirement that the sample in the two different columns be equal.

As part of the test bed construction, KPMG Consulting made a proposal to the TAG and the Steering Committee on the mix of the test bed resources across the states to achieve these test sample objectives. This proposal was modified by the Steering Committee on 10/16/00 and the final test bed mix was approved on 10/19/00. This decision by the Steering Committee was the basis of whether a given product would be tested at a regional level or at a thirteen-state level.

The original table was also modified on 11/13/00 to eliminate the distinction between high and low density for the unbundled loop products. These products are now shown in the column labeled "Statewide." This modification was prompted by Qwest's decision to use the same provisioning intervals statewide for these products regardless of the density zone the customer was located in.

The 140 samples for UNE-P MSA and non-MSA will be split within each region in proportion to data provided by Qwest on the actual commercial split of resale accounts across the MSA and non-MSA areas. Resale data is being used as a surrogate for UNE-P data being there is not enough UNE-P data available yet to make this determination.

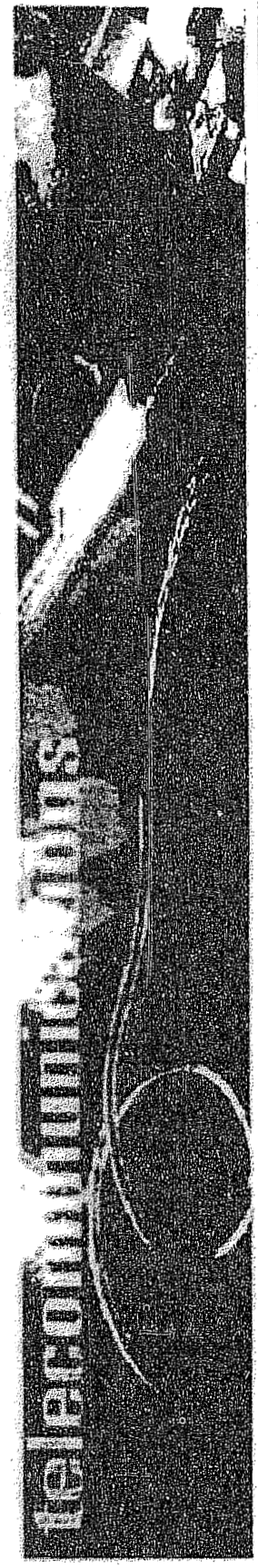
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February 15, 2001

Regional Differences Assessment



KPMG Consulting

Qwest Corporation Regional Differences Assessment

October 5, 2000 - REISSUE

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CONTINUATION

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1 Executive Summary

1.1 Introduction

1.1.1 Background

As a preamble to the third party test of Qwest's Operational Support Systems (OSS), the Regional Oversight Committee (ROC) developed the Test Requirements Document (TRD). Section 6 of the TRD provides an overview of the Qwest OSS architecture used to provide wholesale services to the CLECs and notes any system differences or variations that exist among the states and regions of the Qwest operating territory. Subsections 6.7 and 6.8 of the TRD instruct the Test Administrator (TA) to further investigate these differences and factor their impact, if any, into the development of the test scenarios and test mix.

During the Master Test Plan (MTP) Design Workshop held on July 18-20, 2000, in Salt Lake City, KPMG Consulting (in its role as TA) sought input from the ROC Technical Advisory Group (TAG) regarding this further investigation of Qwest system differences. Based on discussions and feedback received during the MTP Design Workshop, KPMG Consulting developed a regional differences assessment plan proposal that was distributed to the ROC TAG for review and subsequent approval.

1.1.2 Objective and Scope

The Qwest Regional Differences Assessment was conducted to investigate any differences in systems and processes throughout the Qwest territory. KPMG Consulting assumed the following as the null hypothesis of the assessment:

> *The impact of differences in wholesale systems and processes across the Qwest operating region is insufficient to materially impact a substantial fraction of the transactions that the CLECs are likely to generate with Qwest before the end of 2001.*

KPMG Consulting conducted interviews with Qwest and CLEC personnel, analyzed Qwest and CLEC provided documentation, and performed basic statistical analysis of a few key Qwest service performance indicators to potentially gather sufficient evidence to reject the null hypothesis.

The results are summarized below by domain.

High Level Results

1.1.3 General

This section broadly summarizes the results for each of the functional domains included in the Regional Differences Assessment. The interviews and document reviews conducted by KPMG Consulting focus on identifying regional and state differences. Assessment criteria were developed for this portion of the project by KPMG Consulting, and the information gathered was analyzed in reference to these assessment criteria; however, no actual testing was performed. Qwest practices and transactions will be evaluated as part of the process and transaction tests, and thus were not covered by this assessment.

As stated in Section 1.1.2, KPMG Consulting started with the following null hypothesis:

> *The impact of differences in wholesale systems and processes across the Qwest operating region is insufficient to materially impact a substantial fraction of the transactions that the CLECs are likely to generate with Qwest before the end of 2001.*

The sections below highlight the results of the individual assessments. For assessment criteria, detailed analysis and results, refer to the appropriate sub-section later in this document. Once the test preparation and execution are underway, further differences may be identified. These will be addressed on a case by case base to determine if there needs to be any modification to the test design or test mix.

1.1.4 Order Management

Qwest's CLEC documentation for order and pre-order transactions, and order flow-through eligibility, is consistent across the three regions. The internal documentation Qwest representatives use to support non-flow-through is also consistent across the three regions. Although there are differences evident in flow-through capability across the regions, they are not material enough to warrant rejecting the null hypothesis.

The existence of different Service Order Processor (SOP), Billing, and CSR Retrieval systems creates potential regional inconsistencies in the systems supporting pre-order and order transactions. There are differences in the end-to-end process ISC Help Desk representatives use to handle non-flow-through orders. Additionally, the majority of Qwest organizations administering non-flow-through orders are inconsistent across the three regions.

Minor regional differences have been identified in the pre-order and ordering business rules, the method in which PREMIS manages telephone number reservations, and Interconnect Mediated Access (IMA) edits. In addition, the impact of regional telephone numbers for the facsimile supporting Centrex Resale is undetermined.

1.1.5 Provisioning

Qwest's processes, systems and organizations for Provisioning Infrastructure, Provisioning Coordination and Network Design/Collocation are materially consistent across the three regions.

Qwest's Transaction Provisioning processes vary from region to region.

Qwest's provisioning infrastructure was inconclusive since there are multiple platforms that function independently in some cases.

1.1.6 Maintenance and Repair (M&R)

Qwest's processes, systems, organizations and documentation for M&R Processing, M&R Support Center Review, M&R Infrastructure, M&R Documentation, Capacity Management, and Network Surveillance are materially consistent across the three regions.

For M&R Coordination, Qwest is redesigning the process; consequently, information about those processes is not available. As a result, the assessment criteria for M&R Coordination received ratings of "Inconclusive."

1.1.7 Billing

Qwest's billing systems for the bill production and distribution and Daily Usage Feed (DUF) processes are maintained and operated on a regional basis. Although these systems are different, Qwest has standardized most of its processes across the regions. Thus, most of the differences that have been identified are now at a level where they are not critical to the general billing process. Given that regional differences do exist, the related assessment criteria for these systems returned a result of "No." However, this result does not imply materially impacting regional differences.

Qwest's Customer Record Information Systems (CRIS) and Message Processing Systems are different across each of the three regions. These different systems represent a potential risk of regional inconsistencies in usage processing and bill content and format.

Qwest Usage processes for Resale and UNE and Carrier Bill processes for CRIS and IABS are materially consistent across the three regions. In addition, Qwest's IABS Billing System is materially consistent across the three regions.

1.1.8 CLEC Relationship Management and Infrastructure

Qwest's processes, systems, organizations and documentation for Account Management, Change Management, CLEC Training, Interface Development, and IMA Help Desk are materially consistent across the Qwest footprint.

Because of the potential differences in the regional Resale Centrex Help Desks, KPMG Consulting cannot conclude that the processes and procedures surrounding the ISC Help Desk are consistent or the same across regions. Without further information, the results of this assessment are inconclusive.

1.1.9 Statistical Analysis

Qwest's timeliness of Firm Order Completions (PO-5), Installation Commitments Met (OP-3), and Installation Intervals (OP-4) is not consistent across regions.

Qwest performance on Business, Centrex 21, Centrex, DS0, DS1 and Residential Repairs (MR-6) is not consistent across regions for high density and metropolitan service areas. In low density and 'No dispatched' areas, Qwest performance was inconsistent for ISDN and Centrex Repairs (MR-6) respectively.

Statistical analyses of the Billing metrics (BI-1) could not be performed and therefore, there is no basis to draw a conclusion.

2 Results Summary Analysis

2.1 Order Management (OM)

2.1.1 Description

The Order Management (OM) domain is composed of the systems, processes, and other operational elements used to support CLEC pre-ordering and ordering activities. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operating area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest documentation related to pre-ordering and ordering systems and activities and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.1.2 Methodology

This section provides a business process description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.1.2.1 Business Process Description

CLECs can submit transactions to Qwest that establish or change services via an electronic interface called Interconnect Mediated Access (IMA) and a manual interface, Interconnection Imaging System (IIS). The environments are described in more detail below.

IMA allows CLECs to process the following pre-order transaction queries to Qwest's OSS:

- Customer Service Record Inquiry
- Telephone Number Reservation
- Address Validation
- Facility Check
- Appointment Availability
- Service/Feature Availability
- Validate Connecting Facility Assignment (CFA)
- View Design Layout Record (DLR)

IMA and IIS allow CLECs to process the following ordering transactions with Qwest's OSS:

- Submit Local Service Requests (LSRs)
- Receive Functional Acknowledgements (FA)
- Receive Firm Order Confirmations (FOCs)[1]
- Receive Completion Notices (CNs)
- Receive Rejects, Clarifications and Service Jeopardies

[1] FOCs are not currently returned via IMA-GUI; they are emailed or faxed to the CLEC. FOCs will be returned via IMA-GUI in IMA Version 6.0.

Interconnect Mediated Access (IMA)

Pre-order queries and orders can be submitted electronically to Qwest through the IMA, using a Graphical User Interface (GUI) or Electronic Data Interchange (EDI) interface. IMA allows for bi-directional flow of information between Qwest's OSS and CLECs. CLECs can access IMA-GUI via a secure dial-up or dedicated circuit.

IMA-EDI is designed to allow Qwest's Operations Support Systems (OSS) to exchange batch files with CLEC OSSs in a standard machine-to-machine format. Qwest defines the information that is needed to successfully submit pre-order and order transactions in business rules format. This information is encoded to fit the standard EDI transaction set for data transmission. EDI is an industry standard for transactions that defines the format and the data content of each business transaction. Qwest determines how and when each data element is transferred (or mapped) into a Qwest pre-order query or service order. The result is then published in the business rules[2] for use by CLECs.

Interconnect Imaging System (IIS)

IIS is designed to allow CLECs to submit Local Service Requests (LSRs) via facsimile in a standard format. Qwest defines the information that is needed to successfully submit each order type. CLECs submit single or multiple LSRs to a Qwest fax server. Once Qwest receives the LSRs they are electronically logged and distributed to the appropriate Interconnect Service Center (ISC) for input into the regional Service Order Processor (SOP) system. Responses (e.g., clarifications, confirmations) are transmitted from Qwest's OSS to the CLECs via the IIS fax servers.

Pre-ordering Process Flow

After receipt of a pre-order query from a CLEC, the IMA system validates the pre-order query for format and to ensure the required fields are populated. An invalid transaction will receive a standard error message. A valid transaction will be forwarded to Qwest middleware applications to provide or retrieve the requested data from Qwest's OSS. Certain pre-order queries require the submission of multiple transactions, in sequence, to obtain the desired data (e.g., Appointment Availability and Telephone Number Reservations).

Ordering Process Flow

When Qwest receives an Local Service Request (LSR) via IMA, an FA is automatically returned to the CLEC, confirming that the file has been successfully received. As the LSR passes through the Qwest back-end OSS systems, Qwest systems or representatives perform validations to determine if the CLEC's service request is properly formatted, complete, and accurate. In response to an LSR with errors, Qwest transmits an error message.

To successfully process the order, the CLEC must either re-submit the original LSR, correcting any errors, or submit a supplemental service request (Sup) that modifies the original order. The decision to resubmit the original LSR or submit a supplement is dependent on at what stage in the process the error was identified.

Once an LSR passes through the ordering validation process, Qwest service orders are created in one of Qwest's three regional SOP systems. These systems coordinate downstream provisioning activity and monitor the status of the order. The SOP systems trigger IMA to generate a FOC response to the CLEC. This FOC confirms that Qwest has validated the LSR and provides a Due Date (DD) on which Qwest commits to provision the requested service.

[2] See http://www.uswest.com/wholesale/ima/ima_icharts.html

2.1.2.2 *Data Sources*

The data collection performed in this assessment was based on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest and the CLECs. The interviews and documents are itemized in the tables below.

Table 2.1.2.2.1: Qwest Interviews for Order Management Assessment

Document Number	Document Name	File Name	Source
Q-1	Capacity Management	IMA_Cap_Man.doc	KPMG Consulting
Q-2	Order Transaction Process	Order_Transaction.doc	KPMG Consulting
Q-3	Pre-order Transaction Process	Order_Transaction.doc	KPMG Consulting
Q-4	Products	Products.doc	KPMG Consulting
Q-5	Ordering System and Infrastructure	Order_Sys_Infrastructure.doc	KPMG Consulting
Q-6	Loop Qualification	Loop_Qual.doc	KPMG Consulting
Q-7	Help Desk ISC	Help_Desk_ISC.doc	KPMG Consulting
Q-8	Fax (IIS) Order Process	Fax_Order_Process.doc	KPMG Consulting
Q-9	Flow-through	Flow_Through.doc	KPMG Consulting
Q-10	IMA Help Desk	IMA_Help_Desk.doc	KPMG Consulting

Table 2.1.2.2.2: Qwest Data Sources for Order Management Assessment

Document Number	Document	File Name	Source
E-1	Qwest Flow-through eligibility (OM-13)	FT_Martrix_Ver 1.1.doc	Qwest
E-2	IMA_User_Guide (OM-22)	IMA_User_Guide.zip	Qwest
E-3	EDI-Implementation Guideline (OM-22)	EDI-Implementation Guideline.zip	Qwest
E-4	IMA User's Guide, Release 5.01	IMA User's Guide.zip	Qwest
E-5	IMA Learning Guide – Class Companion	IMA_Learning.zip	Qwest
E-6	Facility-Based Directory Listings Guide	Fac_Based_DL_Gde.zip	Qwest
E-7	Pre-Order IMA I-Charts 5.0	Pre-Order IMA I-Charts 5.0.zip	Qwest
E-8	Order IMA I-Charts 5.0	Order IMA I-Charts 5.0.zip	Qwest
E-9	CLEC pre-order training material (OM-1)	KPMG0907.pdf	Qwest
E-10	Pre-ordering business rules (OM-2)	KPMG0907.pdf	Qwest
E-11	Response to data dictionary request (OM-3)	KPMG0907.pdf	Qwest
E-12	CLEC ordering (manual and electronic) training material (OM-4)	KPMG0907.pdf	Qwest
E-13	Ordering business rules (OM-5)	KPMG0907.pdf	Qwest

Document Number	Document	File Name	Source
1-6	Product Training Guides (OM-6)	KPMG0907.pdf	Qwest
1-7	Service provisioning intervals (OM-7)	KPMG0907.pdf	Qwest
1-8	Pre-ordering error resolution guide (OM-8)	KPMG Set 62 091200.pdf	Qwest
1-9	Ordering error resolution guide (OM-9)	KPMG Set 62 091200.pdf	Qwest
1-10	List of available USOCS (OM-10)	KPMG 62-208 ATT A.XLS UDIT Class of Service and USOCs.xls	Qwest
1-11	Scheduled hours of operation (OM-11)	KPMG Set 62 091200.pdf	Qwest
1-12	Description of EDI batching requirements (OM-12)	KPMG Set 62 091200.pdf	Qwest
1-13	ISC representative manual order training/job aids (OM-14)	KPMG 62-212.msg	Qwest
1-14	ISC organization charts (OM-15)	KPMG 62-213.msg	Qwest
1-15	Response to xDSL training request (OM-16)	KPMG0907.pdf	Qwest
1-16	UNE-P.C Presentation (OM-17)	KPMG 78-253 msg	Qwest
1-17	CENTREX availability matrix (OM-18)	KPMG 78-254.msg	Qwest
1-18	Manual Order Routing Matrix (OM-19)	KPMG_Set_77.msg	Qwest
1-19	IMA Business Requirements for Misc. Edits (OM-20)	KPMG_Set_77.msg	Qwest
1-20	ISC representatives Methods and Procedures and Job Aids (OM-21)	OM21 - KPMG 77-251.msg	Qwest
1-21	Qwest server mainframe overview (OM-23)	Main frame_overview_OM23.xls	Qwest
1-22	IMA Middleware Legacy System overview (OM-24)	KPMG 84-276.msg	Qwest
1-23	Methods and Procedures and Job Aids for the handling of IIS LSRs (OM-25)	KPMG 101-357.msg	Qwest
1-24	Bulk correspondence	OM_Correspondense.zip	Qwest

Table 2.1.2.2.3: CLEC Interviews for Order Management Assessment

Document Number	Document	File Name	Source
C-1	McLeodUSA 1FB Products (9-7)	McLeodUSA_1FB_Product doc	KPMG Consulting
C-2	McLeodUSA Centrex Resale Products (9-7)	McLeodUSA_Centrex_Resale_Products.doc	KPMG Consulting

Table 2.1.2.2.4: CLEC Data Sources for Order Management Assessment

Document Number	Document	File Name	Source
CD-4	IFB Conversion Problems per State	IFB Conversion Problems per State.msg	McLeodUSA

2.1.2.3 Assessment Method

Interviews were conducted in Denver, Colorado with Qwest personnel and included a telephone bridge for offsite participants. Additionally, interviews were conducted with McLeodUSA via conference calls regarding Qwest pre-order and order processes, systems and documentation. Further data was gathered through reviews of information provided by Qwest on its pre-order and order processes, systems and documentation.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews was analyzed in reference to the assessment criteria.

2.1.3 Results

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.1.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1.0 Pre-ordering			
1.1	The end-to-end processes for pre-order transactions are consistent across all jurisdictions and regions.	No	Based on information provided in interviews and data requests, the majority of the end-to-end processes to access pre-order information is similar, but there are some differences. Minor regional differences were identified based on a review of the pre-order *I-Charts Ver. 5*. There are currently differences in the valid entries for at least one field in three of the eight pre-order queries. These differences include: 1) range of values per region, 2) type of information required by each region. Additional regional difference will emerge in data provided in response to a Customer Service Record (CSR) query. In the scheduled release of IMA 7.0 USOC descriptions will be returned in the Eastern region.
1.2	The systems deployed for pre-order transactions are consistent across all jurisdictions and regions.	No	Based on information provided in interviews and data requests, the majority of systems deployed in supporting pre-order transactions is similar with the exception of the differences outlined in the *Test Requirements Document (TRD)*. These significant differences include the billing systems

Assessment Number	Assessment Criteria	Result	Comments
			used to support CSR retrieval. Each of the three regions has a unique application: BOSS-C, BOSS-E, and CARS. An additional minor regional difference was identified in the method PREMIS uses to manage TN Reservations (Eastern and Central Regions via NPANXX, Western Region via CLLI).
2.2	The publicly available documentation used by CLECs to complete pre-order transactions is consistent across all jurisdictions and regions.	Yes	Based on information provided in interviews and data requests, CLECs can use information provided in IMA training classes and I-Charts to complete pre-order transactions. As represented by Qwest, this documentation appears to be consistent across all regions and jurisdictions. Specific regional differences are identified in the common documentation.
3.0 Ordering			
3.1	The end-to-end processes for order transactions are consistent across all jurisdictions and regions.	No	Based on information provided in interviews and data requests, the majority of the end-to-end processes to order wholesale services is similar. However, potential minor regional differences were identified based on a review of the order *I-Charts Ver. 5* and information provided in interviews with Qwest. Minor differences include: 1) business rule differences in the range of valid entries for Hunting Sequence 2) business rule differences in the valid entries due to jurisdictional USOC or product differences, 3) the BAN field in the Eastern Region is not validated by up-front edits for accuracy, and 4) unique fax numbers are used by region for Centrex Resale orders that may indicate some differences in process.[3]
3.2	The systems deployed for order transactions are consistent across all jurisdictions and regions.	No	Based on information provided in interviews and data requests, the majority of the systems deployed to order wholesale services is similar aside from the differences outlined in the *Test Requirements Document (TRD)*. Significant differences include: 1) Billing systems, 2) CSR Retrieval systems, 3) Service Order Processors.
3.3	The publicly available documentation used by CLECs to complete order transactions is consistent across all jurisdictions and regions	Yes	Based on information provided in interviews and data requests, CLECs can use information provided in IMA training classes and I-Charts to complete order transactions. As represented by Qwest, this documentation appears to be consistent across all regions and jurisdictions. Specific regional differences are identified in the common documentation.
3.4 Flow-through			
3.4	The flow-through capabilities of the Qwest systems are consistent across all jurisdictions and regions	No	Based on a review of *ROC 271 Working PID Version 1.4* and Qwest interviews the majority of Qwest's flow-through capabilities is similar. Differences are primarily related to orders for number changes, suspensions, or restoral of service.

[3] See www.qwest.com/wholesale/productsServices/irrg/CNTRS1-3.html

Assessment Number	Assessment Criteria	Result	Comments
4.2	The publicly available documentation used by CLECs to determine the flow-through eligibility of transactions is consistent across all jurisdictions and regions.	Yes	Based on a review of *ROC 271 Working PID Version 1.4* interviews, Qwest's publicly available documentation to determine the flow-through eligibility of transactions is consistent across all jurisdictions and regions. Specific regional differences are identified in the common documentation.
4.3 Manual Order Process			
4.3	The Qwest processes and systems for administering non-flow-through orders submitted manually or electronically are consistent across all jurisdictions and regions.	No	Based on information provided in interviews and data requests, the majority of the Qwest processes and systems for administering non-flow-through orders submitted manually or electronically is similar across all jurisdictions and regions. The majority of the CLEC-facing processes and systems is similar across regions. However, a significant regional difference exist such that LSRs submitted via IIS or IMA that fall out for manual handling are input into different SOP systems to generate the Qwest internal service orders. Unique fax numbers are used by region for Centrex Resale orders, which may indicate some differences in process and/or load balancing.
4.5	The Qwest organizations administering non-flow-through orders submitted manually or electronically are consistent across all jurisdictions and regions	Inconclusive	Based on information provided in interviews and data requests, the majority of the Qwest organizations administering non-flow-through orders submitted manually or electronically is similar across all jurisdictions and regions. The majority of Qwest ISC is organized by product type with each center typically having a primary and secondary specialty. Some ISCs are further organized by CLEC and process transactions regardless of region or jurisdiction. However, unique fax numbers are used by region for Centrex Resale orders which may indicate some differences in organizational structure.
4.6	The internal documentation that Qwest representatives use to support non-flow-through orders submitted manually or electronically is consistent across all jurisdictions and regions	Yes	Based on information provided in interviews and data requests, the training material and documentation available to Qwest ISC representatives are consistent across regions and juris dictions. Specific regional differences are identified within the material to address the ISC representative's need to interact with different regional systems (e.g., Billing and SOP system).

2.1.4 Results Summary

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.1.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
Documentation provided to CLECs to prepare pre-ordering, ordering transactions.	X					X
Documentation provided to CLECs regarding the flow-through eligibility of transactions.	X					X
Pre-order and order business rules. (See Pre-order and order processes evaluation criteria).	X*					X
Qwest's internal ISC documentation to support non-flow-through transactions.	X					X
Systems that support pre-order and order transactions.		X		X		
Flow-through capabilities of the Qwest systems.	X*					X
Qwest processes for handling non-flow-through orders.		X				X
Qwest's organizations supporting non-flow-through orders.			X			X

*Minor differences identified, but not material enough to reject hypothesis.

2.2 Provisioning

2.2.1 Description

The Provisioning domain is composed of the systems, processes, and other operational elements associated with Qwest's support for provisioning activities for wholesale services and unbundled network elements (UNEs). This assessment was designed to compare the functionality and performance of parallel systems and processes supporting Provisioning across the various state jurisdictions and operating regions in Qwest's territory.

KPMG Consulting reviewed and analyzed documentation provided by Qwest related to provisioning activities, and conducted interviews with key Qwest and CLEC representatives in order obtain the data necessary to conduct the assessment.

2.2.2 Methodology

This section provides a business process description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.2.2.1 Business Process Description

Network Design and Collocation

A CLEC initiates the network design/collocation process by submitting a collocation application, is available on the Qwest website: http:www.uswest.com/whole sale/guide.html. Three Qwest groups work together to provision these services: the Collocation Project Management Center (CPMC), the Engineering Central Office, and the Technical Selection Group. The CPMC, located in Littleton, Colorado, receives the application and conducts a collocation feasibility study. The study carries an internally mandated 10-day deadline and results in a quote provided directly to the CLEC. The CPMC interfaces with the Engineering Central Office, which manages the installation and construction phase. The build stage lasts between 45-90 days, depending on the contract between Qwest and the CLEC, in all states except Utah. In Utah, the state PSC mandates a 45-day period. The Technical Selection Group maintains a list of approved products and decides if the CLEC's office equipment meets NEBS (Network Equipment Building System) requirements.

Infrastructure

DS1/3 loops for customers are ordered by CLECs via a Local Service Request (LSR), unless they are UDIT (Unbundled Digital Interoffice Transport) or EEL (Extended Enhanced Loop), which are then ordered via Access Service Request (ASR). A CLEC orders switched trunks and interoffice facilities via the ASR process throughout the Qwest footprint. The CLEC sends an ASR via TELIS or NDM (Network Data Manager) to EXACT, a system located in Omaha, to process the request. EXACT transmits them to one of three business offices (Des Moines, Salt Lake City, Minneapolis), depending on the CLEC.

The CLEC can also fax requests to one of three Business Offices (Des Moines, Salt Lake City, Minneapolis), dependent upon which customer submits the request. The OSS application software platforms used for provisioning in each of the three regions include:

- FACS (Facility Assignment and Control System)
- LMOS (Loop Management and Operations System)
- WFA (Work Force Administration)
- TIRKS (Trunk Inventory Record Keeping System)
- Facility Check
- PREMIS * (Premises Information System) software

FACS is located in Omaha for the East region and in Salt Lake City for the West and Central region. LMOS, WFA and TIRKS are located in Omaha for the East region, Salt Lake City for the Central region, and Bellevue for the West region. Facility Check is located in Omaha, Denver and Salt Lake City with each location serving all regions. The PREMIS system, the TN database, is located in Omaha for the East region and Albuquerque for the West and Central regions. This will continue after PREMIS transitions to the new Customer Number system (CNUM).

Wholesale Provisioning

To submit an order, a CLEC generates a service order activation (SOA) through the facilities portion of Qwest's Interconnect Mediated Access system (IMA/FTS) or the ISC (Interconnect Service Center). The order is subsequently processed through one of three Service Order Processor (SOP) systems, depending on which region the CLEC's customer is located: the East region uses SOLAR, the Central uses SOPAD, and the West uses RSOLAR. The three SOPs package data in a consistent manner so that product requests appear similarly across the Qwest footprint. These requests are distributed to Service Order Analysis Centers depending on the product to be provisioned. Requests that require design services go to SOAC-C (Service Order Analysis Center-Controller), POTS (plain old telephone service) requests go to SOAC-A (assigner), and other product requests go to the appropriate systems (e.g., voicemail request goes to VENUS). There are five Design Service Centers (DSCs). The one in Des Moines supports UNE-Loop provisioning activities. This DSC and four other DSCs (located in Minneapolis, Littleton, Salt Lake City, and Seattle), also support resale and UNE-P. They all perform similar functions.

2.2.2.3 *Data Sources*

The data collection performed for this assessment relied on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest. The interviews and documents are itemized in the tables below.

* PREMIS (Premises Information System), which will be replaced by CNUM (Customer Number), is the telephone number (TN) and address database

Table 2.2.2.2.1: Qwest Interviews for Provisioning Assessment

Document Number	Document Name	File Name	Source
[illegible]	Provisioning Transaction Processing and Coordination	Provisioning Transaction Processing and Coordination doc	KPMG Consulting
[illegible]	Network Design-Collocation	Network Design-Collocation.doc	KPMG Consulting
[illegible]	Provisioning Process Parity	Provisioning Process Parity.doc	KPMG Consulting
[illegible]	Provisioning Infrastructure	Provisioning Infrastructure doc	KPMG Consulting
[illegible]	Switched Trunks, Interoffice Facilities and ASRs	ASR&IOF&ST doc	KPMG Consulting

Table 2.2.2.2.2: Qwest Data Sources for Provisioning Assessment

Document Number	Document	File Name	Source
[illegible]	Interconnection - Unbundled Loop (R27)	hard copy	Qwest
[illegible]	Interconnection and Collocation for Transport and Switched Unbundled Network Elements and Finished Services (R27)	hard copy	Qwest
[illegible]	Unbundled Loop for OPE (R8)	hard copy	Qwest
[illegible]	Unbundled Loop—CCT - MT Job Aid (R21)	hard copy	Qwest
[illegible]	Unbundled Loop—COT Job Aid (R10)	hard copy	Qwest
[illegible]	Unbundled Loop—DS I&M Technician Job Aid (R11)	hard copy	Qwest
[illegible]	Unbundled Loop M&Ps (R7)	hard copy	Qwest
[illegible]	72-Hour Pre-Survey (R7)	hard copy	Qwest
[illegible]	CP-13 Coordinated Cuts on Tues (R7)	hard copy	Qwest
[illegible]	Unbundled Loop—CCT - D Job Aid (R7)	hard copy	Qwest
[illegible]	Unbundled Switch Elements (R17)	hard copy	Qwest
[illegible]	Unbundled Dedicated Interoffice Transport, Technical Publication (R17)	hard copy	Qwest
[illegible]	Unbundled Dark Fiber (R17)	hard copy	Qwest
[illegible]	Line Sharing - All States Network (R27)	hard copy	Qwest
[illegible]	Line Sharing for OPE M&Ps (R27)	hard copy	Qwest
[illegible]	Shared Loop M&Ps (R27)	hard copy	Qwest
[illegible]	Local Number Portability (R7)	hard copy	Qwest

Document Number	Document	File Name	Source
I-16	LNP Port-In Held Order Process (R7)	hard copy	Qwest
I-17	LNP – All States Network (R7)	hard copy	Qwest
I-18	LRAC Two-Wire Analog Unbundled Loop Process (R11)	hard copy	Qwest
I-19	Two-Wire Analog Unbundled Loop Provisioning & Repair (R11)	hard copy	Qwest

Table 2.2.2.2.3: CLEC Interviews for Provisioning Assessment

Document Number	Document	File Name	Source
C-1	McLeodUSA Communications	McLeod Provisioning Interview Summary.doc	KPMG Consulting

There were no CLEC data sources provided for the Provisioning assessment.

2.2.2.3 *Assessment Method*

Interviews with Qwest personnel were conducted in Denver, Colorado, and included a telephone bridge for offsite participants. An interview was also conducted with McLeodUSA via conference bridge to discuss regional differences in the Qwest provisioning process from a CLEC's perspective. Additional data was gathered through reviews of documentation provided by Qwest on the regional assessment interview topics.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.2.3 *Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.2.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1.0 Provisioning Transaction Processing			
1.1	The end-to-end process for provisioning transactions is consistent across all jurisdictions and regions.	No	Based on interviews, while the provisioning processes vary by product and are processed in three different SOPs, Qwest processes for those products are consistent across the Qwest footprint. The AIN (Advanced Intelligent Network) Lab is responsible for the creation, release and reconciliation of all NPAC subscription records. Hot cut intervals are not consistent across the Qwest footprint. All states now have LNP, but Oregon and Idaho have a limited number of switches that are not LNP capable and must use INP.
1.2	The systems used for provisioning transactions are consistent across all jurisdictions and regions.	No	As stated in the TRD, Section 6, the three regions use different SOPs. Internal service orders distributed from each SOP are consistent across the three regions according to the product request being processed. Error messages produced by the three SOPs, however, are not consistent. There are several systems used for provisioning: FACS, LMOS, WFA, TIRKS, and Facility Check. Each of these applications function independently in each region. In part of southwestern Washington, Qwest uses WFA-DI instead of WFA-DO to convey orders for DS1/3 High-Capacity Circuits to outside plant field forces.
1.3	Internal documentation used to complete provisioning transactions is consistent across all jurisdictions and regions.	Yes	Per Qwest interviews and document reviews of material listed in Table 2.2.2.2.2 (Qwest Data Sources for Provisioning Assessment), Qwest documentation is consistent across the Qwest footprint.
1.4	Documentation publicly available to the CLECs used to complete provisioning transactions is consistent across all jurisdictions and regions.	Yes	Based on interviews and documents publicly available to the CLECs at http://www.uswest.com/wholesale/guide.html, CLEC provisioning documentation is consistent across the Qwest footprint.
2.0 Provisioning Infrastructure			
2.1	Provisioning system architecture is consistent across all jurisdictions and regions.	Inconclusive	Based on interviews, provisioning varies depending on the product. Additionally, in some cases there are variances within a product. One example is the ordering of switched trunks and interoffice facilities which can be ordered via fax, TELIS or NDM. Another example is the ordering of DS1/3 loops which are ordered with an LSR, unless they are UDIT or EEL, which are ordered using an ASR. The LSS[5] (Listing Service System) software platform for the three regions are identical, but function independently within each region. This will continue after Qwest completes their migration to a new OSS application system called Customer Listing Data Service. The PREMIS software platforms for the three regions

[5] LSS (Listing Service System), which will be replaced by CLDS (Customer Listing Data Service), is the database used for both directory listing (DL) and directory assistance (DA).

Assessment Number	Assessment Criteria	Result	Comments
			are identical, but the East region functions independently of the West and Central regions. This situation will continue after Qwest completes their migration to a new OSS application system called CNUM.
2.2	Organizations supporting Provisioning activities are consistent across all jurisdictions and regions.	Yes	One DSC (Design Service Center) in Des Moines, supports UNE-Loop provisioning activities. This DSC and four separate DSCs (located in Minneapolis, Littleton, Salt Lake City, and Seattle) also support resale and UNE-P and perform consistent processes. Workload for non-UNE Loop is assigned to the DSCs primarily according to geography, with certain exceptions. IOF requests are handled in all five DSCs.
3.0 Provisioning Coordination			
3.1	The end-to-end processes for coordinated provisioning installations are consistent across all jurisdictions and regions.	Yes	One DSC, located in Des Moines, handles all coordinated provisioning installations for UNE-Loop transactions.
3.2	Testing equipment used for coordinated provisioning installations is consistent across all jurisdictions and regions.	Yes	Per Qwest documentation, specific equipment is used consistently across regions for groups of products: For UNE services on copper wires: the 965 DSP is the latest Qwest footprint-wide issued testing equipment. For dark fiber: the TTC 310 package 1, Wandel & Goltermann MK-4 for the Central Office, and the Siecor field fiber test set for outside fiber technicians.
3.3	Internal documentation used to complete coordinated provisioning installations is consistent across all jurisdictions and regions.	Yes	Based on interviews and document reviews of material listed in Table 2.2.2.2.2 (Qwest Data Sources for Provisioning Assessment), Qwest internal documentation for coordinated provisioning installations is consistent across the Qwest footprint.
3.4	Documentation publicly available to the CLECs used to complete coordinated provisioning installations is consistent across all jurisdictions and regions.	Yes	Based on interviews and document reviews of documents available to CLECs at http://www.uswest.com/wholesale/guide.html, Qwest CLEC provisioning documentation for coordinated provisioning installations is consistent across the Qwest footprint.
4.0 Network Design/Collocation			
4.1	The end-to-end processes for provisioning CLEC network design/collocation requests are consistent across all jurisdictions and regions.	Yes	Per Qwest interviews, each of the three groups involved in network design/collocation process performs their respective activities in consistent manner across the Qwest footprint. The three groups are the CPMC, the Engineering group and the Technical Selection Group
4.2	The systems deployed for provisioning CLEC network design/collocation requests are consistent across all jurisdictions and regions.	Yes	Each of the three groups in network design/collocation use a different system. However, these systems are used consistently across the entire Qwest footprint.
4.3	Internal documentation used to complete provisioning for CLEC network design/ collocation requests is consistent across all jurisdictions and regions.	Yes	Based on interviews and document reviews of material listed in Table 2.2.2.2.2 Qwest Data Sources for Provisioning Assessment, Qwest internal documentation for network design/collocation is consistent across the Qwest footprint.

Assessment Number	Assessment Criteria	Result	Comments
4.4	Documentation publicly available to the CLECs used to complete provisioning for CLEC network design/ collocation requests is consistent across all jurisdictions and regions.	Yes	Based on interviews and document reviews of documents available to CLECs at http://www.uswest.com/wholesale/guide.html Qwest CLEC network design/collocation documentation is consistent across the Qwest footprint

2.2.4 *Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.2.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
Provisioning Transaction Processing		X		X		
Provisioning Infrastructure Organization	X			X		
Provisioning Coordination	X					X
Network Design/Collocation	X					X
Provisioning Infrastructure Architecture			X	X		

2.3 Maintenance and Repair

2.3.1 Description

The Maintenance and Repair (M&R) domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for Unbundled Network Element (UNE) and Resale maintenance and repair activities. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to maintenance and repair activities and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.3.2 Methodology

This section provides a business process description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.3.2.1 Business Process Description

The input of trouble tickets is an automated process for CLECs in the Qwest footprint. There are two interfaces for CLECs to create their own trouble tickets. The first interface is the Interconnect Mediated Access (IMA) which is a GUI (Graphical User Interface) based application. CLECs also have the option to build a gateway to the EB-TA (Electronic Bonding Trouble Administration) interface. Both of these trouble reporting systems are portals to MEDIACC (Mediated Access System), the engine that generates the trouble tickets in LMOS (Loop Maintenance Operating System) and WFA/C (Work Force Administration/Control). LMOS is used for non-designed loops, while WFA/C processes problems with designed loops.

When CLECs require direct contact with Qwest personnel, they can call a toll free number for the Account Maintenance Service Center (AMSC). This center services all of Qwest's 13 states. The AMSC staff uses the Repair Call Expert (RCE) system to assist with the creation of non-designed loop trouble tickets. Once created, the tickets are automatically sent to the LMOS front end. A parallel interface, known as Control, helps generate designed loop trouble tickets that are sent to the WFA/C front end. Qwest's Repair Call Handling Center (RCHC) accepts a small number of calls from CLECs regarding Resale 1FR/1FB troubles only The vast majority of CLEC wholesale trouble calls are made into the AMSC.

All M&R internal and external documentation is web-based. Qwest has two internal systems that are used to produce documentation (InfoBuddy and Canyon6) and one system for document notification and delivery (Multi-Channel Communicator). The Wholesale Service Delivery Process Toolkit (Process Toolkit), part of InfoBuddy provides templates and guidelines for publication of all documents for non-designed services. Canyon6 is the equivalent system for design services. The MCC is the system that informs Qwest personnel of changes to the documentation and ensures that the necessary updates are made electronically. Semi-annual reviews of Qwest repair and maintenance centers, known as Center Certifications, are performed to ensure that the methods and procedures practiced adhere to those set forth in the documents.

The repair ticket flow from the CLEC to the Qwest legacy systems is depicted in the following chart.

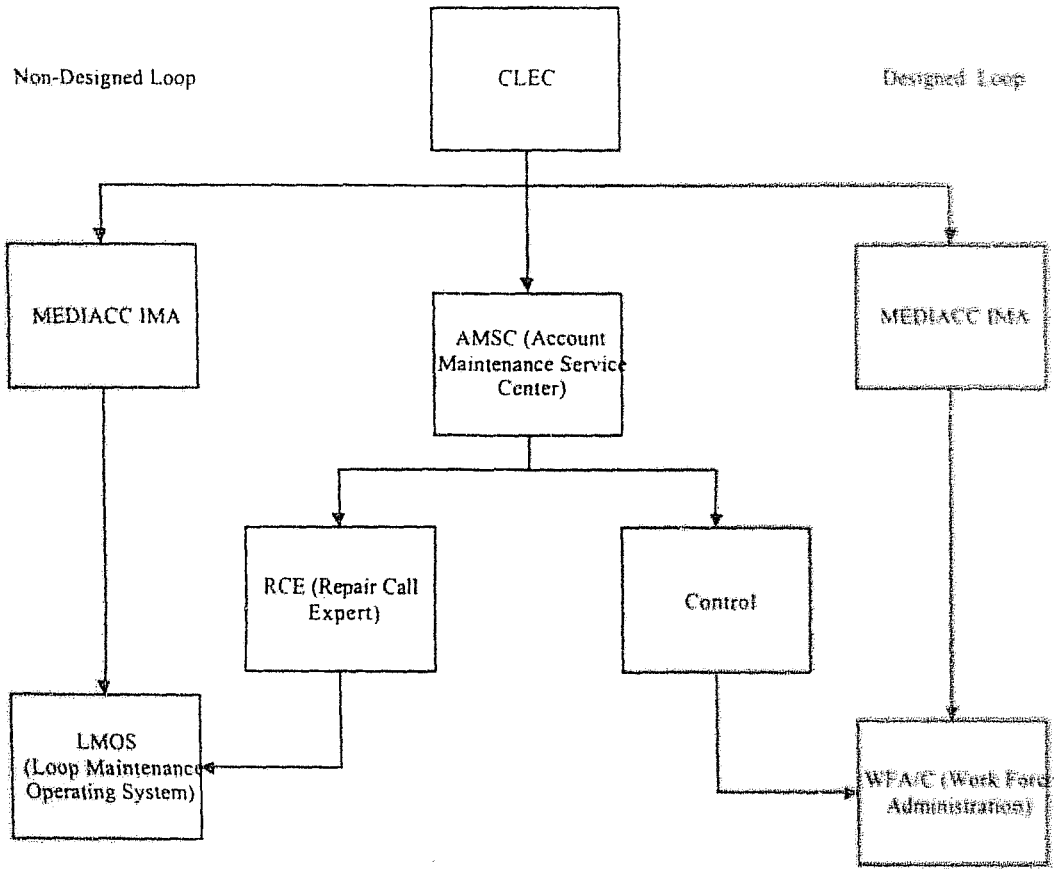


Chart 2.3.2.1.1. Qwest Legacy System Process Flow

2.3.2.2 Data Sources

The data collection performed for this assessment relied on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest. The interviews and documents are itemized in the tables below.

Table 2.3.2.2.1: Qwest Interviews for Maintenance and Repair Assessment

Document Number	Document Name	File Name	Source
Q-1	Qwest M&R Capacity Management Interview Summary	Final M&R Capacity Management Interview Summary.doc	KPMG Consulting
Q-2	Qwest M&R Coordination Interview Summary	Final M&R Coordination Interview Summary.doc	KPMG Consulting
Q-3	Qwest M&R Documentation Interview Summary	Final M&R Documentation Interview Summary.doc	KPMG Consulting
Q-4	Qwest M&R Network Surveillance Interview Summary	Final M&R Network Surveillance Interview Summary.doc	KPMG Consulting
Q-5	Qwest M&R Processing Interview Summary	Final M&R Processing Interview Summary.doc	KPMG Consulting
Q-6	Qwest M&R Support Center Review Interview Summary	Final M&R Support Center Interview Summary.doc	KPMG Consulting
Q-7	Qwest M&R Infrastructure Interview Summary	Final Provisioning and M&R Infrastructure Interview Summary.doc	KPMG Consulting

Table 2.3.2.2.2.: Qwest Data Sources for Maintenance and Repair Assessment

Document Number	Document	File Name	Source
I-1	Repair Ticket Flow	hard copy	Qwest
I-2	Joint Meet Process Description/ Flow	hard copy	Qwest
I-3	Maintenance & Repair: External Documentation Available for use by CLECs	hard copy	Qwest
I-4	Unbundled Loop Maintenance Flow	hard copy	Qwest
I-5	Multi Channel Communicator Problem or Error	hard copy	Qwest
E-1	IMA User's Guide	hard copy	Qwest

Table 2.3.2.2.3: CLEC Interviews for Maintenance and Repair Assessment

Document Number	Document	File Name	Source
C-1	Qwest McLeod Interview Summary	Qwest McLeod Interview Summary.doc	KPMG Consulting

There were no CLEC data sources provided for the M&R assessment.

2.3.2.3 Assessment Method

Interviews with Qwest personnel were conducted in Denver, Colorado and included a conference bridge for offsite participants. In addition, KPMG Consulting conducted an interview with McLeodUSA. The goal of this interview was to gather information on Qwest's M&R networks, systems, and methods to determine if they were consistent throughout the operating footprint. Additional data was gathered through reviews of documentation provided by Qwest on M&R Capacity Management, M&R

Coordination, M&R Documentation, M&R Network Surveillance, M&R Processing, M&R Support Center Review, and M&R Infrastructure.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.3.3 Results

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.3.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1.0 Maintenance and Repair Processing			
1.1	The end-to-end CLEC trouble ticket process is consistent across all jurisdictions and regions.	Yes	Interviews with Qwest personnel and document reviews revealed that trouble tickets are processed in a consistent manner across the Qwest footprint. This includes collection of trouble reports from CLECs via IMA or EB-TA, and the creation and processing of trouble tickets within Qwest (via LMOS for non-designed and or WFA/C for designed loops).
1.2	The systems deployed for supporting CLEC M&R processes are consistent across all jurisdictions and regions.	Yes	Although CLECs have a choice between IMA and EB-TA for entering trouble tickets, each of these systems is consistent throughout the Qwest footprint.
1.3	Internal documentation used to complete CLEC M&R processes is consistent across all jurisdictions and regions.	Yes	Per Qwest interviews, Qwest described the standard processes and systems for creating and distributing documentation across the Qwest footprint (InfoBuddy, Canyon6 and MCC). These systems are used for all internal documentation, including their internal web.
1.4	Documentation publicly available to CLECs for M&R processes is consistent across all jurisdictions and regions.	Yes	Based on interviews, document reviews, and documentation for CLECs regarding the use of the wholesale trouble reporting systems is consistent across the Qwest footprint. CLECs access Qwest Wholesale Markets web site (www.uswest.com/wholesale/guide.html) on policies, procedures, systems, and emergency procedures. Additional data on training, use, and access to these systems can be found on a checklist provided to all CLECs. This website covers the entire Qwest footprint.
2.0 Maintenance and Repair Support Center Review			

Assessment Number	Assessment Criteria	Result	Comments
2.1	M&R CLEC Help Desk resource management is consistent across all jurisdictions and regions.	No	M&R Help Desk resource management is not administered consis tently throughout the Qwest footprint. The Account Maintenance Service Center (AMSC) located in Denver is the primary support center available to CLECs throughout the 13 Qwest states. The Repair Call Help Center (RCHC) accepts a small volume of calls from CLECs for Resale 1FR and 1FB services only. The RCHC role is being transitioned to the AMSC in a phased approach, but no target date for completion was given.
2.2	M&R CLEC Help Desk processes are consistent across all jurisdictions and regions.	Yes	During interviews with Qwest personnel, Qwest representatives identified that Repair Service Technicians are trained to handle both wholesale and resale customer troubles. CLEC calls are delivered to the first available repair service technician for processing.
2.3	Internal Method and Procedure documentation used by M&R Help Desk personnel is consistent across all jurisdictions and regions.	Yes	Qwest representatives stated during interviews that their internal documentation is web-based and can be found in InfoBuddy. InfoBuddy contains templates and requirements found in the Wholesale Service Delivery Process Toolkit (Process Toolkit). Canyon6 is the parallel system for design services documentation. The Multi-Channel Communicator (MCC) is used to inform personnel of changes to the documentation and ensure that the necessary updates are made electronically. One centralized staff group controls document content and electronic posting and updates.
2.4	Documentation publicly available to CLECs interfacing with M&R Help Desks is consistent across all jurisdictions and regions.	Yes	Qwest representatives stated during interviews that their external documentation is web-based. Information on training or the use of systems is available electronically through a Wholesale Markets web-site (www.uswest.com/wholesale/guide.html). This site also contains information on policies, products, systems, and emergencies. In addition, there is a checklist provided to all new CLECs with consistent information. The Account Managers are responsible for training the CLECs on the use of IMA and MEDIACC, as well as providing contact information for the AMSC and doing some root cause analysis on troubles.
3.0 Maintenance and Repair Infrastructure			
3.1	M&R system architecture is consistent across all jurisdictions and regions.	Yes	Review of Qwest documentation and interviews with Qwest personnel revealed that there are two interfaces for CLECs to create their own trouble tickets. These are the Interconnect Mediated Access (IMA) and the EB-TA (Electronic Bonding Trouble Administration). MEDIACC (Mediated Access System) is the engine that generates tickets through LMOS (Loop Maintenance Operating System) and WFA/C (Work Force Administration/Control).
3.2	Organizations supporting M&R activities are consistent across all jurisdictions and regions.	No	The AMSC in Denver is the primary center in the Qwest region for CLEC wholesale or resale trouble resolution. Qwest indicated through the interview process that the RCHC also handles a small volume of calls for 1FR/1FB Resale. The RCHC's involvement with the trouble administration reporting for 1FR/1FB Resale in not handled consistently across the footprint. Qwest is currently transitioning these responsibilities to the AMSC, but no completion date was given.

Assessment Number	Assessment Criteria	Result	Comments
			Qwest also has five Design Service Centers (DSCs) that handle design services within the footprint. All of these centers are subject to consistent methods and procedures, which can be found in Canyon6.
4.0 Maintenance and Repair Documentation			
4.1	M&R document development, publication and distribution of materials made publicly available to CLECs is consistent across all jurisdictions and regions.	Yes	Each specialization group creates their own documentation based on templates and guidelines found in the Wholesale Service Delivery Process Toolkit (Process Toolkit), in InfoBuddy, or the Canyon6 toolkit, for design services. Information on policies, products, systems and emergencies is available to CLECs on the Qwest Wholesale Markets (www.uswest.com/wholesale/guide.html) website.
4.2	M&R document development, publication and distribution of materials for Qwest internal documents is consistent across all jurisdictions and regions.	Yes	The Process Toolkit in InfoBuddy ensures uniformity of documentation through publication rules and templates. The MCC electronically notifies the appropriate personnel of changes and updates the information found on Qwest's web site. There is only one web site for the entire region.
5.0 Capacity Management			
5.1	The end-to-end process for M&R work center capacity management is consistent across all jurisdictions and regions.	Yes	The M&R work center end-to-end capacity management process is administered consistently throughout Qwest's footprint by both the AMSC and RCHC centers.
5.2	The systems deployed for supporting M&R work center capacity management are consistent across all jurisdictions and regions.	Yes	The tools used to ensure proper use of resources within the AMSC and RCHC are the Management Information System (MIS), for queue-management and notification of a call backlog, and an Automatic Call Distributor (ACD) for call answering.
5.3	Internal documentation used to complete M&R work center capacity management processes is consistent across all jurisdictions and regions.	Yes	Internal documentation utilized by both the AMSC and RCHC to complete M&R work center capacity management is consistent throughout Qwest's footprint.
6.0 Network Surveillance			
6.0	The end-to-end process for M&R work center network surveillance is consistent across all jurisdictions and regions.	Yes	Qwest depends on its five Design Service Centers (DSCs) to conduct network surveillance. The five DSCs also adhere to consistent Internal Method and Procedure documents found in Canyon6. All personnel in the DSCs attend consistent new employee training courses.
6.1	The systems deployed for supporting M&R work center network surveillance is consistent across all jurisdictions and regions.	Yes	Qwest representatives identified during interviews that there is a single application to provide surveillance of the designed transport products: Network Manager Assistant (NMA).
6.3	Internal documentation used to complete M&R work center network surveillance is consistent across all jurisdictions and regions	Yes	There is only one set of web-based documents across the Qwest footprint. Internal documentation can be found in InfoBuddy, which also provides the documentation templates. The MCC electronically updates the documentation to insure that it is consistent across the operating region.

Assessment Number	Assessment Criteria	Result	Comments
6.4	M&R work center disaster planning is consistent across all jurisdictions and regions.	Yes	There is only one disaster plan for the entire Qwest footprint. It can be found on Qwest's Disaster Preparedness & National Security Home Page (http://saw31/NROC/DR/) and the center can be reached via a single toll-free number (1-800-204-6540).
7.0 M&R Coordination			
7.1	The end-to-end process for M&R wholesale coordinated/joint meetings (vendor meet) is consistent across all jurisdictions and regions.	Inconclusive	During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed loops) are being gathered to create a standard set of processes for interaction with CLECs.
7.2	The systems deployed for supporting M&R wholesale coordinated/joint meetings (vendor meet) are consistent across all jurisdictions and regions.	Inconclusive	During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed) are being redesigned. Therefore, no standard systems are defined.
7.3	Internal documentation used to address procedures for wholesale coordinated/joint meetings (vendor meet) are consistent across all jurisdictions and regions.	Inconclusive	During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed) are being redesigned, so no standard set of Qwest internal documentation exists.
7.4	Documentation publicly available to CLECs detailing procedures for wholesale coordinated/joint meetings (vendor meets) is consistent across all jurisdictions and regions.	Inconclusive	During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed) are being redesigned, so no standard set of Qwest wide documentation exists.

2.3.4 Results Summary

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.3.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
Maintenance and Repair Processing	X			X		
Maintenance and Repair Support Center Review	X					X
Maintenance and Repair Infrastructure*	X			X		
Maintenance and Repair Documentation*	X					X
Capacity Management	X					X
Network Surveillance	X					X
M&R Coordination			X			X

*Due to the small volume of CLEC calls addressed by the RCHC, and the fact that Qwest has plans to move the CLEC workload to the AMOC, KMPG Consulting did not reject the null hypothesis.

2.4 Billing

2.4.1 Description

The Billing domain is comprised of the systems, processes and other operational elements associated with Qwest's support for Wholesale billing. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC provided documentation related to billing activities and conducted interviews with key Qwest and participating CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.4.2 Methodology

This section provides a business process description, lists the sources of data used in the assessment, and summarizes the assessment methodology.

2.4.2.1 Business Process Description

One of the remaining legacies of the original merger that created US WEST is the continuing use of three Customer Record Information Systems (CRIS). These billing systems, which are used for billing retail, resale, and in the Qwest territory, most of the UNE products, are maintained and operated separately in the Western, Central and Eastern regions.

The Integrated Access Billing System (IABS) is another billing system used in the billing of Access products. It was developed after the merger and is standard across all states.

CRIS Billing Systems

The CRIS systems receive the Service Order information from Service Order Processing Systems (SOPs). Once this information is available, the Universal Service Order Codes (USOCs) are rated and the customer account is updated. An updated Customer Service Record (CSR) is issued and made available to the CLEC. This CSR summarizes all services, equipments and features requested by an end-user.

The usage events are first collected at the switch in Automatic Message Accounting (AMA) format and sent to the Message Processing Systems. The messages are identified, formatted, rated, and stored by Billing Telephone Number (BTN) until the bill period ends.

Daily Usage Feeds (DUFs) are produced out of the Message Processing System and sent to the CLEC daily as requested.

Bill calculations are performed in the CRIS systems, including monthly recurring charges, usage charges, pro-rations, taxes, balance carry-forwards, and payment applications, then forwarded on to formatting by media type (such as paper or CDROM).

IABS Billing System

The IABS system is used to bill specific interconnect, collocation, unbundled products and resale frame relay products. Service order processing, unlike the CRIS process, is initiated with an Access Service Request (ASR). In CRIS, the service order process is initiated with a Local Service Request (LSR).

The IABS system receives service order information daily. This information is used to update the customer account and to ensure usage is accurately guided. The CSR is updated in a Billing CSR and the USOCs are rated on the bill date.

Usage events are collected through the CRIS systems using a similar process, then forwarded to the IABS system for editing, formatting, and storage until the bill period ends.

On the bill date, IABS performs the bill calculations which include calculating charges, taxes (or tax exemptions), adjustments, payments, and credits. The file, along with the Billing CSR, is formatted and sent to the CLEC in the requested medium.

2.4.2.2 Data Sources

The data collection performed for this assessment relied on interviews with Qwest and participating CLEC representatives and reviews of documents supplied by Qwest and the CLECs. The interviews and documents are itemized in the tables below.

Table 2.4.2.2.1: Qwest Interviews for Billing Assessment

Document Number	Document Name	File Name	Source
Q-1	Carrier Bill Processing	8-22 Carrier Bill Interview Summary_Final.doc 8-22 Carrier Bill Interview Summary comments.doc	KPMG Consulting
Q-2	Daily Usage Feed (DUF)	8-22 DUF Interview Summary_Final.doc 8-22 DUF Interview Summary comments.doc	KPMG Consulting

Table 2.4.2.2.2: Qwest Data Sources for Billing Assessment

Document Number	Document	File Name	Source
E-1	Carrier Bill Processing Business Rules	e-mail	Qwest
E-2	Usage Processing Business Rules	e-mail	Qwest
E-3	Qwest internal training material for billing (including DUF)	CD-ROM	Qwest
E-4	CLEC Training Material for Billing (including DUF)	CLEC Billing and Usage Guide http://www.uswest.com/wholesale/productServices/ireg/TA-BL1-0.html	Qwest

Document Number	Document	File Name	Source
E-5	Qwest Internal Procedures for Usage Processing, carrier Bill Processing, Billing Change Management, and systems and Infrastructure	Summary Bill Trouble Shooting Procedures CRIS/IABS Wholesale Summary Billing validation (Resale) - Wholesale Usage Production Support Process - Wholesale (hard copy)	Qwest
E-6	Examples of bills from different states/regions	two Adobe portable documents	Qwest
E-7	Examples of DUF files from different states/regions	hard copy	Qwest
E-8	EMI Specification versions used by different states/regions	e-mail attachment	Qwest
E-9	Business rules for automated recycling of usage due to errors	e-mail attachment	Qwest
E-10	Business rules for aging records	Central MCR c990908-06	Qwest
E-11	Usage return process rules	Co-Carrier Usage Return	Qwest
E-12	Examples of completion notices from the three regions	http://uswest.com:80/wholesale/productsServices/irrg/billUsage.html	Qwest

Table 2.4.2.2.3: CLEC Interviews for Billing Assessment

Document Number	Document	File Name	Source
C-1	McLeodUSA Interview	9-08 McLeodUSA Billing Interview Summary_Final.doc	KPMG Consulting
C-2	WorldCom difference assessment e-mail	RE: CLEC Interview Topics (E-mail)	WorldCom

Table 2.4.2.2.4: CLEC Data Sources for Billing Assessment

Document Number	Document	File Name	Source
CD-1	Examples of CSRs from the three regions	hard copy	McLeod USA
CD-2	Examples of invoices from the three regions	hard copy	McLeod USA

2.4.2.3 Assessment Method

Qwest Interviews were conducted in Denver, Colorado and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on usage processing, carrier bill processing, billing change management, and systems and infrastructure. Further data was gathered through reviews of documentation provided by Qwest. In addition, an interview was conducted with McLeodUSA via a conference bridge. The purpose of this interview was to obtain information on a CLEC's perceptions of the differences that might exist in the billing systems and processes between

Qwest's three regions. Further data was gathered through reviews of documentation provided by the CLEC.

In addition, WorldCom participated in the assessment through a written report.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.4.3 Results

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.4.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1.0	**Usage Processing (Resale and UNE-P)**		
1.1	The DUF production and distribution Process is consistent across regions.	No	According to the information provided during the DUF Interview as well as the process descriptions available in the CLEC Billing and Usage Documentation, usage events are produced by each switch, collected by the message processing systems (one per region), rated then formatted in each CRIS system (one per region). Therefore, even though the process is similar across regions, the actual production of DUF may vary from region to region because of the different systems used.
1.2	The message processing systems are consistent across regions.	No	According to the information provided during the DUF Interview, there are three distinct message processing systems in each region. AMDOCS (PP42) is the standard message processing "front-end" deployed in each region. The systems are maintained by three different groups.
1.3	Exchange Message Interface (EMI) specifications and Qwest variations are consistent across regions.	No	According to the information provided during the DUF Interview, EMI translation is done in each region, and the processes are maintained separately. EMI standards are consistent across the Western and Central regions but not in the Eastern Region. The example that was given during the DUF interview is the following: all five states in the Eastern Region send two records for operator handled local measured calls and Directory Assistance (100132 and 100131 records sent) due to the tariffs. The other regions only send one.

Assessment Number	Assessment Criteria	Result	Comments
1.4	DUF-specific business rules are consistent across regions.	Yes	Rated and unrated rules are consistent throughout all regions: there is no user specificity involved. As mentioned during the DUF interview, usage ownership issues are materially similar across all three regions. DUF transmissions are similar across all regions. Qwest believes that no usage files are sent unless there was usage on that day. KPMG Consulting was not able to verify this information during the timeframe of the assessment.
1.5	Similar Qwest organizations are involved in the process across regions	Yes	According to the DUF Interview, similar organizations with central management are involved in the DUF process. Usage return process rules are consistent across the three regions. The DUF file must be returned via NDM in the EMI format with an EMI return reason code. Billed usage disputes are also handled in writing via e-mail or fax. Usage returns and disputes are similar across regions.
1.6	The operator services switch variations are consistent across regions.	Inconclusive	According to the information provided during the DUF Interview, both Traffic Operator Position System (TOPS) and Operator Service Position System (OSPS) operator switches are used across all regions. Qwest believes the DUFs for operator-handled calls are consistent between the two switches. KPMG Consulting was not able to verify this information during the timeframe of the assessment, and therefore it was not possible to draw a conclusion.
2.0 Carrier Bill Processing			
2.1	The bill production business rules are consistent across regions.	Inconclusive	Based on both Qwest and CLEC interviews, bill calculations are consistent across the Qwest territory. On the other hand, discounts (both rates and discountable charges) are state-specific, and bill formats will vary from one region to another (possibly by state). As a result it was not possible for KPMG Consulting to draw a conclusion as to the consistency of bill production business rules across regions.
2.2	The process for establishing rates is consistent across each state.	No	Local regulatory requirements create differences between states and/or regions. In addition, based on the information provided during the Bill Validation interview, rates for resale services are established through tariffs. For UNE products, some states have published tariffs, while most require interconnection agreements.
2.3	Resale and UNE bills provide consistent content across regions.	No	Rates are state specific and driven by individual tariffs and/or interconnection agreements. In addition, business rules on rate applications are jurisdictionally driven. While according to the Bill Validation Interview, the three CRIS systems have been standardized to fit company-wide requirements, systems specifications and rate table maintenance may vary from region to region.

Assessment Number	Assessment Criteria	Result	Comments
2.4	The bill production process is consistent across regions.	No	Based on information provided during the interviews, IABS is a consistent system across all regions and therefore, the IABS bill production process is consistent across regions. The three CRIS systems follow similar business rules and the process steps are standard across the Qwest territory. On the other hand, the three CRIS systems' initial programs were different as they pertained to three different companies. These differences are the basis for potential regional inconsistencies.
2.5	Training materials (internal and CLEC) are consistent across regions.	Yes	Interviews support that the company is organized by product line, media and systems rather than by regions. As a result, training materials are similar across regions. Potential regional differences are highlighted in the course of training.
3.0 Billing Change Management (for DUF, CRIS, IABS)			
3.1	The process for introducing a new product is consis tent across regions.	Inconc lusive	According to the Qwest interviews, time constraints and state-specific requirements impact the process and can differ across regions. Qwest believes procedures for introducing a new product are materially similar across the three regions, however, KPMG consulting was not able to draw a conclusion as to the consistency of the process to introduce a new product across regions.
3.2	The process for updating rates and tariffs is consistent across region.	No	According to the Qwest interviews, tariff updates are made through table releases, unless hard-coding is required. Although the process is similar across the three regions, the rates are updated in three different CRIS systems, which may induce regional differences. In addition to this systems difference, state disparities also introduce a level of inconsistencies as some states have tariffs while others require interconnection agreements.
3.3	The switch translation process is consistent across regions.	Yes	According to the information provided during the DUF Interview, the switch translation process (using AMDOCS(PP42) as a 'front-end') is similar across the three regions.
3.4	The management tools used to monitor the change management process are consistent across regions.	Inconc lusive	According to the Qwest interviews, most tools are system driven, and therefore vary by region. For those that impact the structure of the Billing Domain, the organizations are centralized around products rather than geographical criteria and therefore procedures are similar across the regions. Based on the above, KPMG Consulting was not able to draw a conclusion as to the consistency of the management tools across the regions.
4.0 Systems and Infrastructure (for Resale and UNE)			
4.1	The inputs and outputs of each system (CRIS, IABS, DUF) are consistent across regions.	No	Inputs and Outputs for CRIS, IABS and DUF are materially similar to the extent of the exceptions noted above. However, these exceptions provide a degree of inconsistency across regions.

Assessment Number	Assessment Criteria	Result	Comments
4.2	The "exit point" of the DUF from the Qwest system is consistent across regions.	Yes	CLEC ownership is determined for each record. CLEC-owned usage records are converted from an internal format to EMI and distributed on the DUF. According to the DUF Interview, this process is consistent across all three regions.
4.3	The CRIS systems upgrades and their functional impacts are consistent across regions.	Inconclusive	According to the Qwest interviews, the Company's policy is to release usage process upgrades and production fixes across the footprint on consistent day. If this is not possible, then all states in consistent region have consistent release day. Both the CRIS systems and the Message Processing Systems are different between regions. The releases and upgrades, which are system specific, are tailored to each system and therefore may vary from one region to the next, although the functionalities implemented will be similar.
4.4	The Bill Processing centers (systems and operational processes) are consistent across regions.	Yes	According to the information provided during the Qwest interviews, all three regions have consistent type of centers. Bill production is organized by media type, and bills for all regions are produced in one location. Customer Care is organized by customer accounts, for example, each CLEC has only one contact, regardless of its presence across multiple regions. Payment centers are organized by State, but can be centralized in order to meet the CLEC's payment process needs.
4.5	The products and media options are consistent across regions.	Inconclusive	It was not possible to draw a conclusion based on the interviews nor the documentation provided during the assessment process. DUF files are sent to the CLEC via NDM, FTP, Web access, tape, or cartridge. This is similar across the three regions. On the other hand, the network facilities and regulatory requirements have created State differences in some of the products offered through the Qwest territory.

2.4.4 Results Summary

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.4.4.1: Results Summary Table

	Hypothesis			TRD, Section 6		
	Failed to Reject	Reject	Inconclusive	Matches	Does Not Match	Not Addressed
Usage Processes (Resale and UNE) (1)	X					X
Carrier Bill Processes (CRIS and IABS) (1)	X					X
CRIS Billing Systems		X		X		
IABS Billing Systems	X			X		
Usage Processing Systems (2)		X		X		

1 – Qwest's CRIS billing systems, which include both the bill production and distribution process and the Daily Usage Feed (DUF) process, are maintained and operated on a regional basis. These regional differences are the source of the inconsistencies and inconclusive statements identified through the analysis performed by KPMG Consulting.

Although these systems are different, Qwest has been streamlining and standardizing most of its processes across the regions, and most of the state or regional differences that have been identified are now at a level where they are not critical to the general billing process. As a result, most of the processes identified above, although they are not consistent across regions, are considered materially similar across the footprint and the impact of the differences is insufficient to materially impact the running of the test. As a result, they are not material to warrant rejecting the null hypothesis.

2 – Usage Processing System is a part of the CRIS systems, but is identified here for purposes of matching with the MTP sections and criteria sections above.

2.5 CLEC Relationship Management and Infrastructure

This section includes the following subtopics:

- Interface Development
- Account Management
- Change Management
- CLEC Training
- ISC Help Desk
- IMA Help Desk

2.5.1 Interface Development

2.5.1.1 Description

The Interface Development domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for developing, publicizing, conducting, managing, and monitoring interface development or interface development support for CLECs. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to interface development and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.5.1.2 Methodology

This section provides a business process description, lists the sources of data used in the assessment, and summarizes the assessment methodology.

2.5.1.2.1 Business Process Description

Competitive Local Exchange Carriers (CLECs) may access Qwest's systems for Order, Pre-Order, Maintenance & Repair, and other services using the Qwest Intermediated Access (IMA) system. This system includes Electronic Data Interchange (EDI) interface and a Web Graphical User Interface (GUI). Maintenance & Repair can also be accessed through IMA or an Electronic Bonding Interface (EB-TA) developed by the CLEC. CLECs that intend to build an interface with Qwest are instructed to initiate their efforts through their Qwest Account Manager.

For EDI, a new entrant testing process is required of each CLEC who wishes to connect to Qwest via IMA-EDI for the first time. As part of this process, the CLEC develops and builds its interface based on Qwest's specifications. The new entrant CLEC will interface to the production environment in a testing mode.

When a CLEC wants to access the Qwest Web GUI, Qwest's initial preparation steps include providing access to training and documentation, as well as providing necessary security hardware and passwords.

CLECs can also access the Maintenance and Trouble Administration functions through an Electronic Bonding Interface (EB-TA). EB-TA requires a CLEC interface process similar to the one for EDI including consistent steps.

2.5.1.2.2 Data Sources

The data collection performed for this assessment relied on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest and the CLECs. The interviews and documents are itemized in the tables below.

Table 2.5.1.2.2.1: Qwest Interviews for Interface Development Assessment

Document Number	Document Name	File Name	Source
Q-1	Interview Questions for Regional Assessment Test – Interface	Interface Dev RDA.doc	KPMG Consulting
Q-2	Interview Summary for Interface EB-TA for Qwest	Interview Summary Qwest – EB-TA.doc	KPMG Consulting
Q-3	Interview Summary for Interface EDI for Qwest	Interview Summary Qwest – EDI. Doc	KPMG Consulting
Q-4	Interview Summary for Interface GUI for Qwest	Interview Summary Qwest – GUI.doc	KPMG Consulting
Q-5	Interview Summary for Interface GUI Middleware	Interview Summary Qwest – Middleware.doc	KPMG Consulting
Q-6	Interview Summary for Interface MEDIACC for Qwest	Interview Summary Qwest – MEDIACC.doc	KPMG Consulting

Table 2.5.1.2.2.2: Qwest Data Sources for Interface Development Assessment

Document Number	Document Name	File Name	Source
E-1	Comments on Interview Summary for Interface EXACT	EXACT Interface Summary Qwest comments.doc	Qwest
E-2	Comments on Interview Summary for Interface MEDIACC	MEDIACC Interview Summary Qwest comments.doc	Qwest
E-3	Comments on Interview Summary for Interface EDI	EDI Interview Summary Qwest comments.doc	Qwest
E-4	Comments on EDI Interview Summary Qwest	EB-TA Interview Summary Qwest comments.doc	Qwest
E-5	Comments on GUI Interview Summary Qwest	GUI Training Qwest comments.doc	Qwest
I-1	Qwest House of Operation for Interface Testing	KPMG 62-209	Qwest
I-2	IMA Organizational Chart	Interconnect COE Organizational Chart.ppt	Qwest
I-3	IMA Middleware Legacy System Overview	Systems Diagram1.doc	Qwest
I-4	CLEC Facing Forecasting Documentation	KPMG 62-197 and 0900 Form Directions.xls	Qwest

There were no CLEC interviews or data sources provided for the Interface Development assessment.

2.5.1.2.3 Assessment Method

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's interface development systems and processes. In addition, a CLEC interview was conducted via a conference bridge to gain a CLEC's perspective on perceived regional differences in Qwest's interface development systems and processes. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KMPG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.5.1.3 Results

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.5.1.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1	Qwest has a software/interface development methodology that addresses requirements and specifications definition, design, development, testing, and implementation, which is consistent across all Qwest Regions.	Yes	CLECs connect through the IMA interface for Pre-Order, Order, and Provisioning. A single methodology is used to connect to IMA, regardless of a CLECs location or areas served. CLECs can use the IMA-GUI to connect to the Qwest Trouble Administration (TA) system or a CLEC can build its own Electronic Bonding interface to MEDIACC.
2	Interface specifications, which define applicable business rules, data formats and definitions, and transmission protocols are made available to customers and are similar across the Qwest footprint.	Yes	IMA access information and Business Rules/Charts is not region specific and is available on the Qwest website. Data formats and transmission protocols are made available through the account establishment team after a CLEC has selected an interface method.
3	Responsibilities and procedures for developing and updating interface specification document(s) are defined and shared consistently across the Qwest footprint.	Yes	IMA information is not region specific. All information is updated by the internal Qwest IMA team.

2.5.1.4 *Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table2.5.1.4: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
Interface Development Process	X					X

2.5.2 Account Management

2.5.2.1 Description

The Account Establishment and Management domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for establishing and managing account relationships with CLECs who order Unbundled Network Elements (UNE) and Combinations and Resale services. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to account establishment and management and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.5.2.2 Methodology

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.5.2.2.1 Business Process Description

The Qwest Account Management teams serve as the primary points of contact within Qwest for wholesale customers. Their responsibilities include introducing new CLECs to Qwest products and services, distributing appropriate documentation and contact lists, communicating routine notifications to customers, scheduling and leading network planning meetings, and interfacing with other Qwest units.

2.5.2.2.2 Data Sources

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

Table 2.5.2.2.2.1: Qwest Interviews for Account Management Assessment

Document Number	Document Name	File Name	Source
Q-1	Interview Summary for Qwest	Interview Summary Qwest - Account Management.doc	KPMG Consulting

Table 2.5.2.2.2.2: Qwest Data Sources for Account Management Assessment

Document Number	Document Name	File Name	Source
E-1	Loss & Completion Report Samples and Report Delivery Options	KPMG 52-103 Sup 1 Att D.doc	Qwest
E-2	NDM Connectivity and Application DSNs	KPMG 52-103 Sup 1 Att E.doc	Qwest
E-3	Letter from Qwest to Trading Partner	KPMG 52-103 Sup 1 Att A.doc	Qwest
E-4	New Customer Questionnaire	Version 12 questionnaire.doc	Qwest

Document Number	Document Name	File Name	Source
I-1	Usage Feed Record Matrix	KPMG 52-103 Sup 1 Att B.doc	KPMG Consulting
I-2	Co-Carrier Usage Return	KPMG 52-103 Sup 1 Att C.doc	Qwest
I-3	Email regarding CLEC and Qwest disputes	Qwest/CLEC TUG-O-WAR – round 1	Qwest
I-4	Account Establishment Job Descriptions	Version 12 questionnaire.doc	Qwest

Table 2.5.2.2.3: CLEC Interviews for Account Management Assessment

Document Number	Document	Document Name	Source
C-1	Interview Summary for McLeod	Interview Summary McLeod – Acct.Mgmt..doc	KPMG

There were no CLEC data sources provided for the Account Management assessment.

2.5.2.2.3 Assessment Method

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's account establishment and management systems, processes, and procedures. In addition, a CLEC interview was conducted via a conference bridge to gain a CLEC's perspective on perceived regional differences in Qwest's account establishment and management systems, processes, and procedures. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KMPG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.5.2.3 Results

This section identifies the assessment criteria and results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.5.2.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1	Account establishment and management responsibilities and activities are consistent across the entire Qwest footprint.	Yes	CLECs can access the "Interconnect Resale and Resource Guide" (IRRG) through the Qwest website. This guide provides A checklist of all steps the CLEC needs to Take to establish a relationship with Qwest. There are no differences in the account establishment process across the Qwest footprint. Account Management teams are divided into two type types of personnel: Account Managers who are responsible for maintaining every aspect of the CLEC relationship, and Service Managers who provide technical support to Account Managers. In the central region, Account Managers play both roles. In addition, some Account Managers specialize in specific products and are subject matter experts in that area. According to the Qwest personnel interviewed, account managers are regionally based. The information they provide is applicable across the Qwest footprint. Each Account Manager provides consistent type and standard of information to CLECs.
2	Procedures for receiving, managing and resolving customer inquiries are consistent across the entire Qwest footprint.	Yes	Per the interview, account managers are regionally based, but the processes and information they provide is applicable footprint wide.

2.5.2.4 *Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.5.2.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
Account Management Process	X					X

2.5.3 Change Management

2.5.3.1 Description

Qwest's Co-Provider Industry Change Management Process (CICMP) is comprised of the systems, processes, and other operational elements associated with Qwest's support for managing changes to and change requests for OSS interfaces and business processes utilized by CLECs. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to change management and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.5.3.2 Methodology

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.5.3.2.1 Business Process Description

The change management process provides the framework by which interested parties can communicate their desired changes, and through which Qwest is able to communicate subsequent alterations to its systems and processes. Change management policies assign changes into categories or types. The change management process governs all aspects of the CLEC/Qwest relationship. All changes to documentation, interfaces, business rules, and other functions are subject to time frames, tracking, logging and coding managed via the change management process.

2.5.3.2.2 Data Sources

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

Table 2.5.3.2.2.1: Qwest Interviews for Change Management Assessment

Document Number	Document Name	File Name	Source
Q-1	Interview Questions for Regional Assessment Test-Change Management	Change Mgt RDA.doc	KPMG Consulting
Q-2	Interview Summary for Qwest	Interview Summary Qwest – Change Mgmt(bulleted).doc	KPMG Consulting

Table 2.5.3.2.2.2: Qwest Data Sources for Change Management Assessment

Document Number	Document	File Name	Source
[illegible]	Comments on Interview Summary for Change Management	Change Management Qwest comments.doc	Qwest
[illegible]	Qwest/ROC Letters	Qwest/ROC Letters enclosed	Qwest
[illegible]	Re: Feedback from CLEC Forum Regarding CICMP	AUGltr.doc	Qwest
[illegible]	Change Management Escalation Process	hard copy	Qwest
[illegible]	Change Management Process Documented	hard copy	Qwest
[illegible]	How to Create a Change Request Document	hard copy	Qwest
[illegible]	Change Request Form	hard copy	Qwest
[illegible]	CR Form Instructions	hard copy	Qwest
[illegible]	CLEC Change Request Log	hard copy	Qwest
[illegible]	Team Meeting Documentation	hard copy	Qwest
[illegible]	Release Notification Documentation	hard copy	Qwest
[illegible]	Release Notification Form	hard copy	Qwest
[illegible]	Release Notification Form Instructions	hard copy	Qwest
[illegible]	Release Notifications Log	hard copy	Qwest
[illegible]	Re: CLEC Industry Change Management Process	ROCltr.doc	Qwest
[illegible]	Comments from Qwest on Change Management Interview Summary	FW: interview comments – Change Management	Qwest

Table 2.5.3.2.2.3: CLEC Interviews for Change Management Assessment

Document Number	Document	File Name	Source
[illegible]	Interview Summary for McLeod	Interview Summary McLeod – Change Mgmt. doc	KPMG Consulting

There were no CLEC data sources provided for the Change Management assessment.

2.5.3.2.3 *Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on the Qwest CICMP. In addition, a CLEC interview was conducted via a conference bridge to gain a CLEC's perspective on perceived regional differences in Qwest's CICMP. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.5.3.3 *Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.5.3.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1	Change management process responsibilities and activities are consistent across the Qwest footprint	Yes	The Change Management responsibilities and activities are defined in documents available on the Qwest wholesale web site.
2	The change management process is in place and is consistent across the Qwest footprint.	Yes	Per the interview, the Change Management process has been in place since September 1999. Qwest has internal process documentation.
3	Change management process has a framework to evaluate, categorize, and prioritize proposed changes and is consistent across the Qwest footprint	Yes	Qwest's framework provides information to CLECs via documentation available on the Qwest web site.

2.5.3.4 *Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.5.3.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
Change Management Process	X					X

2.5.4 CLEC Training

2.5.4.1 Description

Qwest's CLEC Training domain is comprised of the systems, processes and other operational elements associated with Qwest's support for developing, publicizing, conducting, managing and monitoring CLEC training. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to CLEC training and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.5.4.2 Methodology

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.5.4.2.1 Business Process Description

The CLEC training program offers training courses in various products and services available to CLECs. CLECs can request on-site and customized training of Qwest. Qwest's CLEC training function is responsible for providing information across the Qwest footprint.

2.5.4.2.2 Data Sources

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

Table 2.5.4.2.2.1: Qwest Interviews for CLEC Training Assessment

Document Number	Document Name	File Name	Source
Q-1	Interview Summary for Qwest	Interview Summary Qwest – Account Management.doc	KPMG Consulting

Table 2.5.4.2.2.2: Qwest Data Sources for CLEC Training Assessment

Document Number	Document Name	File Name	Source
E-1	List of Qwest's Students involved with CLEC Training	Student Spreadsheet.xls	Qwest
E-2	Comments on Interview Summary for CLEC Training	CLEC Training Qwest comments.doc	Qwest
E-3	IMA Training Documentation	hard copy	Qwest

There were no CLEC interviews or data sources provided for the CLEC Training assessment.

2.5.4.2.3 *Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's CLEC Training systems, processes and procedures. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.5.4.3 *Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.5.4.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1	Training process responsibilities and activities are consistent across the Qwest footprint.	Yes	Several different groups (IMA training, Wholesale services, and training consultants) provide training at Qwest, depending on the type of training requested. Qwest also provides multiple forms of training: web-based, computerized training, instructor lead courses, and individual training. Training may be different based on product and system (IMA-EDI or IMA-GUI). Training methods employed are consistent across the Qwest footprint.
2	Scope and objectives of training process are documented and are consistent across the entire Qwest footprint.	Yes	Training is broken out by product and system. Per the interviews, there are no differences in training methods by region.
3	Published information about training opportunities is consistent across the entire Qwest footprint.	Yes	Instructor lead training schedules are available on the Qwest website. In addition, there are web-based and downloadable training courses available on the website.

2.5.4.4 *Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.5.4.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
CLEC Training Process	X					X

2.5.5 ISC Help Desk

2.5.5.1 Description

Qwest's Interconnection Service Center (ISC) Help Desk is available to CLECs with OSS questions, escalations, problems and issues related to pre-ordering, ordering and provisioning. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting conducted interviews with key Qwest representatives in order to obtain the data necessary to conduct the assessment.

2.5.5.2 Methodology

This section provides a business description, lists the sources of data used in the assessment, and summarizes the assessment methodology.

2.5.5.2.1 Business Process Description

The Qwest ISC Help Desk records and responds to CLEC questions or problems regarding pre-order, provisioning, and ordering transactions through the CLEC's interface with Qwest. The Qwest ISC Help Desk is the primary point of contact for CLECs experiencing transaction difficulties. Each call generates a unique trouble ticket number in a database. The date the call was received, the time the ticket was opened, along with relevant customer information and description of the problem and its resolution, are logged.

2.5.5.2.2 Data Sources

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

Table 2.5.5.2.2.1: Qwest Interviews for ISC Help Desk Assessment

Document Number	Document Name	File Name	Source
Q-1	Interview Summary for Help Desk ISC for Qwest	Interview Summary Qwest – Help Desk ISC.doc	KPMG Consulting

There were no Qwest data sources or CLEC interviews or data sources provided for the ISC Help Desk assessment.

2.5.5.2.3 Assessment Method

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's ISC Help Desk systems, processes and procedures.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.5.5.3 *Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.5.5.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
5	ISC responsibilities and activities are documented and consistent across entire Qwest footprint.	Inconclusive	Because of potential differences in the Regional Resale Centrex Help Desks, KPMG can not conclude that the processes and procedures that surround the ISC help desk are consistent or the same across regions. Until further information gathering can be done the results of this assessment are inconclusive.
9	The process includes consistent procedures for status tracking and management reporting that is consistent across the entire Qwest footprint	Inconclusive	Because of potential differences in the Regional Resale Centrex Help Desks, KPMG can not conclude that the processes and procedures that surround the ISC help desk are consistent or the same across regions. Until further information gathering can be done the results of this assessment are inconclusive.

2.5.5.4 *Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.5.5.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
ISC Help Desk Process			X			X

2.5.6 IMA Help Desk

2.5.6.1 Description

Qwest's Intermediated Access (IMA) System Administration Help Desk is available to CLECs with questions or problems regarding connectivity and administration of their interface with Qwest. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related t the IMA Help Desk and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

2.5.6.2 Methodology

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

2.5.6.2.1 Business Process Description

The Qwest IMA Help Desk records and responds to CLEC questions or problems regarding connectivity and administration of their interface with Qwest. The Qwest IMA Help Desk is the primary point of contact for CLEC's experiencing system access difficulties. Each call generates a unique trouble ticket number in a database. The date the call was received, time the ticket was opened, relevant customer information, description of the problem and its resolution are logged.

2.5.6.2.2 Data Sources

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews are itemized in the tables below.

Table 2.5.6.2.2.1: Qwest Interviews for IMA Help Desk Assessment

Document Number	Document Name	File Name	Source
Q-1	Interview Summary for Help Desk IMA for Qwest	Interview Summary Qwest – Help Desk IMA.doc	KPMG Consulting

Table 2.5.6.2.2.2: Qwest Data Sources for IMA Help Desk Assessment

Document Number	Document Name	File Name	Source
Q-1	Comments on Interview Summary for Help Desk IMA	Help Desk IMA Qwest comments.doc	KPMG Consulting
Q-2	Comments from Qwest on IMA Help Desk Interview Summary	FW: interview comments – Help Desk IMA	KPMG Consulting

There were no CLEC interviews or data sources provided for the RMI IMA Help Desk assessment.

2.5.6.3.3 Assessment Method

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's IMA Help Desk systems, processes, and procedures. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

2.5.6.3.4 Results

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

Table 2.5.6.3.1: Assessment Criteria and Results

Assessment Number	Assessment Criteria	Result	Comments
1	IMA Help Desk responsibilities and activities are consistent across the Qwest Footprint.	Yes	The IMA help desk is responsible for answering questions and resolving problems concerning connectivity to Qwest IMA network and systems. The defined responsibilities of the IMA Help Desk were provided during the course of the interviews. The IMA help desk is located in Denver, Colorado and is responsible for the entire Qwest footprint.
2	The processes and procedures for status tracking and management reporting are consistent across the Qwest Footprint.	Yes	The IMA call center has software which tracks when all calls are received, wait times, call end times and other information. This information is used by management for capacity planning and quality assurance. A separate system is used by help desk personnel to collect and track detailed information about specific problems called in by CLECs.

2.5.6.4 Results Summary

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

Table 2.5.6.4.1: Results Summary Table

	Hypothesis			*TRD, Section 6*		
	Failed to Reject	**Reject**	**Inconclusive**	**Matches**	**Does Not Match**	**Not Addressed**
IMA Help Desk Process	X					X

2.6 Statistical Analysis

2.6.1 Background

KPMG Consulting evaluated the following activities for the purpose of identifying regional and state-within-region variation of CLEC performance:

- Pre-Ordering and Ordering confirmations (PO-5),
- Provisioning installations (OP-3 and OP-4),
- Maintenance and Repair tickets (MR-6), and
- Billing invoices (BI-1).

The evaluation employed statistical analyses using standard methods and controlling for differences in metric performance resulting from month to month variation.[6] In the results below, we considered differences among regions and states within region statistically significant if the results indicated performance differences with at least 95% confidence.[7] We used standard statistical tests, described in the Assessment Methods section, to determine these differences.

2.6.2 Methodology

The test methodology used to conduct the Regional Difference Assessment for performance metrics was to obtain performance data from Qwest for the months of January through April 2000 and to perform standard statistical analysis as outlined in each of the following sections.

2.6.2.1 Data Sources

The data collection preformed for this assessment relied on metric performance data supplied by Qwest at our request. These included the following:

Table 2.6.2.1.1: Data Sources for Metrics Assessment

Document Number	Document	File Name	Source
1-1	U S WEST Performance Results Colorado	Colorado_271_Exhibit.pdf	Qwest
1-2	U S WEST Performance Results South Dakota	SD_271_Exhibit.pdf	Qwest
1-3	U S WEST Performance Results Oregon	OR_271_Exhibit.pdf	Qwest
1-4	U S WEST Performance Results New Mexico	NM_271_Exhibit.pdf	Qwest
1-5	U S WEST Performance Results Nebraska	NE_271_Exhibit.pdf	Qwest
1-6	U S WEST Performance Results North Dakota	ND_271_Exhibit.pdf	Qwest
1-7	U S WEST Performance Results Montana	MO_271_Exhibit.pdf	Qwest

[6] Standard methods of logistic regression were used for the statistical analysis of the PO-5 metric.

[7] This criterion corresponds to a standard statistical hypothesis test at the 0.05 level of significance (α=0.05).

Document Number	Document	File Name	Source
[illegible]	U S WEST Performance Results Minnesota	MN_271_Exhibit.pdf	Qwest
[illegible]	U S WEST Performance Results: Idaho	ID_271_Exhibit.pdf	Qwest
[illegible]	U S WEST Performance Results: Iowa	IA_271_Exhibit.pdf	Qwest
[illegible]	U S WEST Performance Results: Utah	UT_271_Exhibit.pdf	Qwest
[illegible]	U S WEST Performance Results: Washington	WA_271_Exhibit.pdf	Qwest
[illegible]	U S WEST Performance Results: Wyoming	WY_271_Exhibit.pdf	Qwest

2.6.2.2 *Assessment Methods*

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. All evaluations were based on statistical methods when the data provided by Qwest provided sufficient information to do so. However, because transaction level data was not provided with the data, not all assumptions of the tests could be verified. Specifically, we were unable to verify that factors not contained in the Qwest data could have caused the regional variation of some performance metrics. Also, we could not examine the distribution of the data to verify that it met the assumptions of the tests. Lastly, accuracy of the tests relied on the correctness of the calculations performed by Qwest, which we could not verify.

2.6.2.3 *Pre-Ordering and Ordering*

KPMG Consulting investigated regional and state-within-region performance variation of Firm Order Confirmations (FOCs) On Time (percent) based on CLEC PO-5 state metric performance data provided by Qwest. A standard method of statistical analyses, logistic regression, was applied to the percentage data using common statistical packages to ascertain hypothesis test results. The following two separate hypotheses were considered for this test:

- Timeliness of FOCs is consistent across Qwest regions.
- Within Qwest regions, timeliness of FOCs is consistent across Qwest states.

The statistical tests were designed to allow for no more than a 5% error rate when declaring a statistically significant difference.[8] The month-to-month variations in PO-5 performance were controlled for before the statistical tests.[9] One state, New Mexico, was not included in the analyses because no FOCs were processed during the study period.

2.6.2.4 *Provisioning*

KPMG Consulting investigated regional and state-within-region CLEC performance variation of Installation Commitments Met (percent) and Installation Intervals (average) based on CLEC OP-3 and OP-4 state metric performance data provided by Qwest. Standard methods of statistical analyses, logistic

[8] All hypothesis test were designed to have a 0.05 probability of a Type I error (α=0.05).

[9] Standard methods of logistic regression were used to control for the possibly confounding effect of month.

regression and ANOVA, were applied to the metrics. For each type of installation metric and density, the following two separate hypotheses were considered for this test:

- Installation commitments met and installation intervals are consistent across Qwest regions.
- Within Qwest regions, installation commitments met and installation intervals are consistent across Qwest states.

The month-to-month variations in OP-3 performance were controlled for before the statistical tests.[10] Analyses of the OP-4 family of metrics could not be controlled for the varying effect of month due to the high level of aggregation present in the data provided by Qwest.[11] Some hypotheses tests were not performed due to a lack of provisions in the particular strata or the level of aggregation present in the data provided by Qwest.

2.6.2.5 Maintenance and Repair

KPMG Consulting investigated regional and state-within-region CLEC performance variation of repairs based on MR-6 state metric performance data provided by Qwest. Standard methods of statistical analyses, ANOVA, were applied to the metrics data. For each type of installation metric and density, the following two separate hypotheses were considered for this test:

- Mean time to restore is consistent across Qwest regions.
- Within Qwest regions, mean time to restore is consistent across Qwest states.

The statistical tests were designed to allow for no more than a 5% error rate when declaring a statistically significant difference[12]. Analyses of the Maintenance and Repair metrics could not be controlled for the varying effect of month due to the high level of aggregation present in the data provided by Qwest.[13] Some hypotheses tests were not performed due to a lack of repairs in the particular strata.

2.6.2.6 Billing

KPMG Consulting was not able to conduct a statistical evaluation of Qwest performance variation regarding the provisioning of Recorded Usage Records (average days) to CLECs because of the high level of aggregation in the BI-1 data provided by Qwest.

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[10] Standard methods of logistic regression were used to control for the possibly confounding effect of month.

[11] State metric data provided by Qwest for the Metric PMA did not contain transaction level data.

[12] All hypothesis test were designed to have a 0.05 probability of a Type I error (α=0.05).

[13] State metric data provided by Qwest for the Metric PMA did not contain transaction level data.

2.6.3 Results Summary

For the statistical analysis section, the default of 'yes,' 'no,' and 'inconclusive' have been modified to the following:

- Yes - Based on the metric performance data received from Qwest, there is no evidence that the metrics are not the same across states and regions.
- No - Based on the metric performance data received from Qwest, there are differences in the metrics across states and regions.
- Inconclusive - The metric performance data received from Qwest was insufficient to conduct a statistical test of whether or not there are differences in the metrics across states and regions.

2.6.3.1 Pre-Ordering and Ordering Regional and State Analyses Evaluation Criteria and Results

PO-5 Regional and State Results

KPMG Consulting evaluated the PO-5 family of metrics for regional performance differences and state performance differences within regions. The average percent FOCs to CLECs on time for the three Qwest regions is presented in the following table.

Table 2.6.4.1.1: Regional Difference for PO-5

Description	Average (%)			Number of Confirmations to CLECs		
	Central	East	West	Central	East	West
Firm Order Confirmations On Time	71	80	69	400	350	261

Tests for the significance of these observed regional differences and state-within-region differences are presented in the following table. A small p-value indicates that there was evidence of a performance difference that could not be accounted for by random variation in the data. The conclusion from both hypotheses tests is that aggregate timeliness of FOCs was not consistent across regions and or between states within regions since both p-values were less than 0.05. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

Table 2.6.4.1.2: PO-5 Regional Analyses

Checklist	Description	Number of CLEC Confirmations	Is there a statistically significant difference among regions? (p-value,df[14])	Within regions, is there a statistically significant difference among states? (p-value,df[15])
2	Firm Order Confirmations – LIS	911	Yes ($p < 0.001$, df=2)	Yes ($P = 0.004$, df=8)

2.6.3.2 Pre-Ordering and Ordering Evaluation Results

KPMG Consulting statistical tests rejected the hypothesized assumption of equality across regions of aggregate timeliness of FOCs, as measured by PO-5, based on analysis of PO-5 performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes or whether they are due to variations in order mix or other systematic differences among the regions.

KPMG Consulting statistical tests rejected the hypothesized assumption of equality across states within regions of aggregate timeliness of FOCs, as measured by PO-5, based upon performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes or whether they are due to variations in order mix or other systematic differences among the states.

2.6.3.3 Provisioning Regional and State Analyses Evaluation Criteria and Results

OP-3 Regional and State Analyses

KPMG Consulting evaluated the OP-3 family of metrics for regional performance differences and state performance differences with regions. The average percent of Installation Commitments Met to CLECs are presented in the following table.

Table 2.6.4.3.1: Regional Difference for OP-3

Description	Average (%)			Number of CLEC Installations		
	Central	East	West	Central	East	West
Checklist 4 – Non-Loaded (2-Wire) Installation						
High Density	85	75	83	2268	1244	2040
Low Density	83	91	84	292	237	263
Checklist 4 – Unbundled Loop – Non-Loaded (4-Wire) Installation						
High Density	69	NA	93	45	0	38
Low Density	100	83	NA	2	6	0

[14] Degrees of freedom (df) reflect the number of regions available for comparison. In certain cases, one of the regions did not have any data, and so that region could not be used in the analysis. The number of regions with testable data equals the degrees of freedom plus 1. Thus, when all 3 regions were tested, the degrees of freedom were 2.

[15] Degrees of freedom (df) reflect the number of states available for comparison. In some cases, certain states had no available data, and thus those states could not be used in the analysis. The number of states tested is equal to the degrees of freedom plus the degrees of freedom for the regional test, plus 1. Thus, for this test, 11 states were tested

Description	Average (%)			Number of CLEC Installations		
	Central	East	West	Central	East	West
Checklist 4 – Unbundled Loop – Analog Installation						
High Density	92	87	94	3189	7498	5267
Low Density	85	85	99	272	3426	89
Checklist 14 – Resale – Business Installation						
Not Dispatched	94	96	95	2092	4520	796
Outside MSAs	88	85	92	42	502	59
Within MSAs	76	85	79	391	584	247
Checklist 14 – Resale – Centrex Installation						
Not Dispatched	98	99	100	4071	10724	1973
Outside MSAs	89	87	86	70	774	138
Within MSAs	81	86	100	727	2013	879
Checklist 14 – Resale – Centrex 21 Installation						
Not Dispatched	1.00	0.98	0.99	410	955	136
Outside MSAs	1.00	0.95	1.00	4	62	1
Within MSAs	0.81	0.86	1.00	48	130	56
Checklist 4 – Unbundled Loop – DS1 Capable Installation						
High Density	NA	57	94	0	7	127
Low Density	NA	75	NA	0	4	0
Checklist 7 – E911/911 trunk Installation						
High Density	6	40	54	17	10	46
Low Density	NA	67	64	0	12	11
Checklist 4 – Unbundled Loop – ISDN Capable Installation						
High Density	70	54	60	550	581	613
Low Density	78	100	56	76	12	59
Checklist 4 – Unbundled Loop – ADSL Qualified Installation						
High Density	NA	100	89	0	5	98
Low Density	NA	100	100	0	1	4
Checklist 1 – Local Interconnection – LIS Installation						
High Density	73	80	58	204	98	139
Low Density	78	84	87	59	62	15
Checklist 14 – Resale – ADSL Installation						
Not Dispatched	NA	NA	100	0	0	1
Outside MSAs	NA	NA	NA	0	0	0
Within MSAs	NA	NA	100	0	0	1
Checklist 14 – Resale – Basic ISDN Installation						
Not Dispatched	100	100	NA	1	1	0
Outside MSAs	NA	100	100	0	1	1
Within MSAs	100	NA	100	1	0	1
Checklist 14 – Resale – DS0 Installation						
High Density	91	96	100	22	28	5
Low Density	83	83	83	18	102	18
Checklist 14 – Resale – DS1 Installation						
High Density	NA	100	50	0	4	2

Description	Average (%)			Number of CLEC Installations		
	Central	East	West	Central	East	West
Low Density	0	86	100	1	7	11
Checklist 14 – Resale – Installation for DS3 and Higher						
High Density	NA	NA	NA	0	0	0
Low Density	NA	NA	NA	0	0	0
Checklist 14 - Resale – PBX Installation						
Not Dispatched	97	98	100	37	257	32
Outside MSAs	NA	82	0	0	11	2
Within MSAs	75	85	86	4	13	14
Checklist 14 - Resale – Primary ISDN Installation						
High Density	NA	2	NA	0	2	0
Low Density	NA	2	1	0	2	1
Checklist 14 – Residence Installation						
Not Dispatched	95	98	95	9720	7160	5245
Outside MSAs	84	84	82	183	443	119
Within MSAs	84	88	83	1339	684	735
Checklist 5 – UDIT Installation						
High Density	81	80	75	31	15	28
Low Density	95	100	100	20	2	4

Tests for the significance of these observed regional and state-within-region differences are presented in the following table. A small p-value indicates that there was evidence of a performance difference that could not be accounted for by random variation in the data. A shaded box indicates strata for which hypothesis test could not be performed due to lack of sufficient installations to perform valid statistical tests. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

Table 2.6.4.3.2: OP-3 Regional Analyses

Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[16])	Within regions, is there a statistically significant difference among states? (p-value,df[17])
4	Non-Loaded (2-Wire) Installation – High Density	5552	Yes (p < 0.001,df=2)	Yes (p < 0.001,df=4)
4	Non-Loaded (2-Wire) Installation – Low Density	792	Yes (p = 0.025,df=2)	No (p = 0.087,df=6)
4	Unbundled Loop – Non-Loaded (4-Wire) Installation – High Density	103	Yes (p = 0.005,df=1)	

[16] Degrees of freedom (df) reflect the number of comparisons made among the regions. Metrics that were present in three regions were tested with two degrees of freedom.

[17] Degrees of freedom (df) reflect the number of comparisons made among states. Metrics that were present in all states were tested with ten degrees of freedom.

Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[15])	Within regions, is there a statistically significant difference among states? (p-value,df[17])
4	Unbundled Loop – Non-Loaded (4-Wire) Installation – Low Density	8		
4	Unbundled Loop – Analog Installation – High Density	15594	Yes (p < 0.001,df=2)	Yes (p < 0.001,df=5)
4	Unbundled Loop – Analog Installation – Low Density	3787	Yes (p < 0.001,df=2)	Yes (p < 0.001,df=7)
14	Resale – Business Installation – Not Dispatched	7408	Yes (p < 0.001,df=2)	No (p = 0.075,df=9)
14	Resale - Business Installation – Outside MSAs	603	No (p < 0.368,df=2)	No (p = 0.095,df=8)
14	Resale – Business Installation – Within MSAs	1222	Yes (p = 0.001,df=2)	Yes (p < 0.001,df=5)
14	Resale – Centrex 21 Installation – Not Dispatched	1501	No (p = 0.265,df=2)	No (p = 0.252,df=2)
14	Resale – Centrex 21 Installation – Outside MSAs	67		
14	Resale – Centrex 21 Installation – Within MSAs	234	Yes (p < 0.001,df=1)	No (p = 0.415,df=3)
14	Resale – Centrex Installation – Not Dispatched	16768	Yes (p < 0.001,df=2)	Yes (p = 0.001,df=5)
14	Resale – Centrex Installation – Outside MSAs	976	No (p = 0.821,df=2)	No (p = 0.130,df=3)
14	Resale - Centrex Installation – Within MSAs	3619	Yes (p < 0.001,df=2)	No (p = 0.878,df=5)
4	Unbundled Loop – DS1 Capable Installation – High Density	134		
4	Unbundled Loop – DS1 Capable Installation – Low Density	4		
7	E911/911 trunk Installation – High Density	73	No (p = 0.252,df=2)	
7	E911/911 trunk Installation – Low Density	23		
4	Unbundled Loop – ISDN Capable Installation – High Density	1744	Yes (p < 0.001,df=2)	No (p = 0.280,df=5)
4	Unbundled Loop – ISDN Capable Installation – Low Density	147	Yes (p < 0.001,df=1)	No (p = 0.623,df=3)
4	Unbundled Loop – ADSL Qualified Installation – High Density	103		
4	Unbundled Loop – ADSL Qualified Installation – Low Density	5		
1	Local Interconnection – LIS Installation – High Density	441	Yes (p = 0.001,df=2)	Yes (p = 0.008,df=3)

CONTINUATION

[6]

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Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[16])	Within regions, is there a statistically significant difference among states? (p-value,df[17])
1	Local Interconnection – LIS Installation – Low Density	136	No (p = 0.552,df=2)	Yes (p < 0.001,df=3)
14	Resale – ADSL Installation – Not Dispatched	1		
14	Resale – ADSL Installation – Outside MSAs	0		
14	Resale – ADSL Installation – Within MSAs	1		
14	Resale – Basic ISDN Installation – Not Dispatched	2		
14	Resale – Basic ISDN Installation – Outside MSAs	2		
14	Resale – Basic ISDN Installation – Within MSAs	2		
14	Resale – DS0 Installation – High Density	55		
14	Resale – DS0 Installation – Low Density	138	No (p=0.995,df=2)	Yes (p = 0.001,df=2)
14	Resale – DS1 Installation – High Density	6		
14	Resale – DS1 Installation – Low Density	19		
14	Resale – Installation for DS3 and Higher – High Density	0		
14	Resale – Installation for DS3 and Higher – Low Density	0		
14	Resale – PBX Installation – Not Dispatched	326	No (p = 0.187,df=1)	
14	Resale – PBX Installation – Outside MSAs	13		
14	Resale – PBX Installation – Within MSAs	31		
14	Resale – Primary ISDN Installation – High Density	2		
14	Resale – Primary ISDN Installation – Low Density	3		
14	Residence Installation – Not Dispatched	22125	Yes (p < 0.001,df=2)	Yes (p < 0.001,df=9)
14	Residence Installation – Outside MSAs	745	No (p = 0.735,df=2)	No (p = 0.189,df=8)
14	Residence Installation – Within MSAs	2761	No (p = 0.275,df=2)	Yes (p < 0.001,df=8)
5	UDIT Installation – High Density	74		

Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[16])	Within regions, is there a statistically significant difference among states? (p-value,df[17])
5	UDIT Installation – Low Density	26		

OP-4 Regional and State Analyses

KPMG Consulting evaluated the OP-4 family of metrics for regional performance differences and state performance differences with regions. The average Installation Interval to CLECs for the three Qwest regions is presented in the following table.

Table 2.6.4.3.3: Regional Difference for OP-4

Description	Average (Days)			Number of CLEC Installations		
	Central	East	West	Central	East	West
Checklist 4 – (2-Wire) Installation						
High Density	8.31	9.56	10.33	1253	480	668
Low Density	9.47	7.06	7.95	219	131	203
Checklist 4 – (4-Wire) Installation						
High Density	5.74	NA	5.44	43	0	54
Low Density	5.00	10.50	NA	1	4	0
Checklist 4 – Analog Installation						
High Density	8.40	7.88	6.86	1192	2801	2686
Low Density	9.49	8.45	5.78	164	1592	65
Checklist 14 – Business Installation						
Not Dispatched	3.10	2.99	2.29	2092	4520	796
Outside MSAs	6.35	5.43	3.55	42	502	59
Within MSAs	7.93	6.55	6.56	391	584	247
Checklist 14 – Centrex 21 Installation						
Not Dispatched	2.26	3.56	1.72	410	955	136
Outside MSAs	5.00	5.28	4.00	4	62	1
Within MSAs	4.79	6.39	2.92	48	130	56
Checklist 14 – Centrex Installation						
Not Dispatched	3.93	4.83	1.21	4071	10724	1973

Description	Average (Days)			Number of CLEC Installations		
	Central	East	West	Central	East	West
Outside MSAs	8.48	7.38	2.73	70	774	132
Within MSAs	6.38	6.38	2.59	727	2013	879
Checklist 4 – DS1 Capable Installation						
High Density	NA	19.6	25.24	0	5	91
Low Density	NA	7.66	NA	0	3	0
Checklist 7 – E911/911 Trunk Installation						
High Density	40.12	11.80	48.19	17	10	46
Low Density	NA	21.75	61.45	0	12	11
Checklist 4 – ISDN Capable Installation						
High Density	12.75	18.71	19.21	290	202	281
Low Density	9.70	7.25	17.21	51	4	38
Checklist 4 – Unbundled Loop – ADSL Qualified Installation						
High Density	NA	5.00	5.48	0	5	56
Low Density	NA	5.00	6.66	0	1	3
Checklist 1 – LIS Installation						
High Density	18.29	20.67	22.31	204	98	139
Low Density	17 74	16.46	17.66	59	62	15
Checklist 14 – Resale - ADSL Installation						
Not Dispatched	NA	NA	1.00	0	0	1
Outside MSAs	NA	NA	NA	0	0	0
Within MSAs	NA	NA	10	0	0	1
Checklist 14 – Resale – Basic ISDN Installation						
Not Dispatched	4.00	1.81	NA	1	11	0
Outside MSAs	NA	13.00	3	0	1	1
Within MSAs	14.00	NA	4	1	0	1
Checklist 14 – Resale – DS0 Installation						

Description	Average (Days)			Number of CLEC Installations		
	Central	East	West	Central	East	West
High Density	5.85	5.60	2.00	21	28	5
Low Density	14.58	13.85	10.94	17	100	18
Checklist 14 – Resale – DS1 Installation						
High Density	NA	14.5	10.50	0	4	2
Low Density	82.00	7.71	3.00	1	7	11
Checklist 14 – Resale – PBX Installation						
Not Dispatched	6.13	3.33	1.71	37	257	32
Outside MSAs	NA	4.18	7.50	0	11	2
Within MSAs	6.25	6.30	7.42	4	13	14
Checklist 14 – Resale – Primary ISDN Installation						
High Density	NA	5.00	NA	0	2	0
Low Density	NA	4.50	36.00	0	2	1
Checklist 14 – Residence Installation						
Not Dispatched	2.19	2.19	1.97	9720	7160	5245
Outside MSAs	5.32	5.05	2.92	183	443	119
Within MSAs	5.52	4.64	3.71	1339	684	738
Checklist 5 – UDIT Installation						
High Density	12.38	16.33	7.28	31	15	28
Low Density	8.44	6.00	8.50	20	2	4

Tests for the significance of these observed regional performance differences and state-within-region differences are presented in the following table. A small p-value indicates that there was evidence of a difference that could not be accounted for by random variation in the data. A shaded box indicates strata for which hypothesis test could not be performed due to the level of aggregation present in the data provided by Qwest. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

Table 2.6.4.3.4: OP-4 Regional Analyses

Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[18])	Within regions, is there a statistically significant difference among states? (p-value,df[19])
4	(2-Wire) Installation – High Density	2401		
4	(2-Wire) Installation – Low Density	553		
4	(4-Wire) Installation – High Density	97		
4	(4-Wire) Installation – Low Density	5		
4	Unbundled Loop – Analog Installation – High Density	6679		
4	Unbundled Loop – Analog Installation – Low Density	1821		
14	Resale – Business Installation – Not Dispatched	7408	Yes (p < 0.001, 2)	
14	Resale – Business Installation – Outside MSAs	603	Yes (p = 0.045, 2)	
14	Resale – Business Installation – Within MSAs	1222	No (p = 0.101, 2)	
14	Centrex 21 Installation – Not Dispatched	1501	No (p = 0.999, 2)	
14	Centrex 21 Installation – Outside MSAs	67	No (p = 0.73, 2)	
14	Centrex 21 Installation – Within MSAs	234	No (p = 1.000, 2)	
14	Centrex Installation – Not Dispatched	16768	Yes (p < 0.001, 2)	
14	Centrex Installation – Outside MSAs	976	Yes (p < 0.001, 2)	
14	Centrex Installation – Within MSAs	3619	Yes (p < 0.001, 2)	
4	DS1 Capable Installation – High Density	96		
4	DS1 Capable Installation - LowDensity	3	No (p = 0.998, 2)	

[18] Degrees of freedom (df) reflect the number of comparisons made among the regions. Metrics that were present in three regions were tested with two degrees of freedom.

[19] Degrees of freedom (df) reflect the number of comparisons made among states. Metrics that were present in all states were tested with ten degrees of freedom.

Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[18])	Within regions, is there a statistically significant difference among states? (p-value,df[19])
7	E911/911 Trunk Installation – High Density	73	Yes (p < 0.001, 2)	
7	E911/911 Trunk Installation – Low Density	23		
8	ISDN Capable Installation – High Density	773	Yes (p = 0.001, 2)	
8	ISDN Capable Installation – Low Density	93	Yes (p = 0.029, 2)	
9	Unbundled Loop – ADSL Qualified Installation – High Density	61		
9	Unbundled Loop – ADSL Qualified Installation – Low Density	4		
11	LIS Installation – High Density	441	Yes (p = 0.005, 2)	
11	LIS Installation – Low Density	136	No (p = 1.000, 2)	
14	Resale – ADSL Installation – Not Dispatched	1		
14	Resale – ADSL Installation – Outside MSAs	0		
14	Resale – ADSL Installation – Within MSAs	1		
14	Resale – Basic ISDN Installation – Not Dispatched	12		
14	Resale – Basic ISDN Installation – Outside MSAs	2		
14	Resale – Basic ISDN Installation – Within MSAs	2		
14	Resale – DS0 Installation – High Density	54	No (p = 0.0764, 2)	
14	Resale – DS0 Installation – Low Density	135	No (p = 0.999, 2)	
14	Resale – DS1 Installation – High Density	6		
14	Resale – DS1 Installation – Low Density	19	No (p = 0.998, 2)	
14	Resale – PBX Installation – Not Dispatched	326	Yes (p < 0.001, 2)	
14	Resale – PBX Installation – Outside MSAs	13		
14	Resale – PBX Installation – Within MSAs	31	No (p 0.880, 2)	

Checklist	Description	Number of CLEC Installations	Is there a statistically significant difference among regions? (p-value,df[18])	Within regions, is there a statistically significant difference among states? (p-value,df[19])
14	Resale – Primary ISDN Installation – High Density	2		
15	Resale – Primary ISDN Installation – Low Density	3		
16	Residence Installation – Not Dispatched	22125	Yes (p < 0.001, 2)	
17	Residence Installation – Outside MSAs	745	Yes (p = 0.003, 2)	
18	Residence Installation – Within MSAs	2761	No (p = 0.994, 2)	
5	UDIT Installation – High Density	74	No (p = 0.061, 2)	
6	UDIT Installation – Low Density	26	No (p = 0.905, 2)	

3.6.3.4 *Provisioning Regional and State Evaluation Results*

KPMG Consulting statistical tests rejected the hypothesized assumption of consistency across regions for 13 out of the 43 metrics tested in the OP-3 family of metrics, and 12 out of 45 metrics tested in the OP-4 family of metrics, based on analysis of metric performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes, or whether they are due to variations in transaction mix or other systematic differences among the regions.

KPMG Consulting statistical tests rejected the hypothesized assumption of consistency within Qwest regions for 10 out of the 43 metrics tested in the OP-3 family of metrics based on analysis of metric performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes, or whether they are due to variations in transaction mix or other systematic differences among the regions.

For the OP-4 family of metrics, KPMG Consulting was not able to perform statistical tests of the hypothesized assumption of consistency within Qwest regions due to the level of aggregation present in the data provided by Qwest.

3.6.3.5 *Maintenance and Repair State Analyses Evaluation Criteria and Results*

MR-6 Regional and State Analyses

KPMG Consulting evaluated the MR-6 family of metrics for regional performance differences and state performance differences with regions. Results of the analyses are presented in the following table.

Table 2.6.4.5.1: Regional Difference for MR-6

Description	Average (Hours:Minutes)			Number of CLEC Repairs		
	Central	East	West	Central	East	West
Checklist 1 - Analog Repair						
High Density	9:45	12:09	10:45	669	615	529
Low Density	10:39	10:46	7:31	41	462	5
Checklist 4 - ISDN Capable Repair						
High Density	16:02	26:19	17:11	544	256	271
Low Density	8:25	5:04	11:55	50	12	45
Checklist 7 - E911/911 Trunk Repair						
High Density	2:43	2:41	4:44	20	11	5
Low Density	1:54	0:51	3:20	27	30	22
Checklist 1 - LIS Repair						
High Density	4:41	3:60	7:07	198	87	191
High and Low Density	5:50	4:04	7:04	259	115	204
Low Density	9:34	4:18	6:17	61	28	13
Checklist 14 - Resale - Business Repair						
Not Dispatched	7:26	8:20	10:13	1019	1034	479
Outside MSAs	24:39	20:39	22:33	340	535	229
Within MSAs	29:55	26:22	22:46	970	730	554
Checklist 14 - Resale - Centrex 21 Repair						
Not Dispatched	8:29	9:07	12:10	396	408	96
Outside MSAs	20:19	26:51	23:29	266	123	102
Within MSAs	23:02	24:58	21:59	603	433	94
Checklist 14 - Resale - Centrex Repair						
Not Dispatched	11:48	13:16	19:03	1173	2512	902
Outside MSAs	23:55	27:20	29:41	286	1473	86
Within MSAs	24:09	28:35	25:33	1465	3501	1048
Checklist 14 - Resale - DS0 Repair						

[illegible]	Average (Hours:Minutes)			Number of CLEC Repairs		
	Central	East	West	Central	East	West
[illegible]	4:25	3:21	2:26	1198	1211	987
[illegible]	3:28	3:38	3:18	944	1003	528
[illegible] - Resale - DS1 Capable Repair						
[illegible]	2:51	1:50	4:35	508	283	415
[illegible]	3:08	2:34	3:47	383	243	340
[illegible] - Resale - PBX Repair						
[illegible]	10:54	7:28	5:47	142	117	113
[illegible]	25:44	29:31	30:04	22	27	1
[illegible]	25:32	29:38	27:52	80	55	18
[illegible] - Resale - Repair for DS3 and Higher						
[illegible]	2:42	2:05	2:26	124	49	59
[illegible]	4:10	2:13	2:07	49	16	8
[illegible] - Resale - Residence Repair						
[illegible]	6:41	5:21	6:20	885	943	466
[illegible]	17:49	21:11	21:27	1088	677	56
[illegible]	20:57	25:03	19:55	4235	998	461

Tests for the significance of these observed regional performance differences and state-within-region performance differences are presented in the following table. A small p-value indicates that there was evidence of a difference that could not be accounted for by random variation in the data. A shaded box indicates strata for which hypothesis test could not be performed due to the level of aggregation present in the data provided by Qwest. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

Table 2.6.4.5.2: MR-6 Regional Analyses

Checklist	Description	Number of CLEC Repairs	Is there a statistically significant difference among regions? (p-value,df[20])	Within Regions, Is there a statistically significant difference among States? (p-value,df[21])
8	Unbundled Loop – Analog Repair – High Density	1813		
8	Unbundled Loop – Analog Repair – Low Density	508		
9	ISDN Capable Repair – High Density	1071	No (p = 0.325, 2)	
9	ISDN Capable Repair – Low Density	107	Yes (p = 0.040, 2)	
10	E911/911 Trunk Repair – High Density	36		
10	E911/911 Trunk Repair – Low Density	79		
11	LIS Repair - High Density	476	No (p = 0.093, 2)	
11	LIS Repair – High and Low Density	578	No (p = 0.182, 2)	
11	LIS Repair – Low Density	102	No (p = 0.379, 2)	
14	Resale – Business Repair – Not Dispatched	2532	No (p = 0.054, 2)	
14	Resale – Business Repair – Outside MSAs	1104	No (p = 0.134, 2)	
14	Resale – Business Repair – Within MSAs	2254	Yes (p < 0.001, 2)	

[20] Degrees of freedom (df) reflect the number of comparisons made among the regions. Metrics that were present in three regions were tested with two degrees of freedom.

[21] Degrees of freedom (df) reflect the number of comparisons made among states. Metrics that were present in all states were tested with ten degrees of freedom.

Checklist	Description	Number of CLEC Repairs	Is there a statistically significant difference among regions? (p-value,df[20])	Within Regions, Is there a statistically significant difference among States? (p-value,df[21])
14	Centrex 21 Repair – Not Dispatched	900	No (p = 0.823, 2)	
14	Centrex 21 Repair – Outside MSAs	491	No (p = 0.184, 2)	
14	Centrex 21 Repair – Within MSAs	1130	Yes (p = 0.025, 2)	
14	Centrex Repair – Not Dispatched	4587	Yes (p < 0.001, 2)	
14	Centrex Repair – Outside MSAs	1845	No (p = 0.105, 2)	
14	Centrex Repair – Within MSAs	6014	Yes (p < 0.001, 2)	
14	DS0 Repair – High Density	3396	Yes (p < 0.001, 2)	
14	DS0 Repair – Low Density	2475	No (p = 0.744, 2)	
14	DS1 Capable Repair – High Density	1206	Yes (p < 0.001, 2)	
14	DS1 Capable Repair – Low Density	966	No (p = 0.315, 2)	
14	Resale – PBX Repair – Not Dispatched	372	No (p = 0.555, 2)	
14	Resale – PBX Repair – Outside MSAs	50	No (p = 0.291, 2)	
14	Resale – PBX Repair – Within MSAs	153	No (p = 0.331, 2)	
14	Resale – Repair for DS3 and Higher – High Density	232	No (p = 0.101, 2)	
14	Resale – Repair for DS3 and Higher – Low Density	73		
14	Residence Repair – Not Dispatched	2294	No (p = 0.148, 2)	
14	Residence Repair – Outside MSAs	1821	No (p = 0.922, 2)	
14	Residence Repair – Within MSAs	5694	Yes (p < 0.001, 2)	

2.6.3.6 *Maintenance and Repair State Evaluation Results*

KPMG Consulting statistical tests of metric performance data from January through April 2000 rejected the hypothesized assumption of consistency across regions for the following metrics tested in the MR-6 family of metrics:

Within MSAs and high density areas, repairs for

Business

- Centrex 21
- Centrex
- DS0
- DS1

Residential services

- For low density areas – ISDN
- For not dispatched areas – Centrex

It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes, or whether they are due to variations in transaction mix or other systematic differences among the regions.

KPMG Consulting statistical tests of metric performance data from January through April 2000 failed to reject the hypothesized assumption of consistency across regions for the other types of metrics tested in the MR-6 family of metrics.

Statistical analyses of state differences within Qwest regions could not be performed for the MR-6 family of metrics due to the level of aggregation present in the data provided by Qwest for the period from January through April 2000.

2.6.3.7 Billing State Analyses Evaluation Criteria and Results

BI-1 Regional and State Analyses

KPMG Consulting was unable to evaluate the BI-1 metric for regional performance differences and state performance differences within regions using standard statistical methods. The level of aggregation present in the data provided by Qwest lacked the information necessary to carry out the tests.

2.6.3.8 Billing Regional and State Evaluation Results

Not applicable.

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2.6.4 Results

These results are shown in the table below with an indication of whether or not they match the TRD.

Table 2.6.5.1: Statistical Analysis Summary

	Hypothesis		
	Failed to reject	**Reject**	**Inconclusive**
Aggregate timeliness of FOCs as measured by PO-5 is the same across Qwest regions.		X	
Within Qwest regions, aggregate timeliness of FOCs as measured by PO-5 is the same across Qwest states.		X	
Installation commitments met and installation intervals are the same across Qwest regions.		X	
Within Qwest regions, installation commitments met and installation intervals are the same across Qwest states.		X	
Timeliness of repairs as measured by MR-6 is the same across regions.		X	
Within Qwest regions, timeliness of repairs as measured by MR-6 is the same across states.			X
Mean time to provide recorded usage Records is the same across regions.			X
Within Qwest regions, mean time to provide recorded usage records is the same across Qwest states.			X

Qwest State Audit

Summary Disposition Codes –

South Dakota

FIELD CODING PROCESS AUDIT SUMMARY				
State	Week	# of Observations	# Passed	% Passing
SD	01-Feb	90	90	100%
SD	08-Feb	105	100	95%
SD	15-Feb	94	88	94%
SD	22-Feb	127	120	94%
SD	01-Mar	151	150	99%
SD	08-Mar	102	99	97%
SD	22-Mar	121	112	93%
SD	29-Mar	NA	NA	NA
SD	05-Apr	85	81	95%
SD	12-Apr	127	120	94%
SD	19-Apr	145	139	96%
SD	26-Apr	144	135	94%
SD	03-May	229	217	95%
SD	10-May	273	263	96%
SD	17-May	224	213	95%
SD	24-May	296	285	96%
SD	31-May	225	214	95%
SD	07-Jun	314	303	97%
SD	14-Jun	330	319	97%
SD	21-Jun	310	299	96%

PO-16 Michael Williams Email

05/20/02

Subject: Revised PO-16 Update Proposal
Date: Mon, 20 May 2002 20:45:49 -0600
From: "Michael Williams" <mgwill1@qwest.com>
To: Robert_Drysgula@tmn.usa.capgemini.com, elizabeth.lehr@cgey.com,
ellen.pritts@cgey.com, susan.hayslip@cgey.com,
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ekallsberg@cc.state.us.az, rboyles@cc.state.us.az,
dkompley@cc.state.us.az, cvivero@qwest.com,
dsmith@cc.state.us.az, gregm@ggga.net, hagoodb@bellsouth.net,
rhipp@bellatlantic.net, rita.hammers@cgey.com,
chad.warner@wcom.com, dbuhler@qwest.com, gerald_schumm@hp.com,
jwaddle@qwest.com, khaile@qwest.com, larry.tierney@cox.com,
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timothy_peters@eli.net, Thomas.F.Dixon@wcom.com,
tom.priday@wcom.com, WoodE@PerkinsCoie.com,
becky.oliver@wcom.com, bill_koerner@hp.com,
curt_carland@hp.com, cxorte2@qwest.com, eyockus@fcc.gov,
diane_hoechler@hp.com, jnimrod@qwest.com, jim_oconnell@hp.com,
jon.finnegan@cgey.com, Joyce@tmn.usa.capgemini.com,
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lchase@Covad.com, lnotari@qwest.com, mjarnol@qwest.com,
mjohnson@Covad.com, mluckri@qwest.com, smaffei@qwest.com,
sneary@qwest.com, thjones@qwest.com, baboyd@qwest.com,
dkbucool.com, hhaney@qwest.com

TO ARIZONA TAG MEMBERS

Attached are redlined and non-redlined copies of Qwest's proposed r
evised
changes to the PO-16 update proposed in response to TAG questions.
This
also incorporates the additions of new items as Qwest agreed previo
usly
(i.e., OSS Retirement Notices and Introduction Notices for new OSS
systems.

As to the questions about the previously-proposed last bullet in th
e
description section, dealing with the "RN" designation, Qwest is pr
oposing
to remove that bullet and, instead, align the descriptions of the
notifications exactly with the descriptions in the CMP document tha
t
governs such releases and their timeframes. Thus, rather than usin

designator, which could be a potential point of future error i
applying it, notices can be identified as qualifying for this measu
by their title and by the systems they cover, as specified in this
and
referenced CMP documents. As a result, also, several of the Not
recently added are no longer needed and are removed in this draft.

Sweet proposes the TAG consider this PID for approval in the 21 May
TAG
meeting.

Regards,
Mike Williams
Sweet

(See attached file: PO-16 Revised Update - 20May02-non-redlined.doc
(See
attached file: PO-16 Revised Update - 20May02.doc)

Name:

PO-16 Revised Update -

20May02-non-redlined.doc

Type:

Microsoft Word Document
PO-16 Revised Update - 20May02-non-redlined.doc
(application/msword)

Encoding:

base64

Download Status:

Not downloaded with

message

Name: PO-16 Revised

Update

- 20May02.doc
Type: Microsoft Wor

PO-16 Revised Update - 20May02.doc

Document

(application/

Encoding: base64
Download Status: Not downloade

message

PO-16 –

Timely Release Notifications –

20 May 02 Draft Revised Proposal

[redlined]

PO-16 – Timely Release Notifications – 20 May 02 Draft Revised Proposal

Purpose:

Measures the percent of release notifications for changes to specified OSS interfaces sent by Qwest to CLECs within the intervals and scope specified within the change management plan found on Qwest's Change Management Process, (CMP) website at http://www.qwest.com/wholesale/cmp/whatiscmp.html.

Description:

- Measures the percent of timely release notices that are sent by Qwest within the intervals/timeframes prescribed by the release notification procedure on Qwest's CMP website. NOTE 1
  - Release notices measured include: Draft Technical Specifications (for App to App interfaces only) Change Request Worksheets (Initial Requirements) NOTE 1, Final Technical Specifications (for App to App interfaces only) Disclosure Documents (Final Requirements) NOTE 2 and/or, Draft Release Note Notices (for GUI interfaces only), NOTE 3 Final Release Notices (for GUI interfaces only), and OSS Interface Retirement Notices NOTE 5 (collectively "release notifications") sent by Qwest within the intervals/timeframes prescribed by the release notification procedure on Qwest's CMP website NOTE 4 for the following OSS interfaces: IMA-GUI, IMA-EDI, and CEMR, NOTE 6-2 Exchange Access, Control, & Tracking (EXACT), NOTE 63 Electronic Bonding–Trouble Administration (EB–TA), NOTE 6 and Also included are: (1) notifications of structural changes to IABS and CRIS (for Summary Bill Outputs), Resale Product Database, and Loss and Completion Records; and (2) Introduction Notices for new OSS interfaces. NOTE 6
    - Includes OSS interface release notifications by Qwest relating to the following products and service categories: LIS/Interconnection, Collocation, Unbundled Network Elements (UNE), Ancillary, and Resale Products and Services.
    - Includes OSS interface release notifications by Qwest to CLECs for the following OSS functions: Pre-Ordering, Ordering, Provisioning, Repair and Maintenance, and Billing.
    - Includes Types of Changes as OSS interface release notifications by Qwest to CLECs, specified in the "Qwest Wholesale Change Management Process Document" (Section 4 – Types of Changes). NOTE 6
  - Includes all OSS interface release notifications pertaining to the above OSS systems, subject to the exclusions specified below.
- Release Notifications sent on or before the date required by the CMP are considered timely. A release notification "sent date" is determined by the date of the e-mail sent by Qwest that provides the Release Notification.
- Release Notifications sent after the date required by the (CMP) are considered untimely. Release Notifications required but not sent are considered untimely.

~~Notifications that meet these criteria for inclusion in this measurement will be identified with the letters, "ZZ" in the identity or serial number of the notice.~~

Reporting Period: One month	**Unit of Measure:** Percent
Reporting Comparisons: CLEC Aggregate	**Disaggregation Reporting:** Region-wide level.

Formula:

(Number of required release notifications for specified OSS interface changes made within the reporting period that are sent on or before the date required by the change management plan (CMP) ÷ Total number of required release notifications for specified OSS interface changes within reporting period) x 100

Exclusions:

- Changes to be implemented on an expedited basis (exception to OSS notification intervals) as mutually agreed upon by CLECs and Qwest through the CMP.
- Changes where Qwest and CLECs agree, through the CMP, that notification is unnecessary.

Product Reporting: None	Standard: Vol. 1-10: 1 miss Vol. > 10: 92.5%
Availability: Available	**Notes:** ~~1.The documents described in section "8.0 – Change to Existing OSS Interfaces" of the "Qwest Wholesale Change Management Process Document" as "Draft Interface Technical Specifications (for App to App interfaces only)"~~ ~~2.The documents described in section "8.0 – Change to Existing OSS Interfaces" of the "Qwest Wholesale Change Management Process Document" as "Final Interface Technical Specifications (for App to App interfaces only)"~~ ~~3.The documents described in section "8.0 – Change to Existing OSS Interfaces" of the "Qwest Wholesale Change Management Process Document" as "Draft GUI Release Notes (for GUI interfaces only)" and "Final Interface Release Notice and User Guide (for GUI interface only)"~~ 1. The Qwest Wholesale Change Management Process Document specifies the intervals for release notifications by type of notification. These intervals are documented in the change management plan. 2. CEMR replaced CTAS in April 01. CTAS will not be included in this measure because it is scheduled for retirement at the end of May 01. 3. EXACT is a Telecordia system. Only release notifications for changes initiated by Qwest for hardware or connectivity will be included in this measurement. 4. EB-TA is the same system as MEDIACC. 5. The documents described in section "9.0 – Retirement of Existing OSS Interfaces" of the "Qwest Wholesale Change Management Process Document" as "Initial Retirement Notice" and "Final Retirement Notice." 6. The documents described in section "7.0 – Introduction of New OSS Interface" of the "Qwest Wholesale Change Management Process Document" as "Initial Release Announcement and Preliminary Implementation Plan" (new App to App only), "Initial Interface Technical Specification" (new App to App only), "Final Interface Technical Specifications (new App to App only), "Release Notification" (new GUI only). CMP notices for "Introduction of a New OSS" are to be included in this measurement even though the new system is not explicitly listed in the "Description" section of this PID. However, once implemented, the system will not be added to the measurement for purposes of measuring release, change and retirement notifications unless specifically incorporated as an authorized change to the PID. ~~8.Qwest is collaborating with CLECs in CMP on updates to the change management plan that will specify the types of OSS interface release notifications. The current proposal includes:~~ ~~Type 1: Production Support Change~~ ~~Type 2: Regulatory Change~~ ~~Type 3: Industry Guideline Change~~ ~~Type 4: Qwest Originated Change~~ ~~Type 5: CLEC Originated Change~~

PO-16 –

Timely Release Notifications –

20 May 02 Draft Revised Proposal

[non-redlined]

	2. CEMR replaced CTAS in April 01. CTAS will not be included in this measure because it is scheduled for retirement at the end of May 01. 3. EXACT is a Telecordia system. Only release notifications for changes initiated by Qwest for hardware or connectivity will be included in this measurement. 4. EB-TA is the same system as MEDIACC. 5. The documents described in section "9.0 – Retirement of Existing OSS Interfaces" of the "Qwest Wholesale Change Management Process Document" as "Initial Retirement Notice" and "Final Retirement Notice." 6. The documents described in section "7.0 – Introduction of New OSS Interface" of the "Qwest Wholesale Change Management Process Document" as "Initial Release Announcement and Preliminary Implementation Plan" (new App to App only), "Initial Interface Technical Specification" (new App to App only), "Final Interface Technical Specifications (new App to App only), "Release Notification" (new GUI only). CMP notices for "Introduction of a New OSS" are to be included in this measurement even though the new system is not explicitly listed in the "Description" section of this PID. However, once implemented, the system will not be added to the measurement for purposes of measuring release, change and retirement notifications unless specifically incorporated as an authorized change to the PID.

PO-16 – Timely Release Notifications – 20 May 02 Draft Revised Proposal

Purpose:
Measures the percent of release notifications for changes to specified OSS interfaces sent by Qwest to CLECs within the intervals and scope specified within the change management plan found on Qwest's Change Management Process, (CMP) website at http://www.qwest.com/wholesale/cmp/whatiscmp.html.

Description:

- Measures the percent of release notices that are sent by Qwest within the intervals/timeframes prescribed by the release notification procedure on Qwest's CMP website. [NOTE 1]
  - Release notices measured include: Draft Technical Specifications (for App to App interfaces only), Final Technical Specifications (for App to App interfaces only), Draft Release Notices (for GUI interfaces only), Final Release Notices (for GUI interfaces only), and OSS Interface Retirement Notices [NOTE 5] for the following OSS interfaces: IMA-GUI, IMA-EDI, CEMR,[NOTE 2] Exchange Access, Control, & Tracking (EXACT),[NOTE 3] Electronic Bonding–Trouble Administration (EB-TA).[NOTE 4] Also included are: (1) notifications of structural changes to IABS and CRIS (for Summary Bill Outputs), Resale Product Database, and Loss and Completion Records; and (2) Introduction Notices for new OSS interfaces. [NOTE 6]
    - Includes OSS interface release notifications by Qwest relating to the following products and service categories: LIS/Interconnection, Collocation, Unbundled Network Elements (UNE), Ancillary, and Resale Products and Services.
    - Includes OSS interface release notifications by Qwest to CLECs for the following OSS functions: Pre-Ordering, Ordering, Provisioning, Repair and Maintenance, and Billing.
    - Includes Types of Changes as specified in the "Qwest Wholesale Change Management Process Document" (Section 4 – Types of Changes).
  - Includes all OSS interface release notifications pertaining to the above OSS systems, subject to the exclusions specified below.
- Release Notifications sent on or before the date required by the CMP are considered timely. A release notification "sent date" is determined by the date of the e-mail sent by Qwest that provides the Release Notification.
- Release Notifications sent after the date required by the (CMP) are considered untimely. Release Notifications required but not sent are considered untimely.

Reporting Period: One month	**Unit of Measure:** Percent
Reporting Comparisons: CLEC Aggregate	**Disaggregation Reporting:** Region-wide level.

Formula:
(Number of required release notifications for specified OSS interface changes made within the reporting period that are sent on or before the date required by the change management plan (CMP) ÷ Total number of required release notifications for specified OSS interface changes within reporting period) x 100

Exclusions:

- Changes to be implemented on an expedited basis (exception to OSS notification intervals) as mutually agreed upon by CLECs and Qwest through the CMP.
- Changes where Qwest and CLECs agree, through the CMP, that notification is unnecessary.

Product Reporting: None	**Standard:** Vol. 1-10: 1 miss Vol. > 10: 92.5%
Availability: Available	**Notes:** 1 The Qwest Wholesale Change Management Process Document specifies the intervals for release notifications by type of notification. These intervals are documented in the change management plan.

Overview of Interface Testing

Overview of Interface Testing

When a CLEC decides to implement an IMA EDI Interface with Qwest, there are three phases of testing that the CLEC will undergo before being placed fully into production.

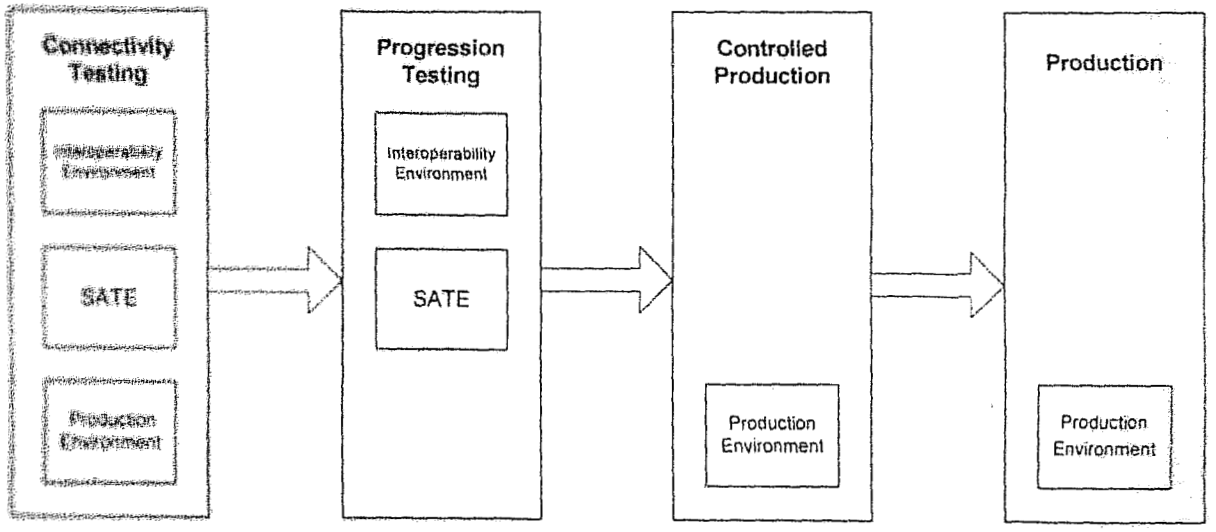


Figure 1: Phases of Interface Testing

These phases are Connectivity Testing, Progression Testing, and Controlled Production. As explained below, each testing phase serves a different purpose and the first two phases can occur in alternative environments. The completion of the three phases of testing allows a CLEC to begin sending full-volume production transactions using IMA EDI with confidence.

Connectivity Testing

Connectivity Testing verifies the communications between the CLEC and Qwest. This testing confirms that the firewall and transport configurations are correct. This test must be conducted in the applicable test environment(s) and the production environment. Successful completion of this test indicates that the CLEC and Qwest can successfully communicate in the respective environments.

Progression Testing

The Progression Testing phase provides the CLEC the opportunity to validate its technical development efforts and to quantify LSR processing results. Progression Testing will identify the CLEC's ability to submit correct EDI transactions through the IMA system and process Qwest's EDI responses to those transactions.

Qwest makes two environments available for CLEC use during the Progression Testing phase: Interoperability and SATE. A CLEC may choose to test in either or both environments when implementing an IMA EDI interface. Both Qwest environments are made available for CLEC testing approximately 30 days prior to a new IMA release.

Qwest and the CLEC consider Progression Testing complete when all transactions and all response types can be successfully processed by Qwest and the CLEC.

Stand Alone Test Environment (SATE)

SATE receives Pre-Order and Order requests from the CLEC, passes them through a production copy of IMA to the data generation system, and returns responses to the SATE user.

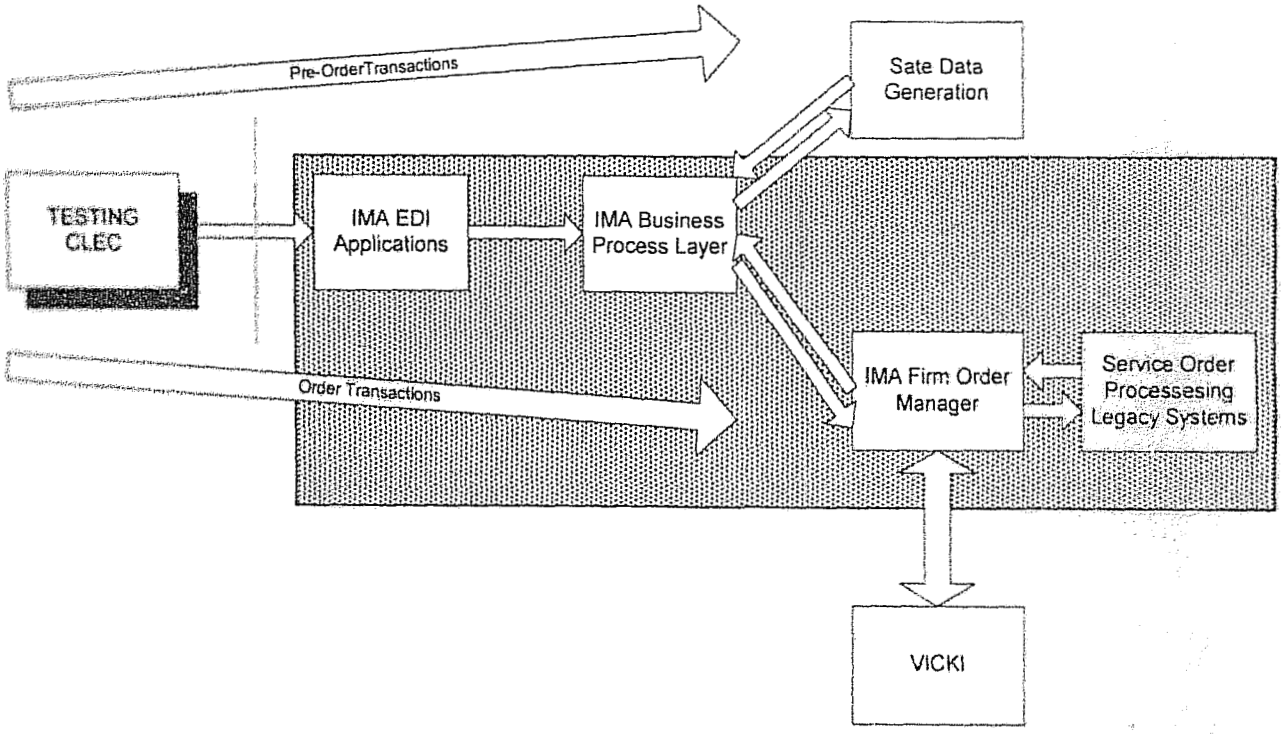


Figure 2: SATE System Layout

Figure 2 shows the system layout for SATE. All systems in the shaded area are copies of the production systems. SATE houses production-like system data and responses.

Pre-order Transaction Processing
When a pre-order transaction is received in SATE, the transaction is processed by a copy of the production IMA Business Processing Layer, using data from the SATE generation system, and is subjected to the same IMA/EDI edits as those used in production.

Order Transaction Processing
In SATE, there are two methods for processing an order request and generating the associated post-order responses. A CLEC can choose to receive standard expected responses using SATE's Virtual Interconnect Center Knowledge Initiator (VICKI) or automated responses from Qwest's flow-through engine. Both methods use Qwest-provided test account data that are subjected to the same IMA/EDI edits as those used in production.

SATE's VICKI functionality allows a CLEC to submit a Local Service Request (LSR) in SATE with the desired responses requested by the CLEC.

SATE's flow through functionality allows a CLEC to test a transaction using a test copy of Qwest's production service order processing legacy systems. This allows a CLEC to determine how the transaction will behave in production.

Benefits of SATE:

- Allows for consistent processing of test transactions, that is to say, a single transaction will receive the same consistent response. This allows a CLEC to build an interface in a stable environment and be confident its interface can properly generate transactions and process responses.
- Provides test decks with standard data and consistent automated expected responses. This permits the CLEC to test without having to supply its own test accounts.
- Provide the ability to send test transactions to determine if they will flow through. This assists a CLEC in optimizing its flow through in the production environment.

Interoperability Environment

The IMA Interoperability Environment is a production copy of IMA.

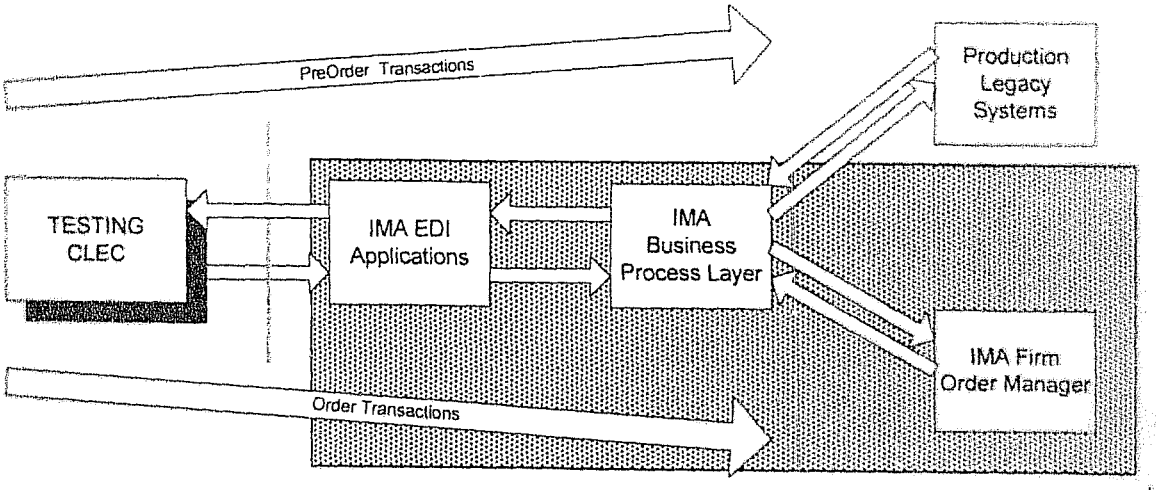


Figure 33: Interoperability System Layout

Figure 3 shows the system layout for the Interoperability Environment. All systems in the shaded area are copies of the production systems. Pre-order requests are validated by the IMA Business Processing Layer directly against the data in the production legacy systems. Thus, the same response provided in the production environment will be provided in the Interoperability Environment. Order data in the Interoperability Environment is validated against the production legacy system data and must pass all IMA Business Processing Layer edits as if the order was to be provisioned. However, the order is not passed to the legacy systems for provisioning during the Progression Testing phase. Order scenario submissions do not leave the Interoperability Environment.

Benefits of the Interoperability Environment:

- Affords the CLEC the opportunity to test functions using the same data that it uses in the production environment.
- Supports all functions in production because the Interoperability Environment is a replica of the production environment..

Controlled Production

Controlled Production is conducted in the production environment, as shown in figure 4.

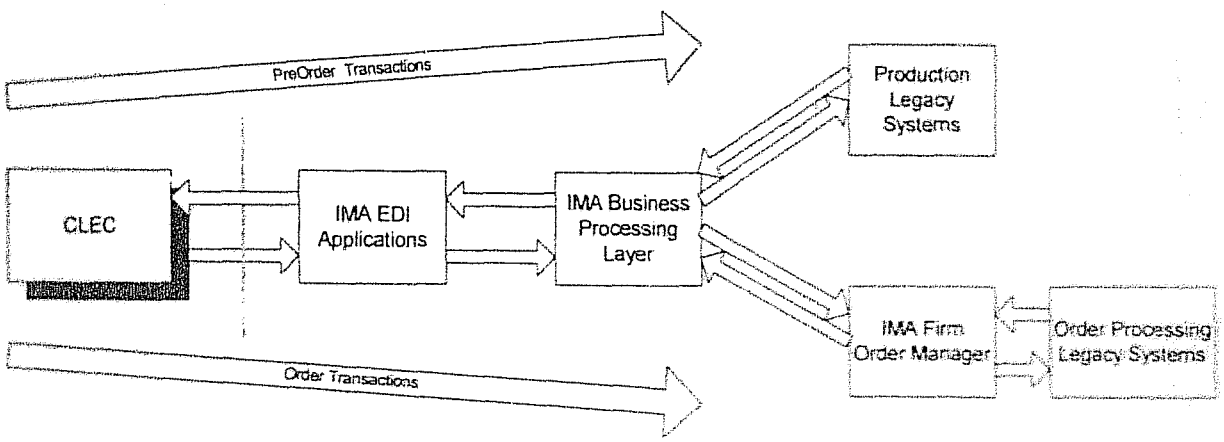


Figure 44: Production Environment Layout

Controlled Production consists of the submission of requests to the Qwest production environment. . Controlled Production is the final step in the interface testing process. It is designed to ensure that before a CLEC submits full production volumes the CLEC can successfully process EDI transactions in production. It also validates that the CLEC transmits EDI data that meets X12 standards and complies with Qwest business rules. Qwest and the CLEC use Controlled Production results to determine operational readiness for full Production turn-up.

Conclusion

By utilizing the three phased process, all aspects of the behavior of the CLEC interface is tested. Each subsequent testing phase builds upon the prior test phase.

- Connectivity Testing ensures that the CLEC and Qwest can communicate.
- Progression Testing ensures that the EDI transactions generated by the CLEC and Qwest can be processed by the receiving party.
- Controlled Production ensures that Qwest and the CLEC can interface in the production environment prior to the CLEC sending full-scale production volumes. This ensures that the behavior of the production environment does not cause any problems for the CLEC.

decisions in support of its contention that it is obligated to offer CLECs access only to its existing network, i.e., the plant that is already built. *Qwest's Comments on the Initial Order on Workshop 4 issues at 3-7 (Qwest Comments).* Qwest states that it will consider build requests from CLECs in the same fashion it considers those from retail customers.

Covad

19 Covad concurs in the recommendation made in the *Initial Order*, but asks the Commission to require Qwest to amend the SGAT to reflect its obligation, and to provide the Commission and CLECs with documentation regarding terms and conditions for builds for retail customers, including requirements to contribute to the cost of construction. *Covad Communications Company's Comments on the Twentieth Supplemental Order; Initial Order on Workshop 4 Issues at 2 (Covad Comments).*

Discussion and Decision

20 Our decision in this Order rests on the reasoning contained in our decision in the *24th Supplemental Order*. We believe the term "existing network" is not meant to be taken literally, and that the FCC contemplated the kind of planning and building addressed in this issue as being encompassed in the "existing network." This is borne out by the FCC's orders and the Eighth Circuit's opinion in *Iowa Utilities, Board v. FCC*, as discussed extensively in paragraphs 13-19 of the *24th Supplemental Order*.

21 Covad's suggestions are sound. Without documentation as to the type of arrangements Qwest makes for its retail customers, the Commission and parties cannot determine if Qwest's treatment of CLECs on requests to build is at parity with the treatment of retail customers. During oral argument, Qwest stated that it does not object to disclosing its general policies regarding terms and conditions when it builds for retail customers, but does not want to disclose such information on a job-by-job basis. This distinction appears reasonable. Qwest must modify the SGAT to provide a reference to its retail building policies, and provide a method for CLECs to gain access to that information.

22 In requiring Qwest to provide facilities to CLECs in areas that are already served by like facilities used to full capacity, we simply require Qwest to treat CLECs no differently than it would treat a retail customer requesting such facilities. We do not require Qwest to provide such facilities "for free." Qwest may recover its investment

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[5] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Fifth Further Notice of Proposed Rulemaking in CC Docket 96-98, FCC 00-297, (released August 10, 2000) *(Collocation Remand Order)*.

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in the same way it would recover the investment made for a retail customer requesting a similar facility.

2. ISSUE WA-LOOP 2(b): Loop Conditioning Charges

Initial Order

23 The *Initial Order* held that Qwest should not impose loop conditioning charges for loops under 18,000 feet in the 47 central offices addressed in a commitment in the *U. S. WEST/Qwest Merger Settlement Agreement*.[6] As part of the *Merger Settlement Agreement*, Qwest committed to remove bridged taps, where no construction or excavation is required, and load coil encumbrances for loops 18,000 feet or less in 47 central offices, at no cost to CLECs. *Initial Order, ¶63.*

24 The *Initial Order* also accepted Qwest's proposal, in SGAT section 9.2.2.4.1, to provide refunds to CLECs where Qwest provisions a faulty loop. The *Initial Order* recommended that Qwest modify the SGAT section to provide that refunds may be administered through the bill credit process as long as the credit process is immediate and not administered through the billing dispute process. *Initial Order, ¶65.*

Qwest

25 Qwest seeks clarification of the recommendation that it not impose charges on CLECs in the 47 central offices addressed in the *Merger Settlement Agreement* commitment. *Qwest Comments at 9.* Qwest reported that it completed the project, and that it performed deloading activity in 55 Washington central offices. Qwest also stated that it has not and will not charge CLECs for the cost of the project. *Id. at 9-10.* However, Qwest stated that it did not deload loops where deloading would have disrupted service. Where technology or changes in the network would now allow deloading, Qwest seeks to charge CLECs for the cost on a going-forward basis, if a CLEC requests loop conditioning. *Id. at 10.*

Discussion and Decision

26 Based on Qwest's statements, it appears that Qwest has carved out exceptions to the commitment it made, and that the Commission accepted, in the *Merger Settlement Agreement*. A review of documents filed in the merger docket indicates that Qwest may not have informed the Commission that it had excluded some loops from the deloading project if their conditioning would have disrupted service. There is no evidence that Qwest either asked for or was granted approval for such an exemption. It is also not clear whether Qwest removed all load coil encumbrances for loops of

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[6] *In re Application of U S WEST, and QWEST COMMUNICATIONS INTERNATIONAL INC. For an Order Disclaiming Jurisdiction or, in the Alternative, Approving the U S WEST, INC.-Qwest Communications International Inc. Merger*, Final Settlement Agreement Among Joint Applicants and Staff, Docket No. UT-991358, May 26, 2000 (*Merger Settlement Agreement*).

Decision No. R01-651-I

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 97I-198T

IN THE MATTER OF THE INVESTIGATION INTO U S WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH § 271(C) OF THE TELECOMMUNICATIONS ACT OF 1996.

RESOLUTION OF VOLUME 1A IMPASSE ISSUES

Mailed Date: June 22, 2001

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II. WHAT THIS ORDER MEANS 25

III. ORDER 28

CONCLUSION:

No variable response times for pole, duct, rights-of-way access verification is allowed. Qwest's SGAT must reflect a 45 day rule with no exceptions.

Discussion:

(1) 47 C.F.R. § 1.1403(b) gives permissible response times to requests for access to poles, ducts, and rights-of-way. The FCC established a clear federal regulation, including interpretive precedent. The Commission is bound to follow that precedent. *U S West v. Hix, supra.* at 1117-1118.

(2) Title 47 C.F.R. § 1.1403(b) states: "If access is not granted within 45 days of the request for access, the utility must confirm the denial in writing by the 45th day." The FCC has interpreted 47 C.F.R. § 1.1403(b) to mean just what it says: "we conclude that [the utility] is required to act on each permit application submitted…within 45 days of receiving the request." *In the Matter of Cavalier Telephone, L.L.C. v. Virginia Electric and Power Co., Order and Request for Information*, DA 00-1250, pg. 8 (June 7, 2000). Failure to act upon an application within the 45 days will result in the request being deemed granted. *Id., quoting In the Matter of Application of Bellsouth Corp*, FCC 98-271, 13 FCC Rcd. 20599 (1998).

(3) The FCC did not include any provision regarding variable response times based on the size or volume of the requests within 47 C.F.R. § 1.1403(b). Furthermore, the FCC has stated that, when dealing with large orders, the utility is required to grant access as the parts of the orders are approved. *Cavalier* at 8. Accordingly, under no circumstances is there applicable FCC authority allowing variable timelines.

(4) Parties remain free to contract around the 45 day limit in the FCC's regulations, as they have apparently done in Arizona. However, this Commission has neither the authority nor the inclination to set a default agreement with time frames different than those prescribed by the FCC.

(5) Qwest retains the ability to deny requests for access by the 45th day by specifically explaining all reasons for the denial in writing. 47 C.F.R. § 1.1403(b). The reasons for denial may include "lack of capacity, safety, reliability or engineering standards." *Id.* This would include situations where Qwest legitimately does not have the "capacity" to conduct the various field verifications and other tasks necessary to verify the "safety, reliability or engineering standards." *Id.* However, a denial on the 45th day does not terminate the application, as the "[utility] shall immediately grant access to all poles to which attachment can be made

permanently or temporarily, without causing a safety hazard, for which permit applications have been filed…for longer than 45 days." *Cavalier* at 8.

(6) To comply with § 271, Qwest must subject itself to an absolute timeline of 45 days for accepting or rejecting pole, duct, and right-of-way access applications. Consistent with the FCC's regulations, Qwest can deny access for a legitimate lack of capacity, with the proviso that Qwest must work towards establishing the access and approving it as soon as feasible.

(7) Difficulty with meeting large order requests within the 45-day window is possible. However, actual commercial experience will better inform the Commission and the market players if this is indeed a problem. This term may need to be modified if Qwest finds that the exception is swallowing the 45-day rule. In the interim, the hard and fast 45-day deadline will better serve two primary values: expedition and certitude. The contractual provision thus sets forth a default time frame, and then puts the burden on Qwest specifically to justify departure from that deadline.

(8) It should be noted that Qwest has apparently modified their position with regard to issue 3-14, and has submitted SGAT language that is similar to the language proposed by Staff. *See* Qwest Volume 1 Comments at. 6, fn.3.

However. I will not adopt the whole of Staff's recommendation in Volume 1A. *See* Volume 1A Report ¶ 35. A commercially reasonable relationship between Qwest and an ordering CLEC should allow bilateral resolution of access intervals outside of the 45-day time frame without automatic recourse to the Commission. Of course, any ordering CLEC who believes that Qwest is abusing the exception to the 45-day rule can complain to the Commission.

(9) Before the Commission certifies compliance with checklist item 3 to the FCC, Qwest's SGAT § 10.8.4 and § 2.2 of Exhibit D must be revised to reflect no exceptions or gradations to the FCC's 45-day rule.[6]

4. 10-5, 10-6: ICNAM (Inter-Network Calling Name Assistance Database)

ISSUE:

Whether access to Qwest's CNAM (Calling Name Assistance Database) or ICNAM (Inter-Network Calling Name Assistance Database) should be provided on a "per query" basis or as full, "global" access.

Party Positions:

Qwest: *Access to the CNAM/ICNAM is only required on a "per query" basis (SGAT § 9.17).*

AT&T/WorldCom: *Denying full access to CNAM/ICNAM violates nondiscriminatory access to unbundled network elements (UNE) provision of § 251(c)(3).*

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[6] Qwest's most recent proposed SGAT language does not meet this requirement. See Qwest's Comment on Vol. IA Impasse Issues attachment.

SERVICE DATE

JUL 2 4 2001

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Investigation Into U S WEST COMMUNICATIONS, INC.'s Compliance With Section 271 of the Telecommunications Act of 1996	)	DOCKET NO. UT-003022 DOCKET NO. UT-003040
In the Matter of U S WEST COMMUNICATIONS, INC.'s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996	)	THIRTEENTH SUPPLEMENTAL ORDER INITIAL ORDER (WORKSHOP THREE): CHECKLIST ITEM NO. 2, 5, and 6

SYNOPSIS

This Order proposes resolution of issues raised in Workshop III relating to Qwest's expected application for approval under Section 271 of the Telecommunications Act of 1996 for authority to provide regional telecommunications services. This Initial Order proposes to find Qwest not in compliance with Checklist Item Nos. 2, 5, and 6.

BACKGROUND AND PROCEDURAL HISTORY

This is a consolidated proceeding to consider the compliance of Qwest Communications, Inc. (Qwest), formerly known as U S WEST Communications, Inc. (U S WEST),[1] with the requirements of Section 271 of the Telecommunications Act of 1996 (the Act),[2] and review and approval of Qwest's Statement of Generally Available Terms (SGAT) under Section 252(f)(2) of the Act. The general procedural history is included in the Eleventh Supplemental Order, entered March 30, 2001, and will not be repeated here.

The Commission held its third workshop in this proceeding in Olympia, Washington on March 12-15, 2001, addressing the issues of Checklist Items Nos. 2, 5, and 6, and provisions of Qwest's proposed SGAT addressing these issues. The Commission

[1] After this proceeding began, U S WEST merged and has become known as Qwest Communications, Inc. For consistency and ease of reference we will used the new name Qwest in this Order.

[2] Pub. L. No. 104-104, 110 Stat. 56, *codified at* 47 U.S.C. § 151 *et seq.*

Discussion and Decision

78 Qwest's discussion of "existing" network refers to paragraph 324 of the *UNE Remand Order*.[41] While Qwest points to the FCC's reference to limiting unbundling to the incumbent LEC's "existing" network, the FCC says it "did not require incumbent LECs to construct facilities to meet a requesting carrier's requirements where the incumbent LEC has not deployed transport facilities for its own use."[42] The FCC goes on to state that the "incumbent LEC's unbundling obligation extends throughout its ubiquitous transport network." Later, the FCC explains the incumbent is not required to provision for "point-to-point demand requirements for facilities that the incumbent LEC has not deployed for its own use." In other words, the incumbent LEC's "existing" network includes all points that it currently serves via interoffice facilities, and it is not required to extend its network to new points, based on competitors' requests. However, the incumbent LEC is still required to provide access to UNEs within its existing network even if it must construct additional capacity within its network to make the UNEs available to competitors. Qwest implies that the term "existing network" only applies to the actual facilities that are in place, when in fact existing network applies to the "area" (end offices, serving wire centers, tandem switches, interexchange carrier points of presence, etc.) that Qwest's interoffice facilities serve. This same concept applies on the loop side of Qwest's network where Qwest is obligated to construct additional loops to reach customers' premises whenever local facilities have reached exhaust.

79 Qwest must modify section 9.1.2 of the SGAT and the appropriate subsections of 9.1.2 to state that Qwest will provide access to UNEs to any location currently served by Qwest's network. Qwest must construct new facilities to any location currently served by Qwest when similar facilities to those locations have exhausted. In situations where locations are outside of currently served areas, Qwest may construct facilities under the same terms and conditions it would construct similar facilities for its own customers in those locations.

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[41] Notwithstanding the fact that we require incumbents to unbundle high-capacity transmission facilities, we reject Sprint's proposal to require incumbent LECs to provide unbundled access to SONET rings. In the *Local Competition First Report and Order*, the Commission limited an incumbent LEC's transport unbundling obligation to existing facilities, and did not require incumbent LECs to construct facilities to meet a requesting carrier's requirements where the incumbent LEC has not deployed transport facilities for its own use. Although we conclude that an incumbent LEC's unbundling obligation extends throughout its ubiquitous transport network, including ring transport architectures, we do not require incumbent LECs to construct new transport facilities to meet specific competitive LEC point-to-point demand requirements for facilities that the incumbent LEC has not deployed for its own use. *UNE Remand Order*, para. 324.

[42] *Local Competition Order*, para. 451.

AT&T Corp. Legal - Denver

NOV 19 2001

SERVICE DATE

NOV 15 2001

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Investigation Into U S WEST COMMUNICATIONS, INC.'s Compliance With Section 271 of the Telecommunications Act of 1996	)	DOCKET NO. UT-003022
In the Matter of U S WEST COMMUNICATIONS, INC.'s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996	)	DOCKET NO. UT-003040 TWENTIETH SUPPLEMENTAL ORDER; INITIAL ORDER (WORKSHOP FOUR): CHECKLIST ITEM NO. 4; EMERGING SERVICES, GENERAL TERMS AND CONDITIONS, PUBLIC INTEREST, TRACK A, AND SECTION 272

I. SYNOPSIS

This Order proposes resolution of issues raised in Workshop Four relating to Qwest's expected application for approval under section 271 of the Telecommunications Act of 1996 for authority to provide regional telecommunications services. This Initial Order proposes to find Qwest not in compliance with Checklist Item No. 4 (Unbundled Local Loops), Emerging Services, General Terms and Conditions, Public Interest, and section 272 requirements, but finds Qwest in compliance with Track A requirements.

II. BACKGROUND AND PROCEDURAL HISTORY

This is a consolidated proceeding to consider the compliance of Qwest Corporation (Qwest), formerly known as U S WEST Communications, Inc. (U S WEST),[1] with the requirements of section 271 of the Telecommunications Act of 1996 (the Act),[2]

[1] After this proceeding began, U S WEST merged and has become known as Qwest Corporation. For consistency and ease of reference we will use the new name Qwest in this Order.

[2] Pub. L. No. 104-104, 110 Stat. 56, *codified at* 47 U.S.C. § 151 *et seq*

Seventh Circuit case to support its position. *Id. at 5 (citing MCI Telecommunications Corp. v. Public Serv. Comm'n of Wisconsin*, 22 F.3d 323, 328 (7th Cir. 2000)).

44 Qwest also relies on decisions reached in other jurisdictions to support its case. In a decision on UNEs, the facilitator for the Multi-state Proceeding[19] "underscored the importance of facilities based competition and the distinction between existing and new facilities." *Id. at 10.* Qwest notes that the Colorado Hearing Commissioner adopted many of Qwest's arguments when issuing his decision on Checklist Items No. 2, 5, and 6, holding that "Qwest has no obligation to build UNEs on demand for CLECs." *Id. at 11.* The Colorado Hearing Commissioner did require Qwest to amend section 9.19 of the SGAT to read "Qwest will assess whether to build for CLEC in the same manner that it assesses whether to build for itself." *Id. at 12.*

45 Finally, Qwest asserts that ordering it to build UNEs on demand for CLECs will discourage facilities-based competition. *Id. at 13.*

46 Qwest has made accommodations through workshops in other states to share information about certain outside plant engineering jobs that are in excess of $100,000 to enable the CLECs' to determine where facilities may be placed and then to adjust their planning and marketing strategies accordingly." *Ex. 926-T at 32; Qwest Loops Brief at 5.* Qwest has agreed to hold CLEC orders in such situations. *Ex. 926-T at 32.*

47 Qwest refers to section 4.1.6 of its private line tariff, WN U-41, and asserts that special construction charges apply equally to retail and wholesale customers. *Ex. 926-T at 30.* Qwest denies WorldCom's assertion that the cost of constructing facilities is recovered in its rates: "The unbundled loop cost model uses a forward-looking design and does not reflect the embedded network configuration." *Id. at 31.*

Discussion and Decision

48 We agree that the Commission should be encouraging facilities-based competition. However, we decline to approve an open-ended SGAT provision that allows Qwest to decide when and where it will build facilities for CLECs. Instead, consistent with the discussion and decision in paragraphs 79-80 of the Thirteenth Supplemental Order, we direct Qwest to provide high capacity loops to CLECs when existing high capacity loops in an area have been exhausted. This decision does not direct Qwest to build high capacity loops that are superior in quality, nor does it direct Qwest to build high capacity loops in areas where high capacity loops are not currently in use by

[19] The "Multi-state Proceeding" refers to a proceeding being held jointly by the states of Idaho, Montana, New Mexico, North Dakota, Utah, Iowa, and Wyoming to consider Qwest's compliance with section 271 of the Act. The states hired a facilitator, Mr. John Antonuk of Liberty Consulting Group, to conduct the Multi-state Proceedings and to issue initial orders on the proceedings.

Qwest or Qwest's customers. We repeat our requirements for section 9.1.2 of the SGAT as stated in paragraph 80 of the Thirteenth Supplemental Order:

> Qwest must modify section 9.1.2 of the SGAT and the appropriate subsections of 9.1.2 to state that Qwest will provide access to UNEs to any location currently served by Qwest's network. Qwest must construct new facilities to any location currently served by Qwest when similar facilities to those locations have exhausted.

In making this finding, the Commission does not require Qwest to perform this work "for free." Rather, Qwest must apply the same terms for provisioning facilities for CLECs as it would for its retail customers in the analogous situation. For example, if the desired facility is small in scope and Qwest would not charge a retail customer an up-front charge or require a long-term contract in order to build the facilities to serve them, it may not impose such charges on a CLEC. On the other hand, if the facility requested is large in scope and would be subject to contract terms or termination liability provisions if it were being built to serve a large retail customer, then Qwest may impose such terms on the CLEC.

WA-LOOP-2(a)/2(b): Loop Conditioning and Refund of Charges

SGAT section 9.2.2.4 provides that CLECs may request loop conditioning when requesting non-loaded unbundled loops, and that Qwest may charge CLECs a non-recurring conditioning charge for cable unloading and bridged tap removal. *See Ex. 1170.* The parties disagree about whether loop conditioning charges should apply to loops of less than 18,000 feet, and when there is a problem with the conditioning work performed by Qwest, what remedy Qwest should offer the CLECs.

AT&T

AT&T disputes the legitimacy of Qwest's nonrecurring charge for conditioning unbundled loops. AT&T asserts that Qwest should have removed any load coils on loops under 18,000 feet, as they are not appropriate for use on loops of that length. *Ex. 951 at 15.* Similarly, AT&T asserts that bridged taps should have been removed when party-line services were eliminated. *Id.* AT&T argues that paragraph 194 of the *UNE Remand Order* recognized that conditioning costs "may constitute a barrier to offering xDSL services" and that "incumbent LECs may have an incentive to inflate the charge for line conditioning." *Id.* The FCC deferred "to the states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules."[720]

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[720] *UNE Remand Order*, ¶194.

9.1.2 Qwest shall provide non-discriminatory access to Unbundled Network Elements on rates, terms and conditions that are non-discriminatory, just and reasonable. The quality of an Unbundled Network Element Qwest provides, as well as the access provided to that element, will be equal between all Carriers requesting access to that element; second, where Technically Feasible, the access and Unbundled Network Element provided by Qwest will be provided in "substantially the same time and manner" to that which Qwest provides to itself or to its Affiliates. In those situations where Qwest does not provide access to Network Elements to itself, Qwest will provide access in a manner that provides CLEC with a meaningful opportunity to compete. For the period of time Qwest provides access to CLEC to an Unbundled Network Element, CLEC shall have exclusive use of the network element, except when the provisions herein indicate that a network element will be shared (such as Shared Transport). Notwithstanding the foregoing, Qwest shall provide access and UNEs at the service performance levels set forth in Section 20. Notwithstanding specific language in other sections of this Agreement, all provisions of this Agreement regarding Unbundled Network Elements are subject to this requirement. In addition, Qwest shall comply with all state wholesale service quality standards and their appropriate retail analogue or performance benchmarks.

9.1.2.1 If facilities are not available at a location where UNEs are desired by CLEC, ~~and where Qwest has deployed facilities and the unavailability is because all existing suitable Qwest facilities at that location are already in use serving Customers; 1)~~ Qwest will build facilities ~~which Qwest would be legally obligated to build to meet its Provider of Last Resort (POLR) obligation to provide basic Local Exchange Service or its Eligible Telecommunications Carrier (ETC) obligation to provide primary basic Local Exchange Service that are of the same type that exist at the location~~ to provide sufficient capacity to meet CLEC's request for UNEs; ~~(2) CLEC orders for UNEs above DS0 level or for Local Exchange Service quantities above POLR, will be~~ subject to the same terms and conditions under which Qwest constructs or offers to construct comparable facilities to provide sufficient capacity to meet ~~as orders for equivalent~~ retail customers' request for services using those facilities at that location. ~~at the same location; 3)~~ If CLEC requests a specific Dedicated Transport optical capacity at a location where Qwest's capacity is limited or at exhaust, Qwest will either light additional fiber or modify existing electronics to provide additional capacity under the same terms and conditions it would construct similar facilities for its own retail Customers. CLEC will be responsible for any construction charges for which a retail Customer would be responsible. In circumstances when Qwest does not construct comparable facilities for retail customers or when CLEC seeks construction terms and conditions other than those offered to retail customers~~other situations~~, Qwest will consider requests to build UNEs pursuant to Section 9.19 of this Agreement.

9.1.2.1.1 Upon receipt of an LSR or ASR, Qwest will follow the same process that it would follow for an equivalent retail service to determine if assignable facilities exist that fit the criteria necessary for the service requested. If available facilities are not readily identified through the normal assignment process, but facilities can be made ready by the

requested Due Date, CLEC will not receive an additional FOC, and the order Due Date will not be changed.

9.1.2.1.2 If cable capacity is available, Qwest will complete incremental facility work (i.e., conditioning, place a drop, add a Network Interface Device, card existing subscriber Loop carrier systems at the Central Office and remote terminal, add Central Office tie pairs, add field cross jumpers) in order to complete facilities to the Customer premises.

9.1.2.1.3 During the normal assignment process, if no available facilities are identified for the UNE requested, Qwest will look for engineering job orders that could fill the request in the future. If an engineering job currently exists, Qwest will add CLEC's request to that engineering job and send CLEC a jeopardy notice. Upon completion of the engineering job, Qwest will send CLEC another FOC with a new Due Date. If facilities are not available and no engineering job exists that could fill the request in the future, ~~Qwest will treat CLECs request as follows:~~

~~9.1.2.1.3.1 For UNEs that meet the requirements set forth in Qwest's POLR and ETC obligations, CLEC will receive a jeopardy notice. Qwest will initiate an engineering job order for delivery of primary service only. These requests will be provisioned using facilities of the same type that already exist at the location to meet CLEC's request for UNEs. When the engineering job is completed, CLEC will receive another FOC identifying a new Due Date when the Loop will be ready for installation. Upon receipt of the second FOC, CLEC can request a different Due Date by submitting a SUP to change the Due Date to a later date.~~

~~9.1.2.1.3.2 For UNEs that do not meet the requirements in Qwest's POLR and ETC obligations,~~ Qwest will send CLEC an indication that there is a lack of available facilities and the order will be delayed. The delayed order will remain open, pending availability of facilities at parity with retail Customer orders. ~~Upon receipt of the delayed order notification, CLEC may submit a request to build UNEs pursuant to the same terms and conditions as CLEC orders for equivalent retail services at the same location or alternatively, at CLEC's election, advance payment of a special construction charge and quote preparation fee (QPF) as described in Section 9.19 of this Agreement.~~ In the event that an engineering job is completed that would allow delivery of the UNEs requested, or Qwest completes construction of facilities for delivery of UNEs for CLEC pursuant to a request to build as described in Section 9.19, and this occurs after Qwest sends the delayed order notification, CLEC will receive a new FOC identifying a new Due Date when the UNEs will be available for installation.

9.1.2.1.4 Qwest will provide CLEC notification of major Loop facility builds through the ICONN database. This notification shall include the identification of any funded outside plant engineering jobs that exceeds

$100,000 in total cost, the estimated ready for Service Date, the number of pairs or fibers added, and the location of the new facilities (e.g., Distribution Area for copper distribution, route number for copper feeder, and termination CLLI codes for fiber). CLEC acknowledges that Qwest does not warrant or guarantee the estimated ready for Service Dates. CLEC also acknowledges that funded Qwest outside plant engineering jobs may be modified or cancelled at any time.

9.1.2.1.5 Qwest will make its retail build policy and reports of Qwest's actual builds undertaken pursuant to that policy available to CLEC upon written request. Upon receipt, CLEC will consider this information as confidential and conform to all aspects of Section 5.16 with respect to receipt of such information.

9.19 Construction Charges

Subject to the requirements in Section 9.1.2 of this Agreement, Qwest will conduct an individual financial assessment of any request that requires construction of network capacity, facilities, or space for access to or use of UNEs. When Qwest constructs to fulfill CLEC's request for UNEs other than pursuant to terms and conditions applicable to Qwest retail customers, Qwest will bid this construction on a case-by-case basis. Qwest will charge for theis construction through nonrecurring charges and a term agreement for the remaining recurring charge, as described in the Construction Charges Section of the equivalent retail service tariff or alternatively at CLEC's election through an advance payment of a Special Construction price quote. Qwest will impose these Construction charges only when Qwest agrees to construct facilities in response to (a) CLEC requests for UNEs outside of Qwest's current service area; or (b) ~~and Qwest agrees to build, or when~~ CLEC requests for UNEs at a location that is served by facilities that are already at full capacity and the CLEC request would require Qwest to construct facilities in larger quantities or at ~~imposes~~ a higher grade of service than Qwest provides to its larger ~~demand than would be expected from a Qwest~~ Retail Customers~~. (i.e. a higher grade of service or a greater volume of loops at a particular location) and Qwest would construct facilities for equivalent retail services under the Special Construction guidelines in the PCAT, or when CLEC elects to request construction in lieu of having an order held for lack of available facilities.~~ Qwest will treat ~~the~~ CLEC's order consistently with how Qwest would treat a Retail Customer order for services that require construction of comparable~~like~~ facilities~~ at the same location~~. When CLEC orders the same or substantially similar service or facilities available to Qwest Retail~~End User~~ Customers, nothing in this Section shall be interpreted to authorize Qwest to charge CLEC for special construction where such charges are not provided for in a Tariff or where such charges would not be applied to a Qwest Retail Customer. If Qwest agrees to construct facilities~~a network element~~ that satisfy~~ies~~ the description of one or more~~a~~ UNEs contained in this agreement, those facilities~~at network element~~ shall be deemed ~~a~~ UNEs.

Decision No. R01-846

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

DOCKET NO. 97I-198T

IN THE MATTER OF THE INVESTIGATION INTO U S WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH § 271(C) OF THE TELECOMMUNICATIONS ACT OF 1996.

VOLUME 4A IMPASSE ISSUES ORDER

Mailed Date: August 16, 2001

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(5) Qwest's current SGAT language is acceptable for § 271 purposes.

B. CL2-15, UNE-C-19: Construction of Facilities for UNEs (SGAT §§ 9.1.2.1, 9.19)

ISSUES:

i. Whether Qwest is required to construct facilities for UNEs for CLECs.

ii. Whether Qwest must light unused dark fiber upon a CLEC's request.

Party Positions:

Qwest:

i. UNEs were created with the purpose of giving CLECs access to the incumbent LEC's existing network, but ILECs do not have the obligation to build a network for CLECs.

ii. Dark fiber should be unbundled and lit if the electronics are already in place, but requiring Qwest to add electronics to dark fiber constitutes a requirement to construct or build.

AT&T:

i. Qwest must build network elements for CLECs (except interoffice facilities) under the same terms and conditions that the ILEC would build facilities for itself.

ii. Requiring Qwest to light unused dark fiber and make it available as dedicated transport is a reasonable modification under the FCC's requirements.

WorldCom:

i. If Qwest determines that it will not construct a facility based upon an individual financial assessment, the SGAT should provide the CLEC with the opportunity to challenge this decision.

State Of Minnesota
AT&T COMMUNICATIONS OF THE MIDWEST STATES, INC.
INFORMATION REQUEST

P-421/CI-01-1371

Information Requested From: Qwest Corporation

Information Requested By: Friesen, Letty S.D.
Date Requested: 05/13/2002
Date Response Due: 05/21/2002

REQUEST:

Identify where the engineering records regarding Qwest's loop, distribution and feeder facilities reside.

RESPONSE:

Qwest's engineering records for loop network elements reside in two systems, CIMAGE and OSP-FM. CIMAGE and OSP-FM provide information graphically depicting Outside Plant information such as cable and terminal types, size, locations, etc., as well as underground structure information. This information is then used as input into various Qwest loop inventory and assignment systems such as LFACS for metallic facilities and TIRKS for metallic and fiber facilities. CLECs have access to this same information through tools such as RLDT (metallic facilities) and Fiber Inventory Tool (fiber facilities).

Respondent: Maryann Klasinski, Manager

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF QWEST CORPORATION'S SECTION 271 APPLICATION AND MOTION FOR ALTERNATIVE PROCEDURE TO MANAGE THE SECTION 271 PROCESS	))))))	Utility Case Number 3269

MOTION FOR RECONSIDERATION OF PORTIONS OF ORDER REGARDING FACILITATOR'S REPORT ON CHECKLIST ITEMS 2, 4, 5 AND 6 AND DEMONSTRATION OF COMPLIANCE

INTRODUCTION

Pursuant to 17.1.2.39.6 NMAC, Qwest Corporation ("Qwest") submits this motion for reconsideration of three issues in the Commission's Order Regarding the Facilitator's Report on Checklist Item 2 (Access to Unbundled Network Elements), Checklist Item 4 (Access to Unbundled Loops), Checklist Item 5 (Access to Unbundled Local Transport), and Checklist Item 6 (Access to Unbundled Local Switching) (hereinafter "Group 4 Order") and to demonstrate its compliance with the Commission's outstanding concerns relating to checklist item 4, access to unbundled loops.

Qwest requests that the Commission reconsider the following issues:

- The requirement that Qwest create the functionality for CLECs to perform mechanized loop tests ("MLTs") on a pre-order basis. The current Raw Loop Data tool provides loop length information, the ROC is already testing the extent to which Qwest provides access to loop qualification information at parity, and current FCC orders do not require Qwest to create this functionality.

- The modification to the facilitator's recommended resolution of the issue of access to spare facility information when significant amounts of integrated digital loop carrier ("IDLC") are present. The Commission modified the suggested SGAT language to require Qwest to provide "unmediated" access to loop qualification information these instances. However, "unmediated" access is no different than the direct access to LFACS that the Facilitator rejected and the

As the Commission notes in its Group 4 Order, at the time of the workshops, Qwest was in the process of enhancing its Raw Loop Data tool to include spare facility information.[35] These enhancements are now completed. In its August 2001 IMA Release 8.0, Qwest modified the Raw Loop Data tool to include spare or unassigned facilities and partially connected facilities. IMA Release 8.0 added a loop status field to the Raw Loop Data tool. If the facility is associated with a working telephone number, then the data would be obtained using the "Assigned Address" query, and the Loop Status would show as "WKG" for working. Attachment 1 is a copy of an "Assigned Address" query. The "Unassigned Address" query returns the spare facilities, and the Loop Status is indicated as "CT," which means the facility is connected through to the central office, or "PCF," which means it is partially connected through (i.e., a segment). Attachment 2 contains an example of each type of spare facility.[36] Qwest has even modified its training to teach CLECs how to obtain such information. Additionally, using the IMA Facility Check tool, the CLECs have the ability to determine if facilities exist to support the requested unbundled loop.

However, if the Commission's Order is interpreted to require Qwest to provide *unmediated* access to loop qualification information, then these enhancements will have been largely pointless. The Commission could not have intended its order to extend so far. Qwest respectfully requests that the Commission modify this aspect of its order to permit Qwest to provide mediated access to spare facility or other loop make up information.

C. The Commission Should Not Require Qwest To Modify The Loop Provisioning Intervals In Exhibit C.

Although the Commission generally accepts the Facilitator's recommendation to adopt Qwest's standard loop provisioning intervals contained in Exhibit C to the SGAT, the Commission takes exception to those intervals that conflict with Rule 17.11.22.14(C) of the New

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[35] Group 4 Order ¶ 137.

[36] Attachments 1 and 2 have been redacted to remove customer-identifying information, such as telephone numbers or street addresses.

CONFIDENTIAL: Disclose and distribute solely to employees of U S WEST and its affiliates having a need to know.

Sumo Batch Results Report

Report Date:	August 28, 2001
	[TRADE SECRET DATA BEGINS
Description	This report provides qualification results for the given batch request. There are four tabs (worksheets) in this spreadsheet: **ReadMe** - this page **Stats** - Summary statistics **Data** - Qualification data, a row for every loop submitted in the batch **QS Code By Wire Center** - Qualification Status code counts by Wire Center
Batch Name:	**Book3md**
Service Type:	DSLQual - [TN]

Data Column Defs:	
Loop ID	Loop Identifier: TN or Circuit ID
CLLI	Wire Center CLLI Code
QS Code	Qualification Status Code
dB Loss	Estimated dB Loss
CSU	Class of Service USOC
ALU	Assignable Line USOC
PG Type	Pair Gain Type (not populated for all requests)
Impl?	Megabit WC Implementation Indicator (not populated for all requests)
LUID	Living Unit Identifier
House #	House Number
Street	Street Name
Unit	Unit designation
Floor	Floor designation
Building	Building designation
Remaining Fields	Any fields to the right of the fields listed above are user defined fields merged in from the request data.

Notes:	

Applied Filters: NonDisclMB2IDSL
PairGain
ISDNCapable **TRADE SECRET DATA ENDS]**

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NONPUBLIC DOCUMENT - CONTAINS TRADE SECRET DATA

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[TRADE SECRET DATA BEGINS

Sumo Batch Stats	08/28/2001
ok3md	DSLQual [TN]
al Loops in Request	13,836
ocessed Loops	13,836
Duplicate Telephone Numbers	-

QMB7MEG	565	Qual for Megabit @ 7M down 1M up
QMB4MEG	148	Qual for Megabit @ 4M down 1M up
QMB1MEG	47	Qual for Megabit @ 1M down 1M up
QMB0640	1,082	Qual for Megabit @ .640M down and up
QMB0256	1,072	Qual for Megabit @ .640M down .256M up
PIDD100	1,593	Pend for Direct Copper IDSL; Does not qual for ISDN
PIDD102	986	Pend for Direct Copper IDSL; Qual for ISDN
PIDD200	95	Pend for Total Reach IDSL; Does not qual for ISDN
PIDD202	382	Pend for Total Reach IDSL; Qualifies for ISDN
PIDD300	37	Pend for Extended Reach IDSL; Does not qual for ISDN
PIDD302	25	Pend for Extended Reach IDSL; Qualifies for ISDN
PIDP000	2	Pend for IDSL over Pair Gain; Does not qual for ISDN
PIDP002	2	Pend for IDSL over Pair Gain; Qualifies for ISDN
PIDP100	696	Pend over DLC for Direct Copper IDSL; Does not qual for ISDN
PIDP102	1,336	Pend over DLC for Direct Copper IDSL; Qual for ISDN
PIDP200	18	Pend over DLC for Total Reach IDSL; Does not qual for ISDN
PIDP202	6	Pend over DLC for Total Reach IDSL; Qualifies for ISDN
PIDP300	3	Pend over DLC for Extended Reach IDSL; Does not qual for ISDN
PIDP302	11	Pend over DLC for Extended Reach IDSL; Qualifies for ISDN
XDSEXDB	8	Disqualified: Non-loaded copper - exceeds dB limits
XDS_UDC	292	Disqualified: Facility Type: UDC
XIDPRGN	5	Disqualified: Facility Type: Pair Gain
XDSLOAD	1,703	Disqualified: Facility Type: Loaded Loop
ZDSNFND	1,107	Unable to Qual: TN Not found in LQDB
ZDSZSEG	1,155	Unable to Qual: Zero Length Segment
ZDSLSEG	39	Unable to Qual: Segment too long for cable prg (>40kft)
ZDSNUWC	1,148	Unable to Qual: Not in a US West Wire Center

Important Notes:

1) These loop qual results can fluctuate over time by 2-3% based on order and repair facilities.

2) Spare pairs cannot be reserved or guaranteed available; they will be issued on a first-come first-serve basis for signed DAP contracts at the time orders are placed.

3) If loop is on a pair gain (DLC) system, the order could go on hold status based on additional engineering work needed.

4) To pursue funding approval please submit the appropriate Wire Center Summary. **TRADE SECRET DATA ENDS]**

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NONPUBLIC DOCUMENT - CONTAINS TRADE SECRET DATA

BEFORE THE WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

In the Matter of the Investigation Into U S WEST COMMUNICATIONS, INC.'s [1] Compliance With Section 271 of the Telecommunications Act of 1996	)	DOCKET NO. UT-003022 DOCKET NO. UT-003040
In the Matter of U S WEST COMMUNICATIONS, INC.'s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996	)	34th SUPPLEMENTAL ORDER; ORDER REGARDING QWEST'S DEMONSTRATION OF COMPLIANCE WITH COMMISSION ORDERS

I. SYNOPSIS

1 *In this Order, the Commission determines that Qwest's SGAT is, in part, in compliance with the Commission's orders arising from Workshops 1, 2, 3, and 4. The Commission orders Qwest to modify the SGAT where it finds the existing language is not compliant with Commission orders, and requests additional information concerning CLEC access to right-of-way agreements and compliance with section 272(e)(1).*

II. BACKGROUND AND PROCEDURAL HISTORY

2 This is a consolidated proceeding to consider the compliance of Qwest Corporation (Qwest), formerly known as U S WEST Communications, Inc., with the requirements of section 271 of the Telecommunications Act of 1996 (the Act)[2] and to review and consider approval of Qwest's Statement of Generally Available Terms and Conditions (SGAT) under section 252(f)(2) of the Act. The Commission is conducting its review in this proceeding through a series of workshops, comments by

[1] Since the inception of this proceeding, U S WEST has merged and become known as Qwest Corporation. For consistency and ease of reference we will use the new name Qwest in this Order.
[2] Pub. L. No. 104-104, 110 Stat. 56, *codified at* 47 U.S.C. § 151 *et seq.*

D. CHECKLIST ITEM NO. 4 – UNBUNDLED LOOPS & EMERGING SERVICES

1. WA LOOP 3(a)/3(b): Access to LFACS and MLT – Access to Back Office Information, SGAT section 9.2.2.8.

47 Based upon comments filed by AT&T, the Commission ordered in its *28th Supplemental Order* that Qwest must modify its SGAT to include a procedure similar to that included in Attachment 25 of the Texas Plan (T2A) providing CLECs access to loop qualifying information that is "not accessible electronically." *28th Supplemental Order at ¶34.* In the *31st Supplemental Order*, the Commission stated that "Based upon AT&T's arguments that the *UNE Remand Order* establishes a parity standard for access to BOC loop information, and a review of provisions in the Texas model interconnection agreement, the *28th Supplemental Order* required that Qwest modify its SGAT to allow CLECs access to Qwest's back office loop qualification information in the same time and manner as Qwest retail operations." *31st Supplemental Order at ¶21.* The order also stated that "We are mindful of the FCC's concern that CLECs obtain loop information in the same time and manner and the BOC's retail operations," citing to paragraph 431 of the *UNE Remand Order. Id. at ¶28.*

48 The Commission was scheduled to discuss the issue during hearings held the week of April 22, but deferred discussion of the issue to allow Qwest to file an SGAT compliant with the *31st Supplemental Order.*

49 **Qwest:** In the April 5 SGAT, Qwest modified SGAT section 9.2.2.8 to include language providing for manual look-up of loop information. *See Ex. 1503, at 133.* In the April 19 SGAT, Qwest further modified SGAT section 9.2.2.8 by adding the sentence: "To ensure parity with Qwest retail operations, CLEC may request an audit of information available to Qwest pertaining to the Loop qualification tools pursuant to Section 18 of this Agreement." *Ex. 1667, at 126-27.*

50 During the hearing held on May 14, Qwest asserted that the language in the April 5 SGAT was compliant with the *28th* and *31st Supplemental Orders*. Qwest also offered new language to include in section 9.2.2.8 to resolve AT&T's concerns. *See Ex. 1669.*

51 **AT&T:** In response to Qwest's April 5 SGAT, AT&T asserted that Qwest's proposed revision to SGAT section 9.2.2.8 should offer the ability for CLECs to request a manual search of company records, "including engineering records and other back office systems and databases to determine actual loop information." *See Ex. 1515 at 5.* AT&T also objected to Qwest "filtering" the information, i.e., providing the information by updating the data tool and requiring CLECs to view the data via the data tool. AT&T proposed alternative language for section 9.2.2.8. *Id.*

52 In response to Qwest's April 19 compliance filing, AT&T expressed concern about Qwest's proposed SGAT language concerning a retail parity standard. *Ex. 1670 at 2.* AT&T referred to the *UNE Remand Order*, as well as other FCC orders stating that CLECs must have access to information that exists anywhere in the BOC's back office and can be accessed by any of the BOC's personnel. *Id. at 3.*

53 During the May 14 hearing, AT&T asserted that CLECs should have direct, not mediated, access to Qwest's back office loop information, and reiterated the FCC's standard for access to loop information. AT&T argued that Qwest's SGAT language does not comport with the FCC's standards and should be revised. AT&T offered changes to Qwest's proposed language. *See Ex. 1672.*

54 **Covad:** Covad supported AT&T's comments on access to loop qualification information. *See Ex. 1530 at 4.* Covad asserted that it seeks access to Qwest's back office information when ordering and provisioning DSL service, when there appear to be problems with the accuracy of Qwest's loop qualification tools.

55 **Discussion and Decision**: Upon review, we find that the provisions of the *28th* and *31st Supplemental Orders* on this issue may have created confusion concerning Qwest's obligations to provide access to back office information. The Commission begins its discussion in the *28th Supplemental Order* by noting that paragraph 430 of the *UNE Remand Order* "requires that Qwest provide access to loop qualification information that *exists anywhere within the incumbent's back office*." *28th Supplemental Order at ¶34 (emphasis added).* The *28th Supplemental Order* then refers to provisions in Attachment 25 to the Texas Plan, which establishes terms and conditions for access to xDSL-Capable Loop offerings. That portion of the plan provides that SWBT will provide CLECs with access at parity with its own retail xDSL service, and allows CLECs to request back office information concerning loop make-up information for xDSL-capable loops. *T2A, Attachment 25, at 6-7.*

56 The reference to the Texas plan was intended to show that other states have allowed access to back office information. The Commission did not intend to limit CLEC access to loop information at parity only with Qwest's retail personnel. As AT&T stated during the hearing, the *UNE Remand Order* requires that CLECs have access to loop qualification information that may "be accessed by *any of the incumbent LEC's personnel*." *UNE Remand Order, ¶430 (emphasis added).* However, we note that the *UNE Remand Order* also provides that the information must be provided to CLECs within the same time intervals as the information is provided to the incumbent's retail operations. *Id. at ¶431.*

57 The *31st Supplemental Order* did not correctly state the parity standard, or Qwest's obligations to provide access to back office loop information. Qwest must provide CLECs access to all back office information pertaining to loop qualification

accessible to any Qwest personnel, within the same time intervals Qwest provides the information to its own retail personnel. Qwest must delete the phrase on page 126 of Exhibit 1667 stating "To ensure parity with Qwest retail operations."

58 During the May hearings, we proposed certain modifications to Exhibits 1672 and 1503. We encouraged Qwest and AT&T to continue their discussion of mutually agreeable language for SGAT section 9.2.2.8. This clarification of Qwest's obligations should further guide the parties' efforts.

2. WA LOOP 3(a)/3(b): Access to LFACS and MLT – Audit of Back Office Information, SGAT sections 9.2.2.8 and 18.1.1.

59 In addition to requiring access to back office loop qualification information, the *28th Supplemental Order* also required Qwest to "modify the SGAT to allow CLECs to audit the loop qualification tools provided to them to determine that the tools provide the same information, in the same time frame, to CLECs as Qwest's internal data tools provide to its retail operations, and that Qwest provides all the information required by the FCC." *28th Supplemental Order at ¶35.* In the *31st Supplemental Order*, the Commission stated "The only way we can ensure that the RDLT contains the same information available to Qwest's retail operations is to allow competitors to . . . audit Qwest's information, if it appears to be necessary to do so."

60 Similar to the issue of access to back office lop qualification information, the Commission deferred discussion of this issue to the May hearing to allow Qwest to file an SGAT compliant with the *31st Supplemental Order.*

61 **Qwest:** In the April 19 SGAT, Qwest modified SGAT section 18.1.1 to include the sentence: "The term "Audit" also applies to the investigation of network data bases supporting the Loop qualification tools." *Ex. 1667, at 300.* As we discussed above, Qwest also modified section 9.2.2.8 to include the following: "To ensure parity with Qwest retail operations, CLEC may request an audit of information available to Qwest pertaining to the Loop qualification tools pursuant to Section 18 of this Agreement." *Ex. 1667, at 126-27.*

62 During the hearing held on May 14, Qwest asserted that the language in the April 19 SGAT was compliant with what the Commission ordered in the *31st Supplemental Order.* Qwest objected to language proposed by AT&T in Exhibit 1669, in particular arguing that the audit should be limited to information supporting or relating to the loop qualification tools, rather than applying more broadly to all back office information pertaining to loop information.

63 **AT&T:** In response to Qwest's April 5 compliance filing, AT&T argued that Qwest did not include language in the SGAT relating to audits of loop qualification

concerns over this issue. *Id.* AT&T asserts that the revision is appropriate given the wording in Qwest's product documentation in Exhibit 1298. *See Ex. 1522 at 12.*

Discussion and Decision: Qwest's statement in section 10.2.2.4 that it will not "disconnect" a loop if the CLEC provides notice of a problem prior to 8:00 p.m. on the due date creates confusion and inconsistency with the provisions of 10.2.5.3.1 as set forth in Exhibit 1292. The language in section 10.2.2.4 states that Qwest may disconnect the number after 8:00 p.m. on the due date if it has not heard from the CLEC, while the language in section 10.2.5.3.1 implies that Qwest will not disconnect the number until after 11:59 p.m. of the day following the due date. Although Qwest asserts that the latter arrangement is the exception to the rule, the Commission's order and the SGAT indicate that the 11:59 p.m. arrangement will occur for each number portability order in order to protect consumers from disconnection. Qwest may not disconnect the customer if then it has not heard from the CLEC prior to 8:00 p.m. on the due date.

We remain concerned about unintended disconnection of service. Qwest must modify SGAT section 10.2.5.3.1, as it appears in Qwest's April 5 SGAT, by deleting the words "try to." With this modification to the SGAT, the last sentence of 10.2.2.4 appears to be unnecessary and if retained may continue to create confusion when compared to section 10.2.5.3.1, and to Qwest's product document. *See Ex. 1298.* In order to resolve any confusion or inconsistency within the SGAT, or with Qwest's product documents, Qwest must modify section 10.2.2.4 by deleting the last sentence.

2. Compliant SGAT Language

For the issues identified in the table below, Qwest's SGAT and related documents are compliant with the Commission orders indicated in the table:

Issue No.	Order and Paragraph	Change Required by the Order	SGAT Section or Other Reference
WA-11-1/5/6/11	2/22/01 Initial Order at ¶366a	Extend the time that the 10-digit trigger and customer translations are removed until 11:59 pm of the day following the due date for number porting.	Ex. 1292, 10.2.5.3.1.
WA-11-4	2/22/01 Initial Order at ¶366c	Include AT&T's proposed due date intervals for provisioning LNP, including provisioning LNP within 3 business days when no unbundled loop is involved.	Ex. 1292, 10.2.5.2.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Investigation Into	)	
	)	DOCKET NO. UT-003022
U S WEST COMMUNICATIONS, INC.'s [1]	)	
	)	DOCKET NO. UT-003040
Compliance With Section 271 of the Telecommunications Act of 1996	)	31ST SUPPLEMENTAL ORDER; ORDER GRANTING QWEST'S PETITION FOR RECONSIDERATION OF THE 24TH SUPPLEMENTAL ORDER AND GRANTING AND DENYING PETITIONS FOR RECONSIDERATION OF THE 28TH SUPPLEMENTAL ORDER
In the Matter of	)	
U S WEST COMMUNICATIONS, INC.'s Statement of Generally Available Terms Pursuant to Section 252(f) of the Telecommunications Act of 1996	)	

I. SYNOPSIS

In this Order, the Commission grants Qwest's petition for reconsideration of the Commission's 24th Supplemental Order, and will allow Qwest to apply the FCC's local use restriction to enhanced extended loops. Further, this Order grants in part and denies in part Qwest's petition for reconsideration, and denies AT&T's petition for reconsideration of the Commission's 28th Supplemental Order.

II. BACKGROUND AND PROCEDURAL HISTORY

This is a consolidated proceeding to consider the compliance of Qwest Corporation (Qwest), formerly known as U S WEST Communications, Inc., with the requirements of section 271 of the Telecommunications Act of 1996 (the Act)[2] and to review and consider approval of Qwest's Statement of Generally Available Terms and Conditions (SGAT) under section 252(f)(2) of the Act. The Commission is conducting its review in this proceeding through a series of workshops, comments by the parties, and the opportunity for oral argument to the Commission on contested issues.

[1] Since the inception of this proceeding, U S WEST has merged and become known as Qwest Corporation. For consistency and ease of reference we will use the new name Qwest in this Order.
[2] Pub. L. No. 104-104, 110 Stat. 56, *codified at* 47 U.S.C. § 151 *et seq.*

35 of the 28th *Supplemental Order* are proper and consistent with FCC decisions in the *UNE Remand Order*, *SBC Kansas/Oklahoma Order*,[8] and *Verizon Massachusetts Order*.[9] *AT&T Response at 2-3.* In particular, AT&T asserts that SWBT provides competitors direct access to LFACS through a graphical user interface, whereas Qwest does not, but merely identifies information from LFACS and places it into the RLDT. *Id. at 4.* AT&T also asserts that in Massachusetts, Verizon provides direct access to its loop qualification tools. *Id. at 5.* AT&T asserts that "Qwest employees have the ability to access LFACS, other data bases, as well as review paper records and manual review processes to provision service to its customer, yet Qwest continues to object to providing that same access to CLECs." *Id. at 6.* AT&T argues that "Qwest's SGAT does not contain the required legal obligation for access to loop and loop qualification information." *Id. at 9.*

AT&T takes issue with the way Qwest has interpreted the FCC's and this Commission's requirements concerning access to back office information. *Id. at 10-11.* AT&T asserts that KPMG is continuing to test whether Qwest is providing access to loop information at parity. *Id. at 13.* AT&T disputes that it will request frivolous audits of loop qualification information, and notes that the Texas Commission has ordered a similar audit provision in Texas. *Id.*

Discussion and Decision: We commend Qwest for its efforts to upgrade and enhance its RLDT to include additional loop information. We agree that, if Qwest continues to upgrade and enhance this tool, CLECs will receive all the necessary information to qualify loops for xDSL services and manual loop make-up requests and audits of Qwest's loop information will be infrequent. However, we are interested in ensuring that competitors continue to receive appropriate information even after approval of a section 271 application.

We are mindful of the FCC's concern that CLECs obtain loop information in the same time and manner as the BOC's retail operations.[10] The only way we can ensure that the RLDT contains the same information available to Qwest's retail operations is to allow competitors to make manual loop make-up requests and to audit Qwest's information, if it appears to be necessary to do so. Nothing in the FCC's decisions prohibits such a safeguard. The provisions of SGAT section 18.2.8 provide that a

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[8] *In the Matter of Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma*, Memorandum Opinion and Order, CC Docket No. 00-217, FCC 01-29, ¶121 (rel. Jan. 22, 2001) (*Kansas/Oklahoma Order*).

[9] *In the Matter of Application of Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions) and Verizon Global Networks Inc., For Authorization to Provide In-Region, InterLATA Services in Massachusetts*, Memorandum Opinion and Order, CC Docket No. 01-9, FCC 01-130, ¶54 (rel. April 16, 2001) (*Verizon Massachusetts Order*).

[10] *UNE Remand Order*, ¶431.

CLEC requesting the audit would bear the cost of the audit, including any cost by Qwest to provide a "special data extraction." We deny Qwest's request for reconsideration of paragraph 35 of the *28th Supplemental Order*.

2. WA DF-2: Application of Local Usage Restriction to Unbundled Dark Fiber

This issue is discussed above in paragraphs 11-19. We grant Qwest's petition for reconsideration on this issue and reverse, in part, our decision in paragraph 54 of the *28th Supplemental Order*, and determine that the FCC's local usage restriction applies only to dark fiber facilities used as EELs. We approve Qwest's proposed SGAT language on this issue.

3. WA NID-2(b): Disconnection of Qwest Facilities at the NID

During the workshops, AT&T requested that Qwest make space available on the NID, when there is no space available, by disconnecting or removing its unused facilities from protectors, and capping off or tying up the removed facilities. The *20th Supplemental Order* required Qwest to modify the SGAT to allow qualified CLEC personnel to disconnect Qwest facilities consistent with industry practices provided by AT&T. *20th Supplemental Order at ¶238*. The Commission upheld this decision in the *28th Supplemental Order* and directed Qwest to modify the SGAT to include additional language proposed by AT&T. *28th Supplemental Order at ¶80*.

Qwest: Qwest disagrees with the Commission's decision in paragraph 80 of the *28th Supplemental Order*, but will accept the decision if the Commission makes "a slight modification." *Qwest's 4th Workshop Petition at 15-16*. Qwest requests that CLECs provide Qwest notice "if and when the CLEC disconnects Qwest's facilities from the protector field." *Id. at 15*. Qwest submits a proposed modification to SGAT section 9.5.2.5, as set forth in paragraph 80 of the *28th Supplemental Order*. *Id. at 15-16*. Qwest asserts that the change is necessary to allow it "to properly inventory the facility and the responsible party." *Id. at 15*.

AT&T: AT&T objects to Qwest's proposed language. First, AT&T argues that the proposed language does not make sense in context with the language required by paragraph 80 of the *28th Supplemental Order*. *AT&T Response at 16*. AT&T argues that a CLEC would not be disconnecting Qwest facilities from the protection device, but securing the Qwest facility on a protection site. *Id.* Second, AT&T argues that Qwest's proposed notice requirement would require CLECs to establish costly procedures, and that it is unclear whether Qwest really needs the information to protect the consumer. *Id. at 16-17*.

Discussion and Decision: Qwest's proposed modification to SGAT section 9.5.2.5 is reasonable, as it will allow Qwest to maintain proper records of its facilities.

IN THE MATTER OF QWEST CORPORATION'S SECTION 271 APPLICATION

ACC Docket No. T-00000A-97-0238

FINAL REPORT ON QWEST'S COMPLIANCE

With

CHECKLIST ITEM: NO. 4 - UNBUNDLED LOOPS

FEBRUARY 20, 2002

would be inappropriate to require Qwest to implement in Arizona, all lower intervals ordered by another State commission in the Qwest region. Staff believes that to the extent impasses exist with respect to standard intervals, this Commission should resolve them for CLECs operating in Arizona. Nonetheless, to the extent agreements were reached in other States on the impasses issues, as with all other Checklist Items, Qwest should be required to import those agreements back into Arizona and has agreed to do so. At the time of the Arizona workshop on this subject, there were 7 impasse issues relating to standard intervals identified by the parties: 1) DS1, 2) 2 and 4 wire analog loop, 3) 2 and 4 wire nonloaded loop, 4) ADSL, 5) ISDN, 6) conditioned loops and 7) repair intervals. The parties agreed to try to resolve these impasses in other region workshops. The parties were successful in resolving many of them and those agreements will be imported back into Arizona. However several remain which were not resolved. The impasse issues remaining include: 1) DS1, 2) conditioned loops and 3) repair interval.

164. Appendix C to Qwest's current SGAT contains the following standard intervals for DS1: 1) 1-24 lines 9 business days; 2) 25 or more lines ICB. Staff believes that further segregation of these intervals is necessary. It may be reasonable to provide 24 lines in 9 business days; but the provisions of 1 DS1 in 9 business days appears to be excessive. Therefore, Staff recommends that Qwest be required to modify the standard intervals for DS1 contained in Appendix C of its SGAT as follows: 1) 1-8 lines 5 days; 2) 9-16 lines 7 days; 3) 17-24 lines 9 days; and 4) 25 or more lines ICB. Staff believes that these provisioning intervals are more reasonable.

165. With regard to conditioned loops, Staff believes that a 15 day standard interval is reasonable. Finally, Staff also believes that the 24 hour repair interval contained in Appendix C is reasonable. Through that interval in Appendix C, Qwest is merely committing to clear all troubles, including those requiring dispatch, in 24 hours. It does not mean, as AT&T suggests in its Comments, that Qwest does not have to provide parity service. Qwest must still provide CLECs with repair service in intervals on par with what its retail affiliate provides. Under the Arizona Performance Assurance Plan, Qwest will be penalized if it does not perform repairs on par with its retail affiliate.

DISPUTED ISSUE NO. 2: Concerns regarding provisioning loops where Qwest uses Integrated Digital Loop Carrier (IDLC). (Loop 4(b))

a. Summary of Qwest and CLEC Positions

166. While AT&T stated in its Brief that the issues surrounding IDLC provisioning processes are now resolved, it should be made clear in the order issued on this Checklist Item that Qwest remains obligated to provision loops served by IDLC and that the ultimate objective of the steps outlined in the Workshop and to be addressed in the technical publication is to ensure that CLEC/DLECs have access to unbundled loops served using IDLC. AT&T Brief at p. 13. Additionally, AT&T requests direct access to Qwest's Loop Facilities Assignment and Control System ("LFACS") database, and access to any other database or source that contains information regarding Qwest's loop

NOV 2 6 2001

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF QWEST CORPORATION'S SECTION 271 APPLICATION AND MOTION FOR ALTERNATIVE PROCEDURE TO MANAGE THE SECTION 271 PROCESS	)))))	**Utility Case No. 3269**

ORDER REGARDING *FACILITATOR'S REPORT ON CHECKLIST ITEM 2 (ACCESS TO UNBUNDLED NETWORK ELEMENTS), CHECKLIST ITEM 4 (ACCESS TO UNBUNDLED LOOPS), CHECKLIST ITEM 5 (ACCESS TO UNBUNDLED LOCAL TRANSPORT) AND CHECKLIST ITEM 6 (ACCESS TO UNBUNDLED LOCAL SWITCHING)*

THIS MATTER comes before the New Mexico Public Regulation Commission (the "Commission") in the above-captioned proceedings initiated by Qwest Corporation ("Qwest") for our evaluation of Qwest's forthcoming application with the Federal Communications Commission ("FCC") for authority to provide in-region, interLATA service originating in the state of New Mexico. To be eligible to provide in-region, interLATA services, Qwest must satisfy the competitive checklist and other requirements of section 271 of the Communications Act, as amended.[1]

This *Order*, the fourth in a series of interim orders in this case,[2] addresses the nature and current status of Qwest's compliance with the following section 271 checklist items: 2 (Access To Unbundled Network Elements), 4 (Access To Unbundled Loops), 5 (Access To Unbundled Local Transport) and 6 (Access To Unbundled Local Switching).

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[1] The Communications Act of 1934, as amended, by the Telecommunications Act of 1996, is referred to hereafter as the "Act."

[2] The Commission issued its first interim order in this series, Order Regarding "Paper Workshop" Report, *Report on Checklist Items 1, 2, 8, 9, 10, and 12* (*Order Regarding Paper Workshop Report*), on July 31, 2001. The Commission issued the second interim order, *Report on Checklist Items 1, 11, 13 and 14* (*Order Regarding Workshop One Report*), on September 18, 2001. The Commission issued the third interim order, *Order Regarding Emerging Services Report*, on October 16, 2001.

b. Disputed loop issues still in controversy

Disputed Issue 1 – *Standard Loop Provisioning Intervals*

70. The Report notes that "AT&T sought to change a number of the standard loop intervals that are set forth in SGAT Exhibit C. AT&T argued that the length of some intervals would not provide CLECs a meaningful opportunity to compete, were discriminatory or anticompetitive, violated state law in some cases, and would preclude CLECs from being able to meet the service quality standards of some of the participating states."[91]

71. The Facilitator rejected the objections and suggestions posited by AT&T concerning the intervals set out in Exhibit C and found that, absent state commission findings of special circumstances or needs there, the Exhibit C standards would otherwise adequately serve the competitive needs and the public interest in all seven of the participating states and should be accorded substantial weight as they were previously established on the basis of presentations and dialogues by and among participants to the ROC process, which presumably considered the issues relevant under the Act.[92]

72. Staff mostly agrees with the Facilitator's findings and urges the Commission to adopt them. However, Staff urges the Commission to reject the Exhibit C provisioning intervals that conflict with the Designed Services intervals for existing facilities set forth in our Quality of Service Standards. As Staff points out, NMAC 17.11.22.14(C) requires Qwest to install, for instance, one or more DS1s ordered within 5 business days in high-density zones and within 8 business days in low-density zones. This interval is shorter than the one proposed by Qwest in Exhibit C.[93] Staff therefore

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[91] *UNE Report*, at 48.

[92] *Id.* at 49-51.

[93] Staff's Proposed Findings, at 14-15.

requests that Qwest be instructed to file a New Mexico specific Exhibit C to its SGAT that is fully consistent with the intervals required by NMAC 17.11.22.14(C).[94]

73. AT&T argues that the Facilitator's resolution of this issue ignores evidence presented by AT&T and the Joint CLECs concerning the weight to be given to Qwest's Exhibit C. AT&T contends the Exhibit C intervals should not have been accorded the substantial weight the Facilitator gave them.[95] According to AT&T, "[t]he evidence is unrefuted that the SIG [Qwest's "Service Interval Guide"] was never presented to the ROC TAG for its approval."[96] Nor, AT&T argues, did the ROC TAG formally approve any of the standard intervals in the SIG.[97] Finally, AT&T states "[t]he reason the SIG was not presented to the ROC TAG is because the ROC TAG does not control the approval of standard intervals."[98]

74. AT&T avers, moreover, that the Facilitator's conclusion that AT&T cited no evidence that would demonstrate that the intervals do not give it a meaningful opportunity to compete is inappropriate. AT&T stresses the burden should be on Qwest to first establish that the Exhibit C intervals are at parity with those intervals it provides to itself, its affiliates or its retail customers. AT&T asserts that in the absence of parity measure, Qwest must establish that these intervals provide CLECs a meaningful opportunity to compete. AT&T contends that the Facilitator's decision inappropriately shifts this burden to CLECs.[99] AT&T proceeds to argue that the Facilitator's resolution also ignored evidence presented by AT&T as to why the disputed intervals are

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[94] *Id.* at 18.

[95] AT&T's Exceptions, at 22.

[96] *Id.* at 24.

[97] *Id.*

[98] *Id.*

[99] *Id.* at 25.