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5 **BEFORE THE ARIZONA CORPORATION COMMISSION**

7 **WILLIAM A. MUNDELL**
8 **Chairman**

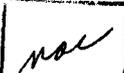
9 **JAMES M. IRVIN**
10 **Commissioner**

11 **MARC SPITZER**
12 **Commissioner**

Arizona Corporation Commission

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13)
14)
15) **IN THE MATTER OF U S WEST**
16) **COMMUNICATIONS, INC.'S**
17) **COMPLIANCE WITH § 271 OF THE**
18) **TELECOMMUNICATIONS ACT OF 1996**
19)
20)

Docket No. T-00000A-97-0238

21 **WORLDCOM, INC.'S POST-OSS TEST**
22 **FINAL REPORT COMMENTS**
23

24 WorldCom, Inc., on behalf its regulated subsidiaries, (collectively "WorldCom") submits
25 these Post-OSS Test Final Report Comments in response to the Final OSS Test Report issued by
26 Cap Gemini Ernst & Young ("CGE&Y") on March 29, 2002, and the final reports issued by the

1 Staff of the Commission (“Staff”) on May 1, 2002 and May 7, 2002, respectively. WorldCom
2 also concurs in the Comments filed by AT&T Communications of the Mountain States, Inc., and
3 TCG Phoenix (collectively “AT&T”) filed in response to these reports.

4 WorldCom incorporates by reference all previous filings and evidence provided in
5 this proceeding that relates to the various interim reports issued addressing the functionality test,
6 the capacity test, the retail parity evaluation, the relationship management evaluation, and the
7 performance measurement evaluation. In addition, WorldCom incorporates previous filings, both
8 by WorldCom, individually, and, as joint comments with interveners, AT&T and Covad
9 Communications Company (“Covad”) and evidence by all parties provided that relates to Qwest
10 Corporation’s (“Qwest”) change management processes (“CMP”), its stand alone test
11 environment (“SATE”) the Hewlett-Packard evaluation of Qwest’s preorder-to-order integration,
12 billing issues related particularly to the daily usage feed (“DUF”) and to specific comments
13 related to the performance measurement evaluation and the “PID Data Element Summary
14 Report.”

17 INTRODUCTION

18 WorldCom will address six major areas in these comments, namely: 1.) CMP and the fact
19 that the redesign process is not complete because Qwest has failed to demonstrate a pattern of
20 compliance, 2.) SATE and the fact that the most recent version of SATE has not been tested to
21 demonstrate that it mirrors production, 3.) Preorder-to-order integration and the lack of
22 transactional testing; 4.) DUF billing issues, 5.) Retail parity issues surrounding access to a
23 CLEC’s end customer record following order completion, ability to reserve large blocks of
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1 telephone numbers, and how changes to a CLEC customer can be initiated, and 6.) CGE&Y's
2 Performance Measurement Evaluation.

3 **CHANGE MANAGEMENT PROCESS**

4 The Federal Communications Commission's ("FCC") five criteria required of change
5 management plans are:

6
7 (1) that information relating to the change management process is clearly organized
8 and readily accessible to competing carriers; (2) that competing carriers had
9 substantial input in the design and continued operation of the change management
10 process; (3) that the change management plan defines a procedure for the timely
11 resolution of change management disputes; (4) the availability of a stable testing
12 environment that mirrors production; and (5) the efficacy of the documentation the
13 BOC makes available for the purpose of building an electronic gateway.¹

14 In addition to proving that it meets the five criteria, Qwest must also demonstrate a pattern of
15 compliance or adherence to its plan over time.²

16 CGE&Y initially found that Qwest's CMP was not a truly collaborative process for
17 effecting changes to various OSS interfaces, because 1.) CLEC changes made up a relatively
18 small percentage of the total changes, 2.) Qwest's CMP did not provide CLECs with an
19 opportunity to present change requests and have them evaluated, approved, and prioritized within
20 a reasonable length of time, and 3.) Qwest's final EDI design documentation was only released to
21 competitive local exchange carriers ("CLECs") an average of 21 days in advance of an upcoming
22 release.³ CGE&Y stated that Qwest was then taking steps to rectify all three of its adverse

23 ¹ *In the Matter of Application by SBC Communications Inc., Southwestern Bell Telephone*
24 *Company and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long*
25 *Distance Pursuant to Section 271 of the Telecommunications Act of 1996 To Provide In-Region,*
26 *InterLATA Services In Texas*, Memorandum Opinion and Order, CC Docket No. 00-65, FCC 00-
238 (Rel. June 30, 2000) at ¶ 108 (hereinafter "*SWBT Texas 271 Order*").

² *Id.*

³ *See*, Incident Work Orders ("TWO") 1075, 1076 and 1078.

1 findings on the CMP, but that it was unable to make any assessment of Qwest's efforts.⁴

2 Therefore, CGE&Y found that what was then known as the Qwest Co-Provider Change
3 Management Process ("CICMP") did not satisfy the objectives set forth in Section 3.3.4 of the
4 Master Test Plan and Section 6.6 of the Test Standard Document. In addition, the Regional
5 Oversight Committee ("ROC") OSS Test also criticized Qwest's CICMP.
6

7 Since those fundamental criticisms were leveled, Qwest began a redesign of CICMP, and
8 labeled it the Change Management Process ("CMP"). It held its first redesign kick-off meeting on
9 July 11, 2001. During the redesign process, much has been accomplished between Qwest and the
10 CLECs. However, work still remains to be done. The deficiencies in Qwest's, previous and new,
11 CMP fall into three categories: (1) the CMP documentation is not yet clearly organized and
12 readily accessible because it is not complete; (2) Qwest does not provide a stable testing
13 environment that mirrors production that will be discussed below in Section II; and (3) Qwest has
14 not demonstrated a pattern of compliance or adherence to its CMP over time. Therefore, Qwest
15 cannot be found to be in compliance with Section 271 requirements until its CMP has at some
16 future point in time successfully passed the evaluation criteria found in Section 3.3.4 of the Master
17 Test Plan and Section 6.6 of the Test Standards Document and met all of the FCC's relevant
18 criteria.
19

20 **I. QWEST HAS NOT COMPLETED THE CMP DOCUMENT; THEREFORE, IT**
21 **CANNOT MEET THE FCC'S FIRST CRITERIA.**

22 As previously noted in the Joint CLEC brief filed on or about April 9th, the CLECs and
23 Qwest during the CMP redesign meetings held in March 2002, assembled a priority list of issues
24

25 _____
26 ⁴ See, Section 5, entitled "Co-Provider Industry Change Management Process, at pp. 7 and 8
of the Draft RME.

1 to address and place into the redesigned CMP document. This priority list was attached to the
2 Joint CLECs' brief filed April 15, 2002, as Exhibit A and is also attached to Qwest's CMP Status
3 Report filed April 17, 2002, as Exhibit E. This priority list forms what the CLECs and Qwest
4 agreed should be addressed before all other redesign issues. It, along with the Master Redlined
5 version of the CMP document, contains the remaining real "core" provisions necessary to form an
6 adequate CMP for the FCC's purposes.
7

8 As Staff states, "[a] complete redesign of Qwest's CMP is still in progress."⁵ While the
9 parties have all agreed to conceptual resolution of the issues on the priority list, Qwest and the
10 CLECs must still complete drafting the language related to resolution of those issues and place
11 that language in the Master Redlined document. Until that task is complete, Qwest cannot
12 demonstrate that its CMP is contained in a single document, as required by the FCC nor that its
13 "information relating to the change management process is clearly organized and readily
14 accessible." The task of finishing the language and placing it in the CMP document should be
15 concluded no later than sometime in June 2002, as is evident from the meeting schedule.
16

17 While Qwest has argued that the CMP will always be subject to change in the future, and
18 that as such it will never be complete; that argument has no merit. As noted in Qwest's many
19 comments, it established its CICMP in 1999. CLECs consistently and continuously challenged
20 the CICMP for the very reasons CGE&Y found the CICMP to be deficient. CLECs also sought to
21 address change management issues early on in the 271 process. Specifically, the records will
22 reflect that beginning the "non OSS" workshop, Workshop 1, held in 2000, CLECs challenged
23 Qwest's Statement of Generally Available Terms and Conditions ("SGAT") for cross-referencing
24

25 _____
26 ⁵ See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May 7, 2002, at para. 71, p. 23.

1 Qwest's technical publications, methods and procedures, and other documentation because Qwest
2 had unilateral control over such documentation. By incorporating that type of documentation by
3 reference, Qwest would have had the unilateral ability to modify the SGAT by simply changing
4 that documentation.

5
6 This issue continued to be raised in the interconnection, collocation, and resale workshop,
7 Workshop 2, and in unbundled network elements ("UNEs") workshop, Workshop 3. In
8 Workshop 3, Qwest entered into a stipulation wherein it agreed to submit such documentation to
9 the CMP. That Stipulation was the basis for establishing the product and process aspect of CMP,
10 and from WorldCom's perspective, and was the *quid pro quo* for withdrawing WorldCom's
11 objection to Qwest's cross-referencing internal documentation within the SGAT as was described
12 in testimony filed by Thomas Priday and Michael Beach in the 14-point checklist workshops
13 without further objection. The product and process aspect of CMP was a negotiated agreement
14 between Qwest's and the CLECs in the 14-point checklist workshop. Therefore, it is little
15 concern that it the product and process portion of CMP is more than that offered by other regional
16 Bell operating companies ("RBOCs").
17

18 Once the stipulation was reached, Qwest continued to request that this issue be deferred to
19 the general terms and conditions ("GT&Cs") workshop as is evident from the issues lists
20 compiled in these proceedings as well as stated in the various workshops. Moreover, Qwest
21 argued repeatedly the GT&Cs were not part of its Section 271 obligations, and in fact,
22 consistently sought to have GT&Cs removed from these proceedings as a 271 compliance issue.
23

24 However, Qwest ignored the fact that in its SGAT, CMP is and was from the outset
25 addressed in Section 12.2.6, a section that was scheduled for discussion in the GT&Cs workshop.
26

1 Clearly CMP was a section 271 issue as is evidenced by the various FCC decisions beginning
2 with the BANY 271 decision.⁶ Therefore, CMP was consistently deferred at Qwest's request until
3 the very end of the workshop process. Finally, once Section 12 was scheduled for workshop
4 review, and after CLECs had filed testimony challenging the then CICMP, Qwest announced that
5 it was redesigning its CICMP and requested that Section 12 and CMP in general not be addressed
6 in the workshops at all. Rather, Qwest proposed that the redesign of CMP take place in a new
7 forum, the CMP redesign process, a process that did not begin formally until July 11, 2001.

9 In short, knowing its CICMP did not meet the FCC requirements and after its CICMP had
10 been criticized by both third party testers, CGE&Y and KPMG for the ROC, Qwest realized it had
11 a serious problem, a problem it had put off and a problem with growing implications for Section
12 271 approval after Bell South's withdrawal of the Georgia-Louisiana ("GA/LA") 271 application
13 because of deficiencies in its CMP and SATE, among other things as reflected in both the
14 Department of Justice Comments⁷ and the FCC press release issued by Chairman Michael
15 Powell.⁸ Therefore, the absence of the complete CMP document is a problem of Qwest's own
16 doing. Moreover, a review of the CMP minutes will reflect that not only have CLECs not delayed
17 the redesign process, CLECs have worked "overtime" to address CMP redesign issues and have
18 thrown significant resources in taking a CICMP that was "dead on arrival" and converted it to a
19 working process.
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23 ⁶ See, In the Matter of Application of Bell Atlantic New York for authorization under
24 Section 27i of the Communications Act to provide In-Region, InterLATA Service in the State of
1999.

25 ⁷ See, Evaluation by Department of Justice of GA/LA 271 application, at pp. 26 & 29,
dated November 6, 2001.

26 ⁸ See, http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-218618A1.doc for the press
release.

1 Prior to the redesign group completing its task, the Commission is left with no alternative
2 but to examine and rule upon a draft CMP document; one that does not contain all of the “core”
3 requirements. Moreover, a review of the remaining work to be finalized reflects that the matters
4 at issue have been the very fundamental concerns raised by CLECs virtually from the outset of the
5 redesign process as reflected in the redesign meeting minutes that have been attached to the
6 various status reports filed by Qwest. Since the FCC seeks final Commission rulings and because
7 a draft CMP document forms the basis for what Qwest must adhere to over time, Qwest cannot
8 meet all of the FCC’s criteria based upon such a draft. Definitive conclusions related to Qwest’s
9 implementation of and adherence to many of the CMP procedures is premature.

11 Staff inappropriately conditions Qwest’s 271 approval on Qwest agreement to complete
12 certain tasks at a future date.⁹ Future promises by Qwest means true military style testing was not
13 adhered to for CMP as required by the MTP and the TSD for CMP. Such a conditional approval
14 is contrary to the plain requirements for CMP established by the FCC. Finally, the conditional
15 approval demonstrates that Qwest has not, in fact, addressed all of the CLECs’ concerns.
16 Therefore, the Commission should require Qwest finish the job and then submit a final and
17 complete CMP document for review.

19 **II. QWEST CANNOT DEMONSTRATE A “PATTERN OF COMPLIANCE” WITH**
20 **ITS CMP; THEREFORE, IT CANNOT MEET THE FCC’S FINAL**
21 **REQUIREMENT.**

22 “As part of this demonstration, the [FCC] will give substantial consideration to the
23 existence of an adequate change management process and *evidence* that the [RBOC] *adhered to*

25 _____
26 ⁹ See, Supplemental Report on Qwest’s Compliance with Checklist Item No. 2, dated May 7, 2002, at para. 72, p. 23.

1 *this process over time.*¹⁰ This requirement creates a fundamental problem for Qwest. Because
2 its redesigned CMP is new, there has been little opportunity to actually adhere to the process.

3 In its report, Staff states as follows:

4 it is simply not possible to verify that Qwest has an established pattern of
5 compliance and has adhered to this pattern of compliance over time.¹¹ This is
6 critical because it is one thing to have a process that looks good on paper versus a
7 process that works in practice.

8 83. The evidence in the record shows the following. The CLECs point
9 to various instances of noncompliance by Qwest with aspects of the CMP. Qwest,
10 on the other hand, submitted data (general in nature) which tended to show
11 compliance for the most part to-date, but with instances of noncompliance. In
12 Staff's opinion, Qwest has simply not demonstrated through its submissions to-date
13 that it is consistently adhering to all of the processes and procedures set forth in the
14 Master Red-Lined CLEC-Qwest CMP Re-Design Framework document, and that
15 the instances of noncompliance raised by the CLECs are the exception rather than
16 the rule.¹²

17 While CGE&Y has closed the relevant, remaining CMP Incident Work Orders ("TWOs"),
18 and Staff has concurred in those closures, the ROC OSS discrete Test 23 conducted by KPMG has
19 not closed all of its exceptions relating to CMP as resolved. Rather, several of the exceptions
20 remain "closed – unresolved", "closed- inconclusive" and some are now "open" and being
21 retested to a limited degree by KPMG at Qwest's request. Since the same CMP is being evaluated
22 by KPMG as was evaluated by CGE&Y, ROC test findings are relevant here. Accordingly, the
23 outstanding exceptions will be discussed here.

24 ¹⁰ *Joint Application by SBC Communications Inc., Southwestern Bell Tel. Co, and*
25 *Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance*
26 *Pursuant to Section 271 of the Telecommunications Act of 1996 to provide In-Region, InterLATA*
Services in Arkansas and Missouri, Memorandum Opinion and Order, CC Docket No. 01-194,
FCC 01-338 (Rel. Nov. 16, 2001) at ¶ 40. (emphasis added).

¹¹ CGE&Y noted that "[I]nsufficient time has passed since the inauguration of the Re-Design
process to determine whether Qwest has established a pattern of compliance with its Re-Designed
CMP over time. CGE&Y has previously showed that Qwest did comply with its previous process
over an extended period of time.

1 Qwest attempts to minimize the CLEC examples of non-compliance and KPMG's
2 exceptions, but offers nothing new to demonstrate actual compliance over time. While it cites to
3 accomplishing administrative "milestones," such as the milestone where Qwest acknowledges
4 receipt of a CR, Qwest's milestones, that were contained in the previous evidence produced by
5 Qwest, did not then and do not now present a substitute for third party review or demonstrated
6 adherence to the requirements contained in the CMP document over time. Moreover, such
7 milestones are not contained in any relevant performance indicator definition ("PID") being
8 measured by Qwest and provided publicly to interested parties. Finally, Qwest failed to produce
9 any substantial underlying evidence it relies upon to attribute to itself, for example, 98 %
10 compliance to unidentified milestones. As a result the milestones should be disregarded, and the
11 Commission should focus on the evidence that does exist.

12
13
14 **A. Outstanding Exceptions.**

15 1. Neither Describing them as Insignificant or Summarily Dismissing the Outstanding
16 ROC OSS Test Exceptions Negates their Importance or Diminishes the Problems
They Pose For Qwest's Burden of Proof.

17 In their Brief filed April 9, 2002, the Joint CLECs identified 3 Exceptions that KPMG
18 closed as either "unresolved" or "inconclusive," namely Exceptions 3094, 3110 and 3111. At
19 Qwest's request, Exceptions 3094 and 3110 are now undergoing limited re-testing, and have been
20 reclassified as "open" as is evidenced by Exception Response for Exception 3094 (including
21 Appendix D) attached as **Exhibit A**. Likewise, as stated in
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26 ¹² See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May 7, 2002, paras. 82 and 83, at pp. 27 and 28.

1 Qwest's Supplemental Response to Exception 3110 issued by Qwest on April 25, 2002, Qwest
2 has requested limited re-testing as stated below:

3 **Issue #6 Lack of Adequate Tracking and Verification**

4 During the O/E Focus Call on March 21, 2002, Qwest confirmed that CMP
5 managers do not employ a centralized mechanism to track and ensure that
6 documentation release intervals are being followed for all upcoming software
7 releases. KPMG Consulting reviewed Qwest internal process documents and
8 verified that software and product/process documentation teams have procedures to
9 prepare documents and distribute them in accordance with the intervals specified in
10 the *Master Redlined CLEC-Qwest CMP Redesign Framework*. Due to the recent
11 implementation of these process changes, KPMG Consulting has not been able to
12 observe adherence to the documented process for notification interval
13 management. Since Qwest has requested that KPMG Consulting conduct no
14 further testing, KPMG Consulting will not be able to determine if Qwest's
15 documented processes provide the ability to perform adequate tracking or
16 verification for adherence to the documentation release intervals.

17 **KPMG Consulting recommends that Exception 3110 be closed as inconclusive.**

18 ***Qwest Response to KPMG Disposition (04/25/2002):***

19 KPMG Consulting indicated in its 03/22/02 response that due to the schedule of the
20 test, it would not be possible to determine if Qwest's documented processes
21 provide the ability to perform adequate tracking and adherence to the
22 documentation release intervals in *Master Redlined CLEC-Qwest CMP Redesign
23 Framework*. The notification cycle for the next major release (IMA Release 10.0)
24 is underway for the June 17, 2002 implementation date. The Draft 10.0 EDI
25 Disclosure Document was issued April 4, 2002 with the comment period ending
26 April 23, 2002. The Final 10.0 EDI Disclosure Document is due to be issued May
3, 2002. Qwest believes KPMG Consulting is now in a position to observe
adherence to the documentation release intervals with the conclusion of the
comment and response period ending on May 3, 2002. Qwest requests that KPMG
Consulting review the documents issued through May 3, 2002 and reconsider the
disposition of this exception.

Attachment(s): None

Obviously, Qwest is concerned that KPMG has never observed any compliance
whatsoever, and it seeks a limited opportunity to remedy that situation. This Commission
deserves an opportunity to review KPMG's findings after the re-test and consider whether
to request CGE&Y to validate Qwest's assertions made in the ROC OSS Test.

1 With respect to Exception 3094, Qwest asserts that its CMP provisions addressing product
2 and process changes is more complete and comprehensive than any other CMP in the country. As
3 noted earlier, because the product and process aspect of CMP was a negotiated agreement
4 between Qwest and the CLECs, Qwest was bound to implement the product and process aspect of
5 CMP. WorldCom acknowledges that Qwest and the CLECs subsequently interpreted the affect of
6 that stipulation differently as was evident in discussions on the record in the GT&C workshops.
7 Furthermore, Qwest asserts that resolving this Exception is not required for FCC approval. What
8 Qwest fails to acknowledge is that the FCC has stated clearly that it will review each CMP plan
9 on its own merits,¹³ and unlike other RBOCs, Qwest's own conduct, its SGAT and the attendant
10 workshops spawned the need for the product/process portion of CMP as addressed extensively
11 earlier in these comments..
12

13
14 As with Exception 3110, Exception 3111 remains closed "inconclusive." Qwest
15 challenges KPMG's closing this Exception by stating "the issues KPMG raised did not prevent
16 KPMG from observing Qwest's adherence to the various aspects of the prioritization and
17 packaging process."¹⁴ The Joint CLECs and KPMG clearly disagree with Qwest's assertion.
18 Other than asserting the opposite of KPMG's belief, Qwest has offered nothing new in its
19 subsequent filings.
20

21 Accordingly, it is still premature for this Commission to approve Qwest's CMP at this
22 time based upon the status of these three Exceptions, in spite of CGE&Y's closures of IWOs
23 1075, 1076 and 1078 and Staff's affirmation of those closures. Rather than passing Qwest for its
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25
26 ¹³ See, SWBT Texas 271 Order at ¶ 114.

¹⁴ See, Qwest April 26th Colorado Comment filed in Docket NO. 97I-198T at p. 28.

1 dilatory activities for change management, the Commission should order Qwest to finish the job
2 and direct CGE&Y to re-test Qwest's redesigned CMP.

3
4 **B. Qwest Has Not Adhered to the Production Support Process.**

5 Qwest failed to observe the redesigned CMP Production Support¹⁵ process in connection
6 with Incident Work Orders 2127 and 2128, discussed in the Joint CLEC Brief filed April 9, 2002.
7 The fact that certain systems deficiencies are identified as part of an IWO does not excuse
8 Qwest's obligation to adhere to the CMP Production Support process. Either Qwest or a CLEC
9 may report troubles to the Qwest IT Wholesale Systems Help Desk. When Qwest became aware
10 of these systems problems, Qwest should have opened an IT Trouble Ticket and notified CLECs
11 of the trouble and its changes in status. The Production Support process has at least two purposes:
12 (i) to resolve the trouble and (ii) to communicate with the CLEC community about the trouble and
13 its resolution. The communication aspect occurs through "Event Notifications." In these cases,
14 Qwest did not issue such notifications.
15
16

17 Event Notifications provide several pieces of information, including the resolution of the
18 trouble once determined. AT&T raised this issue with Qwest at the CMP redesign meeting held
19 on March 19, 2002. Jeff Thompson of Qwest acknowledged that the production support process
20 should have been followed (e.g., Qwest should have opened an IT Help Desk trouble ticket and
21 sent an Event Notification).
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26 ¹⁵ See, Section 12, Draft CMP Document, attached as Exhibit D to the Joint CLEC Brief
filed on April 9, 2002, in this docket.

1 (controlled/managed). The controlled/managed production is the process whereby transactions
2 are executed by CLECs in the production environment (provisioned activity) with the oversight
3 of Qwest as a means to verify expected results.

4
5 CGE&Y found that while Qwest's interface development is sound in most areas, Qwest's
6 lack of an EDI testing environment that mirrors the production environment prevented CGE&Y
7 from evaluating its EDI testing environment, now known as SATE. Staff recommends that the
8 Commission find that Qwest satisfies §271 requirements relative to SATE, so long as Qwest
9 agrees to implement HP's and Staff's recommendations to the extent they have not already done
10 so.¹⁷

11
12 The BANY order¹⁸ calls for a testing environment that is stable and mirrors production.
13 That means that transactions will complete in the test environment as they do in production, and
14 that the test environment reflects production business rules such that no additional coding beyond
15 the published, production, business rules is required. The test environment should be separate
16 from the production environment, but utilize replicates of all the processes, databases, and
17 hardware used in the production environment. This allows CLECs to test real transactions all the
18 way through the process. There must be a "test deck" that provides scenarios that are run each
19 time new software release / upgrade is loaded into the environment. This will allow for regression
20 testing to ensure that software changes being implemented as part of the release do not negatively
21 interfere with the existing processes and code.

22
23
24 ¹⁶ See, FCC 271 orders, TX Order ¶ 108; Mass. Order ¶ 103; PA Order, App. C, ¶ 42.

¹⁷ See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May
25 7, 2002, para. 144, at p. 42.

¹⁸ See, In the Matter of Application of Bell Atlantic New York for authorization under
26 Section 27i of the Communications Act to provide In-Region, InterLATA Service in the State of

1 MCI WorldCom discovered in GA (1st GA/LA application) that the test environment was
2 actually connected to the production environment because test transactions were sent back to
3 MCI WorldCom using its production identifiers. This could not have been known unless MCI
4 WorldCom had sent actual transactions. Despite assurances from SBC that its SWBT and PacBell
5 test environments reflected production, MCI WorldCom's submission of orders in the test
6 environments which were later submitted in production uncovered instances where the test
7 environment did not contain business rule edits which existed in production. In addition, it is
8 conceivable that not only lacking business rule edits could exist, but that Qwest documented
9 business rules for SATE do not mirror the hard coded edits of Qwest production systems. If
10 SATE is not tested with real transactions that are then submitted in the production environment,
11 the Commission only has Qwest's word that SATE is stable and mirrors production.
12

13
14 While Qwest asserts that several CLECs and one service bureau have successfully tested
15 SATE and constructed EDI interfaces, Qwest fails to provide any detailed evidence describing, for
16 example, what version of SATE was tested, whether the CLECs and Qwest participated in
17 regression testing, or the extent of any testing done. Nor did Qwest discuss whether those CLECs
18 and the service bureau successfully implemented their interfaces after using SATE version 9.0,
19 which includes Virtual Interconnect Center Knowledge Initiator ("VICKI") - a component of
20 Qwest's test environment that influences order flow and responses.
21

22 As stated in CGE&Y's Draft Final OSS Test Report, Qwest's then current test process
23 (interoperability testing) involved a controlled use of its actual production environment. This
24

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New York, CC Docket No. 99-295, Memorandum Opinion and Order, adopted December 21,
1999.

1 process imposed stringent restrictions on the use of the system, as it required tight coordination of
2 order submission between the CLEC and Qwest's EDI test personnel.

3 Finally, instead of addressing the deficiencies in its SATE, Qwest's new "evidence" of
4 compliance is an attempt to revert back in time to the use of interoperability testing¹⁹ as some
5 kind of substitute for an adequate SATE. The interoperability test is and was an inferior testing
6 environment as was recognized by CGE&Y and Qwest, itself, as noted below in Qwest's White
7 Paper on The IMA EDI Stand-Alone Test Environment, attached here as Exhibit C. KPMG
8 pointed out, and Qwest admits,²⁰ that the interoperability test's shortcomings were problematic; in
9 fact, it is fair to say that the failings of the interoperability test gave rise to the need for SATE.²¹
10 KPMG examined Qwest's interoperability test and issued Exception 3029, which is attached here
11 at **Exhibit D**. Exception 3029 states, among other things, "Qwest's Interconnect Mediated Access
12 (IMA) Electronic Data Interchange (EDI) Interoperability Testing environment does not offer Co-
13 Provides with sufficient testing capabilities."²² KPMG noted further that "the interoperability test
14 environment does not provide the testing capabilities for a CLEC to sufficiently test the IMA EDI
15 interface prior to connecting to Qwest's production systems ...,"²³ and it went on to list the
16 various limitations associated with interoperability testing. In short, the Exception made clear that
17 the limitations associated with interoperability testing could "hinder" a CLEC's ability to test.²⁴

18
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21 Furthermore, on March 14, 2002, KPMG stated in its Exception Disposition Report for
22 Exception 3029, in pertinent part, that:

23
24 ¹⁹ See generally, Qwest April 26th Comment at 53 – 68 filed in Colorado Docket No. 97I-
198T attached as Exhibit B.

25 ²⁰ See Qwest's White Paper, attached hereto as **Exhibit C**, at 4.

26 ²¹ *Id.*

²² Exception 3029 at 1.

²³ Exception 3029 Disposition Report 3/14/02 at 1 attached hereto as **Exhibit D**.

1 Qwest indicated in its December 21, 2001 response that it would begin allowing
2 CLECs to use a combination of Interop and SATE to test EDI transactions during
3 an implementation of IMA. By asserting that CLECs may use a combination of the
4 environments for EDI implementation, KPMG Consulting believes that each of the
5 issues raised in this Exception is addressed by SATE functionality and its proposed
6 enhancements. The issues of manual handling of post order responses and lack of
7 flow through capabilities in SATE are further documented and addressed in
8 Exception 3077.²⁵

9 A review of this Exception, Qwest's responses, and Exception 3077 reflect that KPMG
10 envisioned that a functional SATE would relieve the problems associated with the interoperability
11 test. Finally, Qwest has made no improvements to its interoperability test, but rather it has
12 focused on upgrading its documentation.²⁶ Clearly, interoperability testing is not a substitute for a
13 fully functional SATE, and such testing—even in combination with SATE—does not meet the
14 FCC's fourth criteria of a stable test environment that mirrors the production environment.

15 As is evident above, Staff is wrong in its statement that "production mirror testing" also
16 known as phase 4 of the HPC retest is not necessary and the further evaluation of Qwest's VICKI
17 is not necessary prior to Qwest obtaining a favorable 271 recommendation. Staff noted its
18 direction to Qwest that a CLEC testing environment would need to be established for 271
19 approval to be granted.²⁷ Despite this acknowledgement, Staff has not seen through its
20 requirement for an adequate testing environment by its acceptance of HP's SATE assessment in
21 the retest. Acceptance of HP's SATE assessments to date is not warranted because of its primary
22 failures to evaluate the SATE's likeness to the production environment and the VICKI
23 component. The Staff improperly resolved Impasse Issue – Production Likeness Testing (Master

24 ²⁴

Id.

25 ²⁵

Id. at 3.

26 ²⁶

Qwest March 25, 2002, Response to Exception 3029, attached hereto as **Exhibit E**.

27 ²⁷

See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May
26 7, 2002, at para. 61, p. 20.

1 Issue #943) on May 7th and used as part of its justification the production likeness testing that HP
2 conducted in its first assessment of SATE version. In the Staff's resolution of Impasse Issue #943
3 reference is made only to differences in message content when HP conducted its limited
4 comparison between SATE and production environment, and those differences are characterized
5 by the Staff as minor.²⁸ In contrast, and in fact, HP's findings in its December 21 evaluation of
6 SATE's likeness to production state in Section 2.1.5 entitled Mirroring the Production
7 Environment:
8

9 However, HP found noteworthy discrepancies related to business rules consistency
10 between the SATE and production systems. During testing, the discrepancies were
11 addressed quickly and correctly by Qwest's EDI Implementation Team, which is
12 the same organization that addresses such issues for CLECs using the SATE.

13 The fact that Qwest resolved the discrepancies that were uncovered does not equate to an
14 overall finding that SATE mirrors production. Further, the CLECs ability to efficiently and
15 effectively test release upgrades would be drastically reduced if its testing resources had to be
16 used toward the identification and resolution of SATE and production differences. Additionally,
17 the Staff's acceptance of HP's evaluation does not give enough weight to the critical aspect that
18 VICKI plays in the effectiveness of SATE. According to HP's "SATE New Release Test
19 Summary Report (9.0)", VICKI is used to automate transactions, which are automated in
20 production, and leaves manual processes that are manual in production. Hence, VICKI performs a
21 central role in SATE for emulating production order flow-through procedures. HP did not
22 evaluate VICKI, or even send orders to VICKI for fall-out to manual handling. Qwest's manual
23 order handling procedures need to be verified in SATE, via VICKI, as long as manual order
24 handling processes are used to process CLEC orders in production.
25

26 ²⁸ See, Section F "Staff Resolution" of Master Issue # 943.

1 Finally, HP's assessment is incomplete due to the lack of regression testing. Regression
2 testing is the process of verifying that the upgrades associated with a new release do not adversely
3 impact other, existing critical functionality from previous releases. Thus, regression testing
4 provides assurance that not only the new release's enhancements function properly, but also that
5 the new release's enhancements function properly with existing functionality and processes
6 previously available and presumably built to by CLECs in construction their sides of the EDI
7 interfaces. Regression testing is a critical element in a CLEC's system testing of a new
8 release/upgrade to ensure all of the functionality in a release works as expected.
9

10 **A. Outstanding Exceptions.**

11 In the ROC OSS Test, Exceptions 3077 and 3095 were closed by KPMG as "unresolved."
12 The status of these Exceptions is unchanged. Importantly, KPMG has made additional comments
13 regarding these Exceptions. For example, on April 15, 2002, KPMG stated in regard to Exception
14 3077:²⁹
15

16 ***Summary of KPMG Consulting's Retest Activities and Results:***

- 17 (1) *SATE does not generate post-order responses in the same manner as they*
18 *are created in the production environment.*

19 With the implementation of VICKI, KPMG Consulting acknowledged that
20 Qwest provided CLECs with a method for receiving automated responses,
21 but noted that VICKI had certain limitations. One of the identified issues
22 was that VICKI does not support "real world scenario testing." Without
23 this capability, KPMG Consulting does not believe that VICKI provides
24 CLECs an understanding of how different types of transactions will react in
25 the production environment. Although VICKI helps CLECs to understand
26 the EDI mapping structure and to determine if their systems can accept
27 certain types of responses for the orders submitted, by design, it does not
28 support complete interface testing capabilities. KPMG Consulting

29 ²⁹ See, Exception 3077 Disposition Report (4/15/02), attached hereto as **Exhibit F**.

1 considers the real world scenario testing an essential element to a complete
2 EDI testing environment.

3
4 (2) *Flow through orders are not supported in SATE*

5 Based on the proposed flow through enhancements, KPMG Consulting
6 acknowledged that Qwest plans to address the issue of flow through
7 capabilities within SATE. However, until the proposed enhancements are
8 fully implemented, KPMG Consulting does not believe that the current test
9 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.

10 (3) *The volume of order responses supported in SATE is restricted due to
11 manual response handling.*

12 KPMG Consulting acknowledged that the VICKI and flow through
13 enhancements would diminish Qwest's use of human resources to support
14 the test environment. By minimizing reliance on manual handling, Qwest
15 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.

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

18 KPMG Consulting provided Qwest documentation and EDI transaction
19 responses that indicated that post order response data may not be consistent
20 with production. Qwest stated that manual handling caused many of the
21 discrepancies and that the proposed SATE enhancements should rectify that
22 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.

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

1 **KPMG Consulting recommends that Exception 3077 be closed unresolved.**

2 Like Exception 3077, KPMG has had additional comments regarding Exception 3095.³⁰

3
4 Relevant excerpts include the following:

5 **Summary of KPMG Consulting's Retest Activities and Results:**

6
7 KPMG Consulting acknowledged that Qwest had worked in collaboration with the
8 CLEC community when initially developing SATE and setting up user group
9 meetings to enhance SATE. Although Qwest committed to working with CLECs,
10 KPMG Consulting noted that the test environment does not precisely and
11 accurately reflect the offerings of either the production environment or of a new
12 release of the production environment. Additionally, the process for adding new
13 functionality to SATE is onerous and untimely for a CLEC expecting to test
14 unsupported functionality during its EDI implementation. KPMG Consulting cited
15 examples of new SATE functionality requests from CLECs to show that CLECs
16 may need to test products that are not included in the current version of SATE.
17 KPMG Consulting also indicated that the Bona Fide Request process proposed by
18 Qwest through the Redesign process would not be finalized or available until the
19 Redesign efforts had been completed.

20 KPMG Consulting stated that the use of the Interoperability environment for
21 testing products not currently supported in SATE did not sufficiently address the
22 issues raised in this Exception. Several limitations had been identified regarding
23 the Interoperability environment in Exception 3029. Additionally, Qwest had
24 stated that it would only invest resources to further develop SATE, and that SATE
25 would overcome the deficiencies of Interop as a testing environment. Based on
26 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.

³⁰ See, Exception 3095 – Disposition Report (4/11/02) at 2 - 3, attached hereto as **Exhibit G**.

1 Similarly, KPMG discussed SATE in its draft final report and noted instances where SATE
2 tests are “Not Satisfied.”³¹ Clearly, Qwest cannot yet pass the stable, stand-alone test requirement
3 of the FCC that is also a requirement for an adequate CMP.
4

5 PREORDER-TO-ORDER INTEGRATION

6 **HP FAILED TO CONDUCT NECESSARY TRANSACTION TESTING FOR** 7 **PREORDER-TO-ORDER INTEGRATION**

8 CGE&Y identified in its final report that retail pre-order to order integration is 100 percent
9 stating, “the retail systems do not separate pre-order and order functionality for POTS service
10 requests.”³² Given this fact, it is imperative that similar pre-order to order integration capabilities
11 exist for CLECs.

12 The Federal Communications Commission (“FCC”) has consistently ruled that pre-order
13 to order integration is essential for competitive local exchange carriers (“CLECs”) to be provided
14 a meaningful opportunity to compete. For example, in the BA/NY Order,³³ paragraph 137 it
15 states:
16

17 Integration. We find that Bell Atlantic demonstrates that its application-to-
18 application interfaces allow competing carriers to integrate pre-ordering
19 information into Bell Atlantic’s ordering interface and the carriers’ back office
20 systems, *a finding that is fundamental to a BOC’s showing of nondiscriminatory*
21 *access to OSS.* The Commission has explained previously that *a BOC with*
22 *integrated pre-ordering and ordering functions must provide competing carriers*
with access to the same capability. In this regard, the BOC must enable competing
carriers to transfer pre-ordering information electronically to the BOC’s ordering

23 ³¹ See, KPMG Draft Final Report, Version 1.0 (April 19, 2002); excerpts attached hereto as
Exhibit H.

24 ³² See, CGE&Y Final Report of the Qwest OSS Test, TSD Section 4.1 Questions, Question 3
comments, at p. 228

25 ³³ See, In the Matter of Application of Bell Atlantic New York for authorization under
26 Section 271 of the Communications Act to provide In-Region, InterLATA Service in the State of
New York, CC Docket No. 99-295, Memorandum Opinion and Order, adopted December 21,
1999, at Paragraph 137.

1 interface or to the carriers' own back office systems, which may require "parsing"
2 pre-ordering information into identifiable fields. *Without an integrated system, a*
3 *competing carrier would be forced to re-enter pre-ordering information manually*
4 *into an ordering interface, which leads to additional costs and delays, as well as a*
5 *greater risk of error.* This lack of integration would place competitors at a
6 competitive disadvantage and significantly impact a carrier's ability to serve its
7 customers in a timely and efficient manner. (Emphasis supplied.)

8 The FCC also notes in its TX 271 order that:

9 410. . . in order to demonstrate compliance with checklist item 2, the
10 BOC must enable competing carriers to transfer pre-ordering information (such as
11 a customer's address or existing features) electronically into the carrier's own back
12 office systems and back into the BOC's ordering interface. We do not simply
13 inquire whether it is possible to transfer information from pre-ordering to ordering
14 interfaces - we assess whether the BOC enables *successful* integration.

15 411. We clarify that a BOC has enabled "successful integration" if
16 competing carriers may, or have been able to, automatically populate information
17 supplied by the BOC's pre-ordering systems onto an order form (the "local service
18 request" or "LSR") that will not be rejected by the BOC's OSS systems.

19 As part of the Relationship Management Evaluation required under Section 7 of the
20 Master Test Plan ("MTP"), Version 4.2, dated June 29, 2001, CGE&Y was directed to examine
21 the processes associated with IMA and EDI interface development, among other things. This
22 evaluation was to examine the documentation, specification and consultative assistance provided
23 by Qwest to CLECs for use in building an EDI interface or installing IMA. The test also included
24 an evaluation of the test environment Qwest provides CLECs for pre-testing their EDI interfaces.

25 In Section 6.5.2.3(f) of the Test Standards Document ("TSD"), CGE&Y was
26 directed to monitor and evaluate Qwest's processes supporting CLEC interface development
including whether the data definitions (i.e., form, format, content, usage and meaning)
between pre-ordering and ordering elements enable integration from pre-order transactions
into order transactions without requiring translation, or reconfiguration of the data elements.

1 Ultimately, HP performed the Preorder to Order Evaluation and found that Qwest was
2 meeting the Ordering and Billing Forum Local Service Ordering Guidelines Version 5.0 (“OBF
3 LSOG 5”) industry standard for orders and that CLECs could use Qwest’s EDI preorder
4 transactions to submit an order without data manipulation. However, HP only based its evaluation
5 on Qwest’s documented business rules surrounding Electronic Data Interchange (“EDI”) interface
6 preorder to order integration capabilities.
7

8 As demonstrated many times throughout the course of this test, documented business rules
9 when applied against Qwest’s OSS do not always provide the same results. Therefore, the
10 absence of transaction testing to validate Qwest’s documented business rules associated with EDI
11 preorder to order capabilities is a significant flaw in HP’s evaluation of Qwest’s preorder to order
12 integration capabilities.
13

14 A CLEC cannot tell anything about whether preorder integration works unless it is built
15 out and used to obtain the information needed for issuing orders. The purpose of preorder-to-
16 order integration is to take the information from the preorder system and populate it directly into
17 the orders thereby creating an efficient method for ordering. To integrate preorder data with an
18 order, field lengths and formats must be the same between preorder responses and the fields
19 required to be populated on an order. For example, if the preorder data response shows that an
20 end-user customer lives in “Phoenix, AZ” and the ordering system requires “Phoenix, Arizona” –
21 integration will not be possible. This is often the case with street addresses and with community
22 names. If the master street address guide (“MSAG”) and billing databases are not synchronized,
23 the preorder and order information will not match, depending on where the edits are conducted.
24 Simply reviewing business rules does not conclusively show whether a CLEC could actually build
25
26

1 an integrated EDI interface using Qwest preorder responses. In fact, HP determined that a CLEC
2 cannot rely on Qwest documentation alone for integrating preordering and ordering, but that a
3 CLEC must also conduct meetings with Qwest personnel to fully understand integration
4 requirements – requirements for when and how preorder responses must be manipulated for
5 transfer onto an order. Hence, CLECs must rely on arranging meetings with Qwest personnel
6 where oral information and instructions are given. This provides no assurance that accurate and
7 up-to-date information will consistently be provided to the CLEC. Insufficient documentation and
8 the need for meetings with Qwest to understand interface integration requirements only prolong
9 the CLEC’s timeline for establishing working interfaces.
10

11 Qwest documentation should be available to CLECs, which provides a comprehensive
12 description of preorder responses and instructions for how to transfer or parse the preorder
13 responses to an order. Therefore, it is ironic that the evaluation of preorder-to-order integration
14 would be based primarily on the very documentation found to be incomplete.
15

16 Staff’s acceptance of HP’s evaluation of Preorder-to-Order integration is flawed given the
17 scope and findings of HP’s analysis.³⁴ Staff cites and defers to the overall conclusion in HP’s
18 evaluation deeming Qwest’s Preorder-to-Order integration acceptable. By doing so, the Staff
19 ignores the CLECs’ concerns with HP’s analysis approach, and findings of insufficient Qwest
20 documentation and discrepancies between Preorder and Order data specifications, such as the
21 fields’ lengths, which directly impact the integratability of Preorder and Order data.
22

23 In conclusion, for the reasons stated, Qwest fails to pass the preorder-to-order integration
24 requirements found in the Arizona OSS Test for an EDI interface, and has, therefore, failed to
25

26 ³⁴ See, Supplemental Report on Qwest’s Compliance with Checklist Item No. 2, dated May 7, 2002, para. 110B, at p. 36.

1 meet the FCC's requirements for preorder-to-order integration. CLECs are, therefore, denied
2 nondiscriminatory access to Qwest's OSS and a meaningful opportunity compete.

3 **DAILY USAGE FEED**

4 **QWEST HAS FAILED TO PROVIDE ACCURATE BILLING INFORMATION**

5 Staff claims that parties' concerns have all been resolved.³⁵ Staff's assertion that all
6 concerns have been resolved is an exaggeration. Staff supports this assertion as follows:
7

8 In this regard it should be noted that the rigorous military-style testing
9 program, and successive rounds of re-testing that it entailed, have systematically
10 addressed the concerns raised by the parties and enabled all material issues and
11 concerns to be effectively resolved. It should be further noted that the OSS Test
12 program was extended time and again until all significant issues were "closed out"
13 to the satisfaction of the TAG. (Emphasis supplied.)

14 All CLEC concerns have not been satisfactorily resolved as has been described in detail in
15 AT&T's comments. Staff asserts all material issued and concerns have been resolved, but what is
16 "material" is in dispute. Staff's position is most troubling when considering its recommendation
17 that Qwest conduct a future test to ensure the accuracy of its DUF provisioning to CLECs,
18 effectively a hope that the future test will validate Staff's premature conclusions. The accuracy of
19 Qwest's DUF files is critical to the accuracy of billing – a critical OSS component. Qwest cannot
20 be found to have satisfactorily met its OSS requirements when concerns still exist surrounding the
21 DUF.

22 **RETAIL PARITY**

23 **A. Qwest requires more fields and steps for CLECs to perform transactions.**

24 In addition, CGE&Y found disparity in the number of fields and steps required for CLECs
25 using IMA-GUI to complete an order (including pre-order steps) versus Qwest.³⁶ The number of

26 ³⁵ See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May 7, 2002, para. 75, at p. 24.

1 fields and steps was greater, across most scenarios, for CLECs. In addition, the re-evaluation
2 determined that 15% of the fields required for Plain Old Telephone Service (“POTS”) were
3 manual entry for CLECs. This issue was the subject of IWO 1111 which ultimately closed.

4 As stated by CGE&Y, Qwest developed and implemented its proprietary software known
5 as Intermediated Access which purports to allow CLECs a meaningful opportunity to compete in
6 Qwest local market territory. As CGE&Y identified in its Retail Parity Report, “the CLEC
7 experience when using this system is almost entirely dependent upon design considerations and
8 system architecture decisions made by Qwest”. CGE&Y also found a “disparity in the numbers
9 of fields and steps required for a CLEC using IMA-GUI to complete an order (including preorder
10 steps) versus Qwest; the numbers of fields and steps were greater, across most scenarios, for
11 CLECs” yet concluded “that this disparity is largely accounted for by the guidelines imposed by
12 the Ordering and Billing Forum (OBF).” CGE&Y stated in IWO 1111 on July 9, 2001, “The
13 Order and Billing Forum (OBF) has set guidelines for resale transaction processing that do not
14 apply to the retail model. These guidelines result in additional fields and steps that are not applied
15 to the retail transactions. Therefore, a degree of difference between retail and resale transaction
16 processes must be expected and accounted for.”

17
18
19 In the August 2001 workshop, CGE&Y acknowledged that a full analysis of the OBF
20 requirements had not been performed but that the conclusion was based on the experience of the
21 personnel executing the test. On September 20, 2001, CGE&Y stated the following in IWO 1111:
22 “The Order and Billing Forum (OBF) has set guidelines for resale transaction processing that do
23

24
25 ³⁶ See, Section 3.1.4.2 entitled “Quantitative Measurements”, Table 3.1.4.2a entitled “Field
26 Comparison” and Table 3.1.4.2b entitled “Step Comparison” in CGE&Y Final OSS Test Report at
p.227.

1 not apply to the retail model. These guidelines account for an average of 24 additional fields for
2 all New Service orders, 13 additional fields for Change orders and 11 additional fields for
3 Conversion orders that are not applied to the retail transactions. When these fields are taken into
4 account, the numerical difference between resale and retail transactions is significantly reduced
5 with only test combinations 1,2,3,5,6,14 and 15 requiring more data entry fields for resale than
6 retail-- and of those test cases the difference is minimal.”
7

8 Although CGE&Y identified the number of fields as described above, CGE&Y should
9 have provided more detail and identified the relevant OBF requirements, described the relevant
10 OBF requirements, determined the number of fields and steps that are specifically required by the
11 OBF, and reported that in its final report so that the Commission could make the ultimate
12 determination.
13

14 **B. Disparity in response times is statistically significant.**

15 Similarly, CGE&Y determined response times to have a “statistically significant” disparity
16 yet CGE&Y concludes “in part” that this is due to systems architectural considerations that are
17 quite common in the area of business-to business e-commerce transactions. Again, underlying
18 factual statements do not support this conclusory statement. First, CGE&Y concludes that there is
19 a statistically significant disparity. It should report the facts that caused it to draw this conclusion.
20 However, it then states this disparity is not “significant”. Clearly, CGE&Y has an obligation to
21 explain why something found to be “statistically significant” is nevertheless not “significant”.
22 First, CGE&Y should have discussed the two standards, explaining what distinguishes one from
23 another and which standard was applicable here, and why. Then it should have explained what
24 facts supported its finding that the disparity was statistically significant. Next it should have
25
26

1 explained what facts supported its finding that the disparity was not significant. Finally, using the
2 appropriate standard, it should have then drawn its conclusion. The nature of the investigation
3 should be discussed and the factual results of the investigation disclosed.

4 **C. CGE&Y excuses deviation based on outside factors.**

5 CGE&Y excuses deviation in performance due to outside factors such as security
6 infrastructure and back-end systems. There are at least two flaws in this methodology. Once
7 again, these outside factors are not quantified, and identified, and separately tested. In one
8 instance, CGE&Y chalks up performance deviation to back-end security programs that may delay
9 response a few seconds. However, such security times are not quantified, nor are they compared
10 to the total deviation in time between Qwest's retail and resale offerings. Security system run
11 times is something that may be quantified, and should be factored in a quantitative manner rather
12 than qualitative in a summary of a report.

13
14 Secondly, CGE&Y fails to adequately describe the need for the back-end systems, and
15 their cost/benefit to the CLEC offerings. If in fact the systems benefit the CLEC's, those benefits
16 should be outlined specifically to show that the systems are not just there due to inefficient
17 development of competitive systems, but rather for the purpose of protecting and promoting
18 competition. CGE&Y again makes an unfair assumption that the need for back-end systems
19 adequately excuses any deviation in performance between retail and resale.
20
21

22 **D. CGE&Y does not explain how it weighted test results.**

23 CGE&Y performed quantitative evaluations, qualitative evaluations and timeliness
24 evaluations. As noted above it found Qwest required more fields and steps (quantitative
25 evaluation) and that CLECs had longer response times (timeliness evaluation). Just from its
26

1 description of the test results, one could conclude that Qwest failed the timeliness evaluation and
2 the quantitative evaluation, or two of the three relevant tests, and, therefore, the retail parity
3 evaluation. However, CGE&Y made the opposite conclusion. Apparently, CGE&Y weighted the
4 three evaluations differently so that the qualitative evaluation was paramount within the retail
5 parity evaluation. Nowhere within the TSD or the MTP is CGE&Y directed to favor one aspect
6 of the test over another. Again, CGE&Y has failed to state the facts to supports its conclusion.
7 Did CGE&Y attach different weight to each of the three evaluations? If so, what weighting did it
8 apply. If it treated each aspect of the test equally, it should so state.
9

10 **E. Qwest imposes unreasonable time delays in updating the end user customer**
11 **record.**

12 Staff's closure of CLEC concerns with the time lag between when an original CLEC order
13 is completed and when a supplement order can be issued is unjustified.³⁷ Only 11 orders were
14 submitted to evaluate this problem as captured in AZIWO2060. And the CGE&Y's findings for
15 those 11 orders affirmed the existence of the problem – that Qwest has admitted a projected 3 – 5
16 day time period required for it to post a code to the end customer's record indicating that the
17 customer belongs to the CLEC.
18

19 Qwest's projected time delay in updating the end customer record prevents the CLEC from
20 having access to its end customer's record and from being able to submit a supplemental order to
21 Qwest without the need for a work-around. Without the ability to electronically and efficiently
22 access its end customer's record as maintained by Qwest (*e.g.* no work-around is required), the
23 CLEC cannot sufficiently respond to its customers' inquiries or reports of trouble. In fact, for a
24

25 _____
26 ³⁷ See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May 1, 2002, para. 110f at p. 37.

1 CLECs' UNE-P customers Qwest requires CLECs to access its end customer's record to attempt
2 to resolve reported trouble before submitting the trouble to Qwest, but Qwest does not even
3 provide the end customer's record to the CLEC until after its time period for updating the record
4 has completed. The Staff's report references the work-around that Qwest employs for CLECs
5 who need access to their customer's record or that need to submit a supplemental order for a
6 customer which Qwest has not yet marked as belonging to the CLEC, but makes no comment on
7 the sufficiency of the work-around or its impact to parity. The Staff chooses only to concur with
8 the CGE&Y's recommendation that Qwest improve its timeliness of these backend system
9 updates.³⁸ This Qwest time lag exists now and impacts CLECs today, and therefore must be
10 rectified otherwise CLEC interaction with its customers and its ordering efficiency will remain at
11 a disadvantage when compared to Qwest retail. .
12

13
14 **F. CLECs cannot reserve large blocks of telephone numbers at parity.**

15 Staff acknowledged that there is a parity issue with CLECs' abilities to reserve a large
16 block of telephone numbers ("TNs"), however, it is apparently not viewed by the Staff as an issue
17 which must be corrected before 271 approval.³⁹ Despite Staff's agreement with CLECs that the
18 ability to reserve a large block of TNs is not at parity, Staff does not follow-through by requiring
19 Qwest to resolve the situation as a condition of its 271 approval. While the function of reserving
20 TNs is a sub-process of CLEC ordering, it directly and negatively impacts the CLEC's live
21 interaction with its customers by delaying and prolonging the ordering process. Thus Qwest
22 should be required to resolve this issue before 271 approval could be granted.
23

24
25 ³⁸ See, Supplemental Report on Qwest's Compliance with Checklist Item No. 2, dated May
26 1, 2002, para. 113b at p. 40.

³⁹ *Id.* para. 155a, at p. 50.

1 **G. Qwest initiated changes to CLECs accounts are improper.**

2 Staff's acceptance of CGE&Y's recommendation regarding Qwest initiated changes to
3 CLEC accounts is misaligned with the RME (Relationship Management Evaluation) and
4 misdiagnosed as just a CMP issue.⁴⁰ Any Qwest initiated change to a CLEC customer is
5 inappropriate from a customer ownership and ordering/provisioning aspect. Only CLECs should
6 be initiating changes on behalf of their customers. Ordering and provisioning safeguards should
7 be in place to prevent any change to a CLEC customer, which is not initiated by the CLEC. In
8 addition, in the event that Qwest would have a valid need to make a change to a CLEC customer
9 (e.g. to correct a mistake discovered post issuance of the SOC), then CMP guidelines could be
10 developed to outline how CLEC approval would be obtained prior to Qwest initiating any activity.
11 This issue needs to be investigated and resolved so that assurance is provided, before 271
12 approval is granted, that Qwest procedures and processes are in place to prevent its inappropriate
13 initiation of changes to CLECs' customers.
14
15

16 **PERFORMANCE MEASUREMENT EVALUATION**

17 Under Section 8 of the Master Test Plan ("MTP"), Version 4.2, dated June 29, 2001,
18 CGE&Y was and is required to conduct a Performance Measurement Evaluation that is designed
19 to provide the Arizona Corporation Commission ("ACC") with a statistically valid assessment of
20 Qwest's performance in providing service to the competitive local exchange carriers ("CLECs")
21 based on established performance measures. The performance measurements define those
22 standards set by the ACC that Qwest must meet in order to comply with Section 271 of the Act.
23
24

25 _____
26 ⁴⁰ *Id.* para. 236a, at p. 71.

1 For purposes of this test, those standard are found in the Performance Indicator Definitions,
2 version 6.3 ("PID 6.3").

3 More particularly, in Section 8.5.3 of the MTP, it is stated:

4 During Functionality Testing and Capacity Testing, Qwest will provide
5 appropriate performance measure data and results. The Test Administrator will
6 verify such data and incorporate the results into the Functionality Testing and
7 Capacity Testing. The Test Administrator will acquire and/or develop data,
8 calculate Functionality and Capacity test results, and validate results of Qwest,
9 Pseudo-CLEC and CLEC analyses.

10 Appendix C of the MTP lists the performance measurements and indicates which of those
11 measurements would be included in the Functionality Test. A subset of those measurements was
12 also to be evaluated during the Performance Measurement Evaluation to verify that Qwest was
13 and is collecting adequate data and computing accurate results.

14 Section 7.3.4 of the TSD provides in pertinent part:

15 During the Functionality Tests, Performance Measurement raw data for the
16 Pseudo-CLEC test orders, trouble reports and other transactions, calculated z
17 statistics and other calculations will be collected from Qwest for all those
18 measurement with a "Yes" indication in the MTP Appendix C. Using the raw data
19 (before exclusions) from Qwest, the TA will perform an independent calculation of
20 all measurements with a "Yes" indication in the MTP Appendix C and will also
21 perform an independent calculation of the same measurements for the same orders
22 using the Functionality Test Data provided by the Pseudo-CLEC.

23 The TA will compare Qwest's computed z statistics and other calculations
24 to TA computed z statistics and other calculations (from Qwest's provided raw
25 data) and to TA computed z statistics (from Functionality Test Data collected by
26 the Pseudo-CLEC). Discrepancies in the calculations will be evaluated,
documented and reported by the TA.

27 The purpose of the TSD requirement is to determine whether Qwest's adhoc dataset
28 contains all records submitted by the Pseudo-CLEC and only those records and to determine

1 whether the data elements captured by Qwest's source systems used to calculate these
2 performance measures are actually what is experienced and could be recorded by a CLEC.

3 The Arizona Supplemental Report and Staff Recommendation on Qwest's Compliance on
4 page 77 states "the TSD required independent verification of Functionality Test Measurements
5 ("FTMs") utilizing data captured by the Pseudo-CLEC during the FT. This analysis, however, as
6 described in the TSD, could not be performed. Many of the data elements required for this
7 analysis are not furnished to CLECs. Therefore, an analysis was performed to apprise CLECs as
8 to what data used by Qwest in its PID calculations were not reported or available to the Pseudo-
9 CLEC so that calculations of FTM results could be calculated directly from Pseudo-CLEC data.
10 Details concerning the source of data elements required to calculate the PID were provided in
11 CGE&Y's PID Data Element Summary Report.⁴¹ This report identified data sources on an
12 element-by-element basis, as to being available or unavailable to the Pseudo-CLEC."
13

14 It was a fundamental oversight by CGE&Y and the Pseudo-CLEC for failing to
15 appropriately establish the required data elements needed to be captured prior to beginning the
16 Functionality Test in order to satisfy the TSD section 7.3.4. The alternative approach the testers
17 used does not meet the requirements of the TSD because of the use of Qwest "ad hoc" data
18 instead of the appropriate independently gathered Pseudo-CLEC data. At this point it may be the
19 best that the testers can do given that they failed to acquire all of the necessary data elements to
20 prior to the Functionality Test. However, it is still not what they were tasked to do and falls short
21 of producing the results that would have been obtained if they appropriately applied the
22 requirements contained in the TSD.
23

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26 ⁴¹ See, Arizona §271 Performance Indicator Definitions (PID) Data Element Summary Report, January 18, 2002.

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RESPECTFULLY submitted this 17th day of May, 2002.

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EXCEPTION 3094 – FOURTH RESPONSE

Qwest OSS Evaluation

Initial Release Date: December 12, 2001
First Response Date: January 7, 2002
Second Response Date: February 12, 2002
Third Response Date: March 28, 2002
Disposition Report: April 4, 2002
Fourth Response Date: April 25, 2002

EXCEPTION REPORT

An exception has been identified as a result of the test activities associated with the Change Management Test, MTP Test 23.

Exception:

Qwest did not adhere to its established change management process for notifying CLECs about a proposed change, and allowing input from all interested parties.

Background:

The Qwest Product/Process Change Management Process (CMP) is the method used by both Qwest and CLECs to introduce and implement changes to Qwest wholesale products and business processes. The Qwest CMP managers are responsible for the administration of Change Requests (CRs) and Notifications, including changes to, and updates of, relevant Qwest documentation. The Qwest Subject Matter Experts (SMEs) are responsible for the products and processes associated with proposed changes.

KPMG Consulting observed an instance in which Qwest did not provide CLECs with complete information about, and a reasonable interval for, a CLEC-impacting CR. On October 17, 2001 Qwest informed CLECs of a Qwest-initiated Process CR PC100101-5 "Clarification of additional testing process" (see Attachment A), which was scheduled for implementation on November 19, 2001¹. At a follow-up meeting on October 31, 2001, CLECs reported to Qwest that the CR would affect their business operations, and that Qwest did not provide adequate information about this CR to answer the following questions:

- Regulatory: CLECs requested that Qwest investigate whether or not the proposed CR would comply with Qwest's legal obligations, such as SGATs and Interconnection Agreements;
- Products: CLECs requested that Qwest provide a list of all products affected by this CR. At the follow-up meeting, Qwest was unsure if the CR would affect line-shared loops; and

¹ Information about this CR and supporting documentation (process documentation, process presentation, and Question & Answers) may be found at <http://www.qwest.com/wholesale/cmp/changerequest.html>.

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- Documentation: CLECs requested that Qwest include the precise wording of the affected Product Catalogue (PCAT) in the CR. In the CR, Qwest provided limited text to describe the new process, and how the changes would affect CLECs.

In order to respond to the remaining CLEC inquiries, Qwest scheduled a follow-up meeting on November 26, 2001, and delayed the scheduled implementation until December 1, 2001.

During CMP Redesign meetings, at least three CLECs made an attempt to halt the implementation date and escalate this CR. Qwest implemented CR PC100101-5 on December 1, 2001, and distributed a notification on December 3, 2001².

The event timeline for the CR that is the subject of this Exception is as follows:

| Date | Event |
|------------|--|
| 10/17/2001 | Qwest presented change request (CR) PC100101-5 "Clarification of additional testing process" at the monthly Change Management meeting. |
| 10/31/2001 | Follow-up meeting held – Intended for Qwest to clarify outstanding issues. |
| 11/26/2001 | Follow-up meeting held – Qwest answered some of the questions from CLECs. |
| 12/01/2001 | Scheduled process implementation date |
| 12/04/2001 | Qwest notification about update applied to CEMR User Guide. CLECs issue written statement requesting a status update, and that Qwest immediately stop implementation of this CR. |

Issue:

KPMG Consulting observed the following issues related to CR PC100101-5:

- Qwest, through the CMP, did not provide adequate information to CLECs about a significant CLEC-impacting process change;
- Once Qwest had answered some of the important regulatory, product, and documentation questions, Qwest allowed only four (4) business days for CLECs to prepare for the proposed change³;
- Qwest, through the CMP, did not respond to input from all interested parties; a number of CLECs objected to Qwest's implementation of this change and requested its immediate suspension.
- Qwest, through the CMP, did not update CR status on a timely basis;

² Qwest notification titled "Documentation: CEMR: User's Guide Updated: 12/03/01."

³ At the time of this report, KPMG Consulting observed that Qwest and CLECs had not agreed on all legal and regulatory aspects of this CR.

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Qwest OSS Evaluation

- Qwest CR includes rate changes that are not explicitly defined to be within the scope of CMP.

Impact:

Qwest did not adhere to its established change management process for notifying CLECs about proposed changes, and allowing input from all interested parties. In this instance, Qwest's failure to conduct thorough research prior to CR initiation necessitated follow-up investigations that increased the length of legal, regulatory, and operational discussions, thereby reducing the time allowed for CLECs to prepare for proposed changes. Any changes that are implemented without close examination by all interested parties may override Qwest's prior agreed upon service obligations to CLECs.

Qwest Formal Response (12/21/01):

This Exception is premised on KPMG's statement that "Qwest did not adhere to its established change management process for notifying CLECs about proposed changes" in processing the CR at issue. KPMG appears to assume that the process that applies to this CR is the *Interim Qwest Initiated Product/Process Change Request Initiation Process* that was developed in the CMP Redesign Sessions. CLECs have now clearly stated, however, that they never intended for that interim process to apply to the Qwest-initiated change at issue here.

At the time Qwest issued this CR, Qwest believed that this interim process might apply to the testing process clarification and, therefore, in good faith, submitted a CR. However, there was confusion between Qwest and the CLECs regarding the applicability of that interim process. The CLECs subsequently clarified at the December 10-11, 2001 redesign session that they never intended for that interim process to only apply to anything except changes that arose from 271 workshops or OSS testing. The interim process, as clarified by the CLECs and agreed to by Qwest, currently calls for Qwest to initiate CRs *only* for changes that alter CLEC operating procedures (as determined by Qwest), and that are made as a result of third party test or a 271 Workshop. Therefore, under the established change management process, Qwest was not required to submit or process a CR for this issue in the first place. Nonetheless, even though submission of the CR turned out not to be necessary, Qwest submitted a CR in good faith and followed the interim process.

Qwest's responses to each of the five bullet points KPMG raises are set forth below.

KPMG Issue: *Qwest, through the CMP, did not provide adequate information to CLECs about a significant CLEC-impacting process change;*

Qwest Response:

Qwest provided information and answered CLEC questions regarding this CR by introducing CR No. PC100101-5 to the CLEC community through the Change Management Process (CMP). As noted above, at the time Qwest submitted this CR, it did so based on a good faith effort to

EXCEPTION 3094 – FOURTH RESPONSE

Qwest OSS Evaluation

comply with the *Interim Qwest Initiated Product/Process Change Request Initiation Process*. Since that time, the CLECs have clarified that they want that process to only apply to certain changes arising from 271 workshops or OSS testing. All other Qwest initiated product/process changes will be discussed at future Redesign sessions. At those future sessions, the nature and amount of information that Qwest must provide regarding its product/process CRs will be defined. Thus, Qwest provided more information than was required under existing processes by submitting the CR to the CLECs.

Qwest's efforts to provide information did not stop with submitting the CR. Qwest held at least three meetings with CLECs to provide information and answer CLEC questions relating to the CR. See Chronology of Events below.

KPMG Issue: *Once Qwest had answered some of the important regulatory, product, and documentation questions, Qwest allowed only four (4) business days for CLECs to prepare for the proposed change⁴;*

Qwest response:

The process for additional testing described in the CR, which was introduced on October 17, 2001, did not change from that time until the time it was fully implemented on December 1, 2001. Thus, the CLECs had more than 6 weeks -- not only 4 days -- to prepare for the change. The chronology below outlines the key notification dates relating to this CR.

Chronology of Events for CR No. PC 100101-5

- 10/17/01 - CMP Meeting: Qwest introduced "Description of Change" and agreed to provide detailed package for CLEC review. Walk through meeting to be scheduled by Qwest in the late October/early November 2001 time frame.
- 10/26/01 - Notification forwarded to the CLEC community regarding presentation of CR in the October 31, 2001 CMP Re-Design Meeting.
- 10/31/01 - CR presented to the participating CLECs at the CMP Re-Design Meeting. CLECs were requested to provide comments. **Qwest agreed to delay initial implementation date to address CLEC concerns.**
- 11/08/01 - Qwest Notification (Document No. PROD.11.08.R.00197.Mtce&Repair Language; Subject: Update to Product Information on Maintenance and Repair Language within EEL, UDIT, LMC and Unbundled Loop General) transmitted to CLEC community.
- 11/08/01 - PCAT Documents posted to the Qwest Wholesale CMP Document Review website: <http://www.qwest.com/wholesale/cmp/review.html>. Comments from CLEC community due in 15 calendar days (11/23/01), as stated in "Interim External Change Management Process for Qwest Initiated Product/Process Changes," Version 6 – 11/26/01.
- 11/13/01 - Notification transmitted to CLEC community regarding follow-up meeting scheduled for 11/26/01.

⁴ At the time of this report, KPMG Consulting observed that Qwest and CLECs had not agreed on all legal and regulatory aspects of this CR.

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- 11/14/01 - CMP Meeting - Qwest advised CLEC community that PCAT documents currently are available for comment.
- 11/24/01 - No comments were received from the CLEC community regarding PCAT documents posted to the Qwest Wholesale CMP Document Review Website.
- 11/26/01 - Qwest conducted a follow-up meeting with the CLEC community to discuss any technical issues with the CR (primarily operational and testing issues). Responses to questions were prepared for posting on the Qwest Wholesale WEB page.
- 11/28/01 - "Questions & Answers for Additional Testing 11/26/01" document posted to Qwest Wholesale website <http://www.qwest.com/wholesale/cmp/changerequest.html>
- 11/28/01 - "Additional Testing Process Document - 11/09/01" and "Additional Testing Process Presentation - 11/09/01" posted to Qwest Wholesale website:
<http://www.qwest.com/wholesale/cmp/changerequest.html> These documents were previously posted in the Qwest Wholesale CMP Re-Design website:
<http://www.qwest.com/wholesale/cmp/redesign.html>
- 11/30/01 - Qwest IT Wholesale Communicator, November 30, 2001, Document No. SYST.11.30.01.F.02444_CEMR_UG_Update, CEMR User's Guide Update transmitted to Qwest Wholesale Customers
- 12/05/01 - Formal Escalation received from Eschelon regarding implementation of CR.
- 12/06/01 - Qwest response sent acknowledging receipt of Formal Escalation from Eschelon (PC100101-5-E01).
- 12/07/01 - KMC Telecom notified Qwest to participate in the formal escalation initiated by Eschelon.

KPMG Issue: *Qwest, through the CMP, did not respond to input from all interested parties; a number of CLECs objected to Qwest's implementation of this change and requested its immediate suspension.*

Qwest response:

Qwest acted on CLEC input by holding additional meetings and agreeing to delay the original implementation date. Further, the processes that Qwest and the CLECs agreed to use for resolving disagreements are the escalation and dispute resolution processes. CLECs have invoked the escalation process with regard to this CR. In accordance with that process, Qwest responded to the escalation and offered a proposed process for resolving the CLEC concerns. Qwest will continue to abide by the agreed processes for resolving the disagreements relating to this CR and hopes to reach a mutually agreeable solution to the issues.

KPMG Issue: *Qwest, through the CMP, did not update CR status on a timely basis;*

Qwest response:

The CMP database is posted to the website on an "every third day" basis with updated CR status, status history, responses, meeting minutes, etc. for all active CRs. Qwest therefore does not

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understand KPMG's statement and needs additional detail regarding the specific issue if KPMG needs a more specific response.

KPMG Issue: *Qwest CR includes rate changes that are not explicitly defined to be within the scope of CMP.*

Qwest response:

The Qwest-initiated CR at issue here does not include rate changes. The purpose of the CR is to clarify that, if a CLEC chooses not to perform diagnostic testing to determine whether trouble resides within the CLEC's network, the CLEC may request that Qwest perform that testing on the CLEC's behalf. Under the process, a CLEC that asks Qwest to test on the CLEC's behalf also authorizes Qwest to charge the CLEC for performing that testing. Qwest proposed to use existing labor rates -- in CLEC interconnection agreements or the SGAT -- for performing the testing. Qwest also offered to enter into an amendment to interconnection agreements to specify the rate if a CLEC preferred to address the issue that way.

KPMG Consulting's First Response (01/07/02):

KPMG Consulting reviewed Qwest's response and found that the information presented differs in several ways from KPMG Consulting's understanding of the Interim Product/Process CMP. Qwest stated, in October 2001, that it would submit CRs for changes to products or processes that alter CLEC operating procedures, and that the Interim Product/Process CMP would govern all Qwest-initiated Product/Process CRs.⁵ KPMG Consulting attended the October 17, 2001 Product/Process CMP Meeting, and observed that Qwest planned to implement PC100101-5 sooner than the 45-day interval that the interim process specifies. CLECs expressly stated that this change would be CLEC-impacting.⁶

KPMG Consulting observed that, on October 31, 2001, Qwest agreed to take the following action items:

- | | |
|-----------------------|---|
| Regulatory: | Qwest would investigate whether or not the proposed CR would comply with Qwest's legal obligations, such as SGATs and Interconnection Agreements; |
| Products: | Qwest would specify the products affected by the proposed CR; |
| Documentation: | Qwest would provide CLECs with the revised PCAT language. |

At the October 31, 2001 meeting, Qwest agreed to change the implementation date from November 19, 2001 to December 1, 2001. This change was made because Qwest planned to

⁵ *Qwest Corporation's Report on the Status of Change Management Process Redesign before the Public Utilities Commission of the State of Colorado* dated October 10, 2001.

⁶ The draft meeting minutes of the October 17, 2001 Product/Process CMP meeting were included in the November 2001 Product/Process CMP distribution package located at <http://www.qwest.com/wholesale/downloads/2001/011112/ProductProcessNovDistPackage2.pdf>.

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address important questions related to the above three topic areas at the follow-up meeting scheduled for November 26, 2001.

In response to CLEC objections, Qwest's legal and change management staffs stated, on November 29, 2001, that Qwest would investigate whether or not the implementation of this change would be suspended. As of December 1, 2001, however, Qwest had not provided CLECs with any status update regarding this CR. Based on information on the Qwest CMP Web site, it was unclear if CR PC100101-5 was going to be suspended, delayed a second time, or implemented on December 1, 2001. In response to a CLEC inquiry regarding the issue, Qwest formally informed CLECs, on December 4, 2001, that CR PC100101-5 had been executed on December 1, 2001, and advised the inquiring CLEC, through an email response, that interested parties should escalate the issue through the formal Change Management escalation procedure.

Based on the above events, KPMG Consulting provides a review each of the major issues included in this Exception:

1. *Following its responses to important regulatory, product, and documentation questions, Qwest allowed only four (4) business days for CLECs to prepare for the proposed change.*

Appendix A shows that the original CR form lacked specific information about the proposed change. As of October 31, 2001, Qwest had not provided CLECs with details or answers that addressed important regulatory, products, and documentation questions. In addition, KPMG Consulting observed that Qwest had not provided CLECs with draft PCAT documentation until November 8, 2001. In the absence of the above information and/or documentation, CLECs were unable to adequately prepare for the proposed change in advance of its implementation. Qwest's failure to conduct thorough research prior to initiating the CR necessitated follow-up investigations that increased the length of legal, regulatory, and operational discussions, thereby reducing the time allowed for CLECs to prepare for the proposed change. Based on the above observation, KPMG Consulting respectfully disagrees with Qwest's statement that CLECs had "more than six weeks" to make informed decisions and adapt to the proposed change.

2. *Qwest, through the CMP, did not provide adequate information to CLECs about a significant CLEC-impacting process change.*

KPMG Consulting observed that Qwest did not provide CLECs with adequate information in advance of the CR implementation. As shown in Appendix A, the original CR form, which CLECs expressly stated on October 17, 2001 would impact their business operations, lacked specific information about the proposed change. As of October 31, 2001, Qwest had not provided CLECs with details or answers that addressed important regulatory, product, and documentation questions. In addition, KPMG Consulting observed that Qwest had not provided CLECs with draft PCAT documentation until November 8, 2001, and a follow-up meeting did not take place until November 26, 2001, four days before the CR's actual implementation. Qwest's failure to

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provide information necessitated follow-up investigations that increased the length of legal, regulatory, and operational discussions, thereby not affording CLECs adequate time to prepare for the proposed change.

3. *Qwest, through the CMP, did not respond to input from all interested parties; a number of CLECs objected to Qwest's implementation of this change and requested its immediate suspension.*

KPMG Consulting understands that CLECs have invoked the Escalation Process with regard to the CR in question. Nonetheless, since Qwest did submit a CR through the CMP, the fact that Qwest implemented the change – in spite of CLEC objections – indicates that, within the overall CMP framework, there is a lack of clarity between what Qwest defines as a CR, and a Qwest unilateral notification of process change. In addition, Qwest was unable to answer all CLEC inquiries at the additional meetings held to discuss this CR in more detail. At the November 29, 2001 meeting, it was still uncertain whether or not the change would be implemented on December 1, 2001.

4. *Qwest, through the CMP, did not update CR status on a timely basis.*

Qwest distributed SYST.11.30.01.F.02444_CEMR_UG_Update at 10:39 AM MST on **December 3, 2001** (see Appendix B). On November 29, 2001, Qwest legal and change management staff indicated that Qwest would investigate whether or not the CR would be suspended, but did not provide CLECs with the status update until December 4, 2001, three days after the change had gone into effect. As of December 1, 2001, the CR status report on the Qwest CMP Web site did not indicate if CR PC100101-5 was suspended or implemented.

5. *Qwest CR includes rate changes that are not explicitly defined as within the scope of CMP.*

Qwest's response to this issue stated that the CR, itself, did not result in rate changes. However, the change in question is Qwest's implementation of a new testing process for Maintenance & Repair that results in Qwest's unilateral imposition of labor rates without CLEC agreement. The change potentially does have a significant financial impact on some CLECs. KPMG Consulting is aware that rate changes are not explicitly defined as within the scope of CMP, but would expect all Qwest-initiated CRs to follow the defined CMP Process.

KPMG Consulting did not observe Qwest's offer⁷ to enter into an amendment to interconnection agreements. KPMG Consulting reviewed the *Questions & Answers for*

⁷ Qwest quote from December 21st response: "Qwest also offered to enter into an amendment to interconnection agreements to specify the rate if a CLEC preferred to address the issue that way."

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Additional Testing 11/26/2001 document⁸, and was unable to locate information to support Qwest's statement. Instead, KPMG Consulting observed that Qwest repeatedly stated in meetings that the CR was a clarification of existing requirements, thus making an amendment unnecessary. For instance, at the October 31, 2001 meeting, one CLEC asked if Qwest had checked all existing interconnection agreements to ensure that the CR was consistent with Qwest's legal obligations. Qwest replied, "yes," suggesting that no amendment was necessary.

KPMG Consulting recommends that this Exception remain open pending resolution of the above issues.

Qwest Response to KPMG Comments (01/25/02):

This Exception needs to be viewed in the unique context of the interim process for product and process changes in the Change Management Redesign process. During the redesign sessions, there was a misunderstanding regarding the scope of an interim process and the status of the CMP Redesign Team's discussions regarding that process. The redesign misunderstanding uniquely impacted the Additional Testing CR. As a result of that misunderstanding, the Additional Testing CR was initiated pursuant to the interim process established by the redesign team. Because of objections raised by CLECs in the redesign sessions, the Additional Testing CR was then handled pursuant to the process that existed before the redesign sessions began. As a result of the unique situation caused by the redesign misunderstanding, the issues raised in this Exception do not reflect the kind of systemic departure from procedure that is appropriately raised in an Exception. Further, the issues raised in this Exception appear to be confused by the inclusion of CLEC advocacy positions and/or requests in the factual recitation. The relevant facts are set forth below.

- Qwest initiated this CR under the *Interim Qwest Product/Process Change Management Process*.

As Qwest stated in its initial response, at the time Qwest issued this CR, Qwest believed that the *Interim Qwest Initiated Product/Process Change Request Initiation Process* that was developed in the CMP Redesign Sessions might apply to the testing process clarification and, therefore, it submitted the CR. Since that time, it became apparent that the CLECs and Qwest had different understandings regarding the scope of the interim process. The CLECs and Qwest have spent a great deal of time in CMP Redesign Sessions discussing their respective positions regarding the interim process. During these sessions it became clear that the CLECs intended that the interim process should only apply to changes that were generated by the 271 workshops or OSS testing. Qwest agreed to this limitation on the scope of the interim process.

⁸ *The Questions & Answers for Additional Testing 11/26/2001* document is located at http://www.qwest.com/wholesale/downloads/2001/011128/OA_CR_PC100101-5OptTesting112601.doc.

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These discussions are reflected in the meeting minutes for the CMP Redesign Sessions held October 30 through November 1, 2001 (see pp. 2-3); November 13, 2001 (see p. 5); and November 27 through November 29, 2001 (see pp. 13-15). Copies of the discussion summaries from these minutes have been provided with this response or they may be located at the following URL under subheading Meeting Minutes, <http://qwest.com/wholesale/cmp/redesign.html>

- Qwest processed this CR in accordance with the interim process until it became clear that the interim process did not apply.

The interim process requires that Qwest post its CR and related documentation to the CMP web site, and discuss it at the CMP Monthly Forum. The CLECs may raise any questions during the discussions and submit written comment through a mechanism on the web site. Any issues that are not resolved can be escalated.

Qwest followed the interim process by issuing the CR, discussing it at the CMP Monthly Forum, and posting the documentation changes on the CMP web site. Qwest also held meetings with the CLECs in addition to the CMP Monthly Forum in which Qwest answered CLEC questions relating to the CR. Qwest received no written comments through the web site mechanism. Qwest responded orally and in writing to the issues the CLECs raised in the several meeting that were held. These actions satisfied the interim process.

For ease of reference, a copy of the Interim Qwest Product-Process CMP document has been provided with this response or can be located at the following URL under Redesign Documentation, <http://qwest.com/wholesale/cmp/redesign.html>

- Qwest has also complied with the existing change management process.

By December 12, 2001, when this Exception was written, it was clear that the interim process did not apply. Thus, Qwest was not required to issue or process any CR in accordance with that process. Because the CMP Redesign team has not agreed to any other product/process procedures, the process that applies is the existing change management process. Under the existing process, Qwest must only provide notice before implementing a change (the existing process document titled Current CICMP has been provided with this response.) Qwest has gone far beyond that simple requirement by issuing the CR, holding several meetings to discuss the CR and answer CLEC questions, and issuing the documentation for comment.

- The remaining issues raised in this Exception do not change the analysis set forth above.

There are other issues raised in this Exception, such as KPMG's statement that there was confusion in the November 29, 2001 CMP Redesign Session regarding whether the CR would be implemented on December 1. The minutes for that meeting do not reflect any such confusion. Moreover, Qwest clearly stated at the end of the conference call held with the CLECs on November 26, 2001 to discuss the CR that it would implement the CR on December 1. There was no reasonable basis for any such confusion.

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KPMG also points to a CLEC request for suspension of the CR. It is important to note that neither process required Qwest to delay or cancel implementation simply because a CLEC disagreed with or raised questions regarding Qwest's proposed change. Furthermore, Qwest has reviewed the change management processes of other companies, and no other process in the country, including processes reviewed by KPMG in other tests, includes a requirement that the ILEC suspend a proposed change if a CLEC objects to the change. Instead, any such issue upon which agreement could not be reached is required to be treated in the same way under the existing change management process and the interim product/process change management process: they are to be escalated. That is, in fact, what happened with this CR -- Eschelon and other CLECs initiated an escalation. This was the appropriate method for resolving any unresolved issues under both processes.

Attachments:

- *ROC_TI764_EXP3094_Qwest INTERIM QWEST RODUCT-PROCESS_CMP-Revised_10-3-01_01_25_02.doc*
- *ROC_TI764_EXP3094_CMP Redesign Meeting Minutes Nov 27-29_01_25_02.doc*
- *ROC_TI764_EXP3094_CMP Redesign Meeting Nov 13 Final Minutes_01_25_02.doc*
- *ROC_TI764_EXP3094_CMP Redesign Meeting Oct 30-31 - Nov 1 Final Minutes_01_25_02.doc*
- *ROC_TI764_EXP3094_Current CICMP Doc Last Revised 05-11-01_01_25_02.doc*

KPMG Consulting's Second Response (02/12/02):

KPMG Consulting has reviewed Qwest's January 25, 2002 response along with the following referenced documents:

- (a) *Final CMP Redesign Meeting Minutes 10/30/2001 – 11/1/2001;*
- (b) *Final CMP Redesign Meeting Minutes 11/13/2001;*
- (c) *Final CMP Redesign Meeting Minutes 11/27/2001 – 11/29/2001;* and
- (d) *Interim Qwest Product/Process Change Management Process dated 10/3/2001.*

In addition, KPMG Consulting reviewed other meeting minutes and materials relevant to this Exception and available at the Qwest CMP Web site⁹:

- (e) *Draft Meeting Minutes for Product/Process CMP Monthly Meeting 10/17/2001;*
- (f) *Draft Meeting Minutes for Product/Process CMP Monthly Meeting 11/14/2001;*
- (g) *Change Management Process (CMP) Improvements – 11-26-01;*
- (h) *Final CMP Redesign Meeting Minutes 12/10/2001 – 12/11/2001;* and
- (i) *Draft Meeting Minutes for Product/Process CMP Monthly Meeting 12/12/2001.*

⁹ CMP Redesign documents are posted at: <http://www.qwest.com/wholesale/cmp/redesign.html>

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KPMG Consulting agrees with Qwest that the subject of this Exception needs to be considered in relation to the applicability of the interim process for product and process changes as part of the Change Management Redesign Process. Qwest has indicated, in its previous responses, that it believes that a Qwest CR was not necessary for this process change based on the scope and requirements of the Interim Product/Process CMP. Based upon discussions that were held November 27 – 29, 2001 and again on December 10 – 12, 2001, Qwest believed that the interim process applied only to changes related to Third Party Testing and to 271 workshops.

KPMG Consulting issued this Exception following an extensive review of facts and circumstances. In particular, KPMG Consulting published this Exception after December 1, 2001, the Qwest-scheduled implementation date for this process change, in order to observe the complete set of circumstances, processes, and activities related to CR PC100101-5. The Exception identifies a deficiency in the Change Management Process that will result in a negative comment for one or more of the evaluation criteria in the Final Report if left unresolved.

The specific process issues that KPMG Consulting has identified in this Exception include:

1. Qwest, through the CMP, did not provide adequate information to CLECs about a significant CLEC-impacting process change;
2. Once Qwest had answered some of the important regulatory, product, and documentation questions, Qwest allowed only four business days for CLECs to prepare for the proposed change¹⁰;
3. Qwest, through the CMP, did not respond to input from all interested parties; a number of CLECs objected to Qwest's implementation of this change and requested its immediate suspension;
4. Qwest, through the CMP, did not update the CR's status on a timely basis;
5. Qwest's CR includes rate changes that are not explicitly defined to be within the scope of CMP.

KPMG Consulting provided a detailed review of each of these discussion items in the first response to this Exception on January 7, 2002. In its January 25, 2002 response, Qwest raised additional concerns surrounding the unique situation for the Additional Testing CR and for Change Management Redesign. KPMG Consulting offers additional comments to clarify the facts and background regarding the issuance of this Exception.

- **Qwest initiated the CR under the *Interim Qwest Product/Process Change Management Process*.**

Qwest implemented the Interim Product/Process CMP on October 17, 2001, the same day that Qwest first presented CR PC100101-5 for discussion with CLECs. According to the minutes from this meeting, Qwest stated that it had intended to issue a notification instead of a CR in

¹⁰ At the time of this report, KPMG Consulting observed that Qwest and CLECs had not agreed on all legal and regulatory aspects of this CR.

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order to implement the proposed change in 15 days instead of 45 days. Qwest had brought the issue forward as a CR in good faith for CLECs to have adequate advance review. Several CLECs stated that the proposed change would be CLEC-impacting, and requested Qwest to provide CLECs with complete information about the proposed change before counting days as part of the defined 45 day interval for notifying CLECs, for soliciting CLEC input, and for finalizing the change. Qwest later reaffirmed that the interim process for Qwest-initiated CRs was meant for all Qwest product/process changes that altered CLEC operating procedures.¹¹

- **As of December 12, 2001, it was still unclear that the interim process did not apply. KPMG Consulting's understanding is that the interim process was in effect during the period in question (i.e., October 17, 2001 through December 12, 2001).**

Although Qwest stated on October 31, 2001 that it would delay implementation of the CR in question on December 1, 2001 to address CLEC concerns, Qwest had not resolved all of the regulatory, product, and documentation questions and scheduled another follow-up meeting for November 26, 2001. Meeting minutes indicate that the discussion about the disagreement over the interim process had not begun until November 27, 2001, after Qwest had already scheduled implementation of CR PC100101-5. In this case, Qwest scheduled the change implementation date prior to making complete information available to CLECs and receiving their comments.

Based on a review of the minutes from the three Change Management Redesign sessions held prior to the CR's implementation, KPMG Consulting believes that CLECs and Qwest did not reach consensus about the degree of decision-making authority CLECs would have in modifying or suspending Qwest-initiated CRs¹². In fact, it was in response to the objections with this CR and the degree of input into the process that the CLECs considered limiting the scope of the interim process in December.

KPMG Consulting does not consider meeting minutes which provide written record of opinions and open discussion about the Change Management development to serve as a proxy for the formalized process that was in place at the time that this change occurred. Furthermore, there does not appear to be conclusive language in the minutes to suggest that the Interim process did not apply as of December 1, 2001.

Qwest issued two documents that suggest the approach for Qwest-initiated process CRs had not changed. One document lists all CMP improvements that were effective or scheduled to be implemented as of November 26, 2001¹³. The Qwest-initiated Product and Process CR Process is cited as being implemented October – November, 2001. The other document describes the process by which baseline elements of the redesign effort may occur prior to the completion of the CMP redesign effort¹⁴. The document states that implementing baseline changes requires

¹¹ See Final Meeting Minutes, CMP Process Re-design, October 30 – November 1, 2001.

¹² Quote from *Final CMP Redesign Meeting Minutes 11/13/2001*: "Schultz cited that there did not appear to be agreement between the CLEC community concerning the Qwest initiated product/process CR process."

¹³ See Appendix B: *Process to Deploy Qwest CMP Improvements – 11-26-01*.

¹⁴ See Appendix C: *Change Management Process (CMP) Improvements – 11-26-01*.

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agreement among Core Team members and an implementation presentation for the general CLEC community.

KPMG Consulting considers Change Management to be an essential element of ongoing CLEC business operations and of the Qwest-CLEC business relationship. Because it governs an important part of all CLEC interaction with Qwest, KPMG Consulting would expect, at a minimum, that Qwest CMP would feature the following functions:

- Qwest notifies CLECs of all CLEC-impacting changes with complete information and sufficiently in advance of such changes;
- CMP includes the procedures through which Qwest takes into consideration the feedback from CLECs on all proposed CLEC-impacting changes; and
- CLECs have the opportunity to modify, discuss, and escalate issues encountered with proposed changes.

In response to this Exception, Qwest stated that it was not aware of CLEC objections to CR 100101-5 because Qwest did not receive any written comments through the Web-based PCAT documentation review mechanism. However, the Redesign meeting minutes clearly demonstrate that CLECs were dissatisfied with both the change in question and with the overall process for managing Qwest-initiated CRs. Qwest Change Management representatives, who act as Qwest's point of contact, were present at these meetings. After having heard CLEC objections, none of the Qwest representatives had advised CLECs to escalate the CR in question until December 4, 2001¹⁵, three days after implementation, thus leaving CLECs wondering if Qwest was going to respond to CLECs by suspending the proposed change.

Due to differences in scope and history among ILEC change management processes, KPMG Consulting considers it inappropriate to compare Qwest CMP to that of other ILECs. As part of 271 OSS Testing effort, KPMG Consulting is evaluating Qwest CMP based on a pre-determined framework of evaluation criteria. Based on Qwest's latest response and the current state of Product/Process CMP, at least one KPMG Consulting evaluation criteria for Test 23 would be assessed "Not Satisfied." KPMG Consulting points to the CLEC request for suspension of the CR as an example of the collaborative extent of CMP and the ineffectiveness of the process to address disputes such as this. The Exception is not based on a requirement that an ILEC suspend a proposed change if the CLEC objects to the change.

KPMG Consulting considers the fact that Qwest implemented CR PC100101-5 without taking into consideration CLEC objections, its failure to make available complete information sufficiently in advance of the scheduled change, as well as the subsequent impasse¹⁶ about the process governing Qwest-initiated changes as indicative of lack of a defined and documented change management process.

¹⁵ In response to CLEC inquiry to Judy Schultz and Laura Ford, Qwest advised Eschelon to escalate the CR in question in an email dated December 4, 2001, at 7:13 PM.

¹⁶ KPMG Consulting observed that Qwest and CLECs were at impasse about Qwest-initiated Product/Process changes from December 2001 to February 2002.

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KPMG Consulting reviewed aforementioned documents and identified that Qwest did not adhere to the expectations of a well-formed, functioning Qwest-CLEC change management process.

KPMG Consulting recommends that this Exception remain open pending implementation of and observation of adherence to a complete process for Qwest-initiated Product and Process Change Requests.

Qwest Response to KPMG Supplemental Recommendation (02/28/02):

Qwest is currently working in collaboration with CLECs to develop its change management process for product/process changes. Qwest's proposed process for such changes is attached. This proposal has not yet been fully discussed and has not yet been agreed to in the redesign process. Qwest will supplement its response to this Exception when the process is more fully developed.

Qwest Supplemental Response to KPMG Supplemental Recommendation (03/22/02):

During the March 18-19, 2002 CMP redesign session, Qwest and CLECs agreed that Qwest will implement the Qwest-initiated product/process change management process, as modified during the redesign session, as an interim process as soon as practicable.

In addition, the redesign team agreed that Qwest and CLECs will continue to evaluate and modify that process. The redesign team will review product/process notices issued over the last few months in order to make the list of categories in each of the four "Levels" of product/process changes more exhaustive. The redesign team expects this initial effort to be completed by April 16, 2002. After this review, CLECs and Qwest will baseline the interim process. Qwest will then insert it into the Qwest Wholesale Change Management Process Document and implement it as modified.

Qwest will implement the Interim Qwest-Initiated Product/Process Change Management Process on or before April 1, 2002. The interim process can be found on Qwest's wholesale web site at www.qwest.com/wholesale/cmp/whatiscmp.html.

Qwest Supplemental Response (03/28/02):

Qwest committed to the following action item in the 3/22/02 response:

"Qwest will implement the Interim Qwest-Initiated Product/Process Change Management Process on or before April 1, 2002. The interim process can be found on Qwest's wholesale web site at <http://www.qwest.com/wholesale/cmp/whatiscmp.html>."

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Qwest has implemented the Interim Qwest-Initiated Product/Process Change Management Process for product/process changes that are initiated on or after 4/1/02.

KPMG Consulting's Third Response (03/28/02):

KPMG Consulting attended the March 20, 2002 Product/Process CMP Meeting and observed that Qwest advised CLECs during the meeting that, starting April 1, 2002, Qwest would implement an *ad hoc* process to manage Qwest-initiated Product/Process changes. It is KPMG Consulting's understanding that this *ad hoc* process remains subject to further development, modifications, and negotiations in CMP Redesign (See <http://www.qwest.com/wholesale/cmp/whatiscmp.html>).

KPMG Consulting recognizes that Qwest and CLECs have yet to agree on key components of a comprehensive Product/Process CMP but that parties have come to a conceptual consensus in a number of areas (Please refer to Attachment 1 – *Concepts Agreed Upon as of the March 18-19, 2002 Redesign Session*). Due to the current test schedule, it is unlikely that KPMG Consulting will be able to evaluate the final, agreed-upon process that will result from CMP Redesign. The CMP Redesign meetings are currently scheduled to continue through June 2002.

KPMG Consulting recommends that this Exception remain open pending implementation of and observation of adherence to a complete process for Qwest-initiated Product and Process Change Requests.

Attachment: Concepts Agreed Upon as of the March 18-19, 2002 Redesign Session

Qwest Response to KPMG 2nd Supplemental Recommendation (04/03/2002):

As KPMG has noted, the parties to the Change Management Redesign meetings have reached agreement in principle on a process for Qwest-originated product and process changes. At the March 20, 2002 Product/Process CMP Meeting, Qwest advised CLECs during the meeting that, starting April 1, 2002,

Qwest would implement an interim process to manage Qwest-initiated Product/Process changes. The parties to the Change Management Redesign Process agreed upon the interim process and agreed that Qwest would implement the interim process. The interim process is consistent with the agreements in principle between the parties concerning product and process changes.

Although this process remains subject to further development, modifications, and negotiations in CMP Redesign, the CLECs have agreed to implementation of this process with changes on an 'as needed basis only' as redesign discussions continue.

With the implementation of the interim process for Qwest-initiated product and process changes, along with the process that Qwest implemented last year for CLEC-initiated product and process changes, Qwest's CMP processes for product and process changes are more complete and comprehensive than any other CMP process in the country. Furthermore, the FCC's 271 orders

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have focused on change management for OSS systems, and not on change management for product and process changes.

Due to the current schedule of this test, Qwest requests that KPMG Consulting conduct no further testing. Qwest does not believe the remaining unresolved issues warrant an extension of the test time line. Qwest recognizes this will not allow KPMG to observe implementation of and observation of adherence to the process for Qwest-initiated Product and Process Change Requests that is the final product of the Change Management Redesign process.

KPMG Consulting Disposition Report (04/04/2002):

Summary of Exception:

The Qwest Product/Process Change Management Process (CMP) is the method used by both Qwest and CLECs to introduce and implement changes to Qwest wholesale products and business processes. The Qwest CMP managers are responsible for the administration of Change Requests (CRs) and Notifications, including changes to, and updates of, relevant Qwest documentation. The Qwest Subject Matter Experts (SMEs) are responsible for the products and processes associated with proposed changes.

KPMG Consulting observed an instance in which Qwest did not provide CLECs with complete information about, and a reasonable interval for, a CLEC-impacting CR. Qwest SMEs held meetings with CLECs but did not adequately address CLEC concerns. In addition, Qwest implemented the process change according to a pre-determined schedule despite CLEC objections. KPMG Consulting identified the following issues:

- Qwest, through the CMP, did not provide adequate information to CLECs about a significant CLEC-impacting process change;
- Once Qwest had answered some of the important regulatory, product, and documentation questions, Qwest allowed only four (4) business days for CLECs to prepare for the proposed change;
- Qwest, through the CMP, did not respond to input from all interested parties; a number of CLECs objected to Qwest's implementation of this change and requested its immediate suspension.
- Qwest, through the CMP, did not update CR status on a timely basis;
- Qwest CR includes rate changes that are not explicitly defined to be within the scope of CMP.

KPMG Consulting considered the fact that Qwest implemented CR PC100101-5 without taking into consideration CLEC objections, its failure to make available complete information

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sufficiently in advance of the scheduled change, as well as the subsequent impasse¹⁷ about the process governing Qwest-initiated changes as indicative of lack of a defined and documented change management process.

Summary of Qwest's Initial and Supplemental Responses:

Qwest's initial position stated that Qwest and CLECs developed an *Interim Qwest Initiated Product/Process Change Request Initiation Process* during the early CMP Redesign Sessions. At the time Qwest issued the CR in question, Qwest believed that the interim process might apply to the testing process clarification and, therefore, in good faith, submitted a CR. CLECs later stated that the interim process was only intended for changes stemming from 271 testing efforts. Therefore, Qwest did not believe that it was necessary for it to submit a CR, as this change was not under the scope of the interim process.

During the course of OSS Testing, Qwest and CLECs have engaged in a collaborative process to change and enhance the Qwest Change Management Process (officially referred to as CMP Redesign). As the CMP Redesign continued, Qwest recognized the fact that Qwest and CLECs were at impasse over the process that governs Qwest-initiated Product/Process changes. Qwest implemented an *ad hoc* process (also referred to by Qwest as the *Interim Qwest-Initiated Product/Process Change Management Process*) on April 1, 2002 to manage Qwest-initiated Product/Process changes.

In addition, the redesign team agreed that Qwest and CLECs would continue to evaluate and modify that process. The redesign team has begun to review product/process notices issued over the last few months in order to make the list of categories in each of the four "Levels" of product/process changes more exhaustive. As of the time that this Disposition Report was filed, the redesign team was working to try to finalize this initial effort by April 16, 2002. After this review, CLECs and Qwest will baseline the interim process. Qwest will then insert it into the Qwest Wholesale Change Management Process Document and implement the process, as modified. Qwest's response from April 3, 2002 also indicates that CLECs and Qwest have agreed to implementation of this process with changes occurring on an 'as needed basis only' as Redesign discussions continue.

KPMG Consulting recommends that Exception 3094 be closed unresolved.

Qwest Response to KPMG Disposition (04/22/2002):

At the April 16, 2002 Change Management Redesign meeting, Qwest and the CLECs reached agreement on a process for Qwest-originated product and process changes. This process supersedes the previously agreed to interim process. The agreements have been incorporated into the Master Redlined CLEC-Qwest CMP Redesign Framework – Revised 04-16-02 in

¹⁷ KPMG Consulting observed that Qwest and CLECs were at impasse about Qwest-initiated Product/Process changes from December 2001 to March 2002.

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section 5.4 Qwest Initiated Product/Process Changes. The updated document has been posted on Qwest's Change Management Process (CMP) website (<http://www.qwest.com/wholesale/cmp/redesign.html>).

Qwest requests KPMG Consulting review the updated Master Redlined document to confirm formalization of the process. Qwest understands that KPMG Consulting will not be able to observe adherence to the process, however, KPMG Consulting can confirm the prescribed process is formalized and the Redesign sessions are complete for Product/Process CMP. Qwest requests KPMG Consulting reconsider the disposition of this exception and if there is an opportunity to observe adherence, Qwest will notify KPMG.

KPMG Consulting's Fourth Response (04/25/02):

KPMG Consulting reviewed the *Master Red-Lined CLEC-Qwest CMP Redesign Framework* document,¹⁸ dated April 16, 2002, and acknowledges that the draft document includes a revised process for Qwest-originated product and process changes. The relevant section of the CMP is included with this Exception response as Appendix D. The revised documentation reflects changes based on Qwest-CLEC discussions and the CMP Redesign collaborative meetings that have been conducted to-date. It is KPMG Consulting's understanding that the draft CMP document and associated sub-processes continue to be discussed and negotiated as part of the CMP Redesign working sessions.

KPMG Consulting, based on its monitoring of recent CLEC-Qwest communications, observes that the Product and Process CMP is not yet fully implemented. In written exchanges with at least one CLEC, Qwest clarified that, as of April 19, 2002, it was unable to follow the interim process that went into effect on April 1, 2002 (see confidential Appendix E) because the new process had just been agreed to in the prior two to three weeks. KPMG Consulting has been unable to observe the documented process in practice due to a lack of change activity to which the revised Product and Process CMP has been applied. Therefore, KPMG Consulting is not able to evaluate the adequacy of, or Qwest's adherence to, the newly established process.

KPMG Consulting recommends that the status of Exception 3094 be changed from "closed, unresolved" to "open," pending full implementation of, and adherence to, a complete process for Qwest-initiated Product and Process changes.

Attachments: Appendix D and Confidential Appendix E

¹⁸ The *Master Red-Lined CLEC-Qwest CMP Re-Design Framework Interim Draft – (Revised 04-16-02)* document is available on the Qwest CMP Web site at <http://www.qwest.com/wholesale/downloads/2002/020418/MasterRedlinedCLEC-QwestCMPRedesignFrameworkRevised04-16-02.doc>

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APPENDIX A

Co-Provider Change Request Form

Log # PCCR100101-5 Status: Submitted
Submitted By: Debra Smith Date Submitted: 10/01/01
Co-Provider: _____ Internal Ref# _____
Submitter: Debra Smith, Qwest Unbundled Loop Product Manager, dssmith@qwest.com, 515-241-1206
Name, Title, and email/fax#/phone#

Proprietary for submission to Account Manager Only? Please check mark as appropriate
 Yes No

Title of Change:

Clarification of Additional Testing Process

Area of Change Request: Please check mark as appropriate and fill out the appropriate section below
 System Product Process

System Change Request Section

Interfaces Impacted: Please check mark as appropriate

- | | | | |
|--------------------------------|---|---|---|
| <input type="checkbox"/> CEMR | <input type="checkbox"/> IMA EDI | <input type="checkbox"/> MEDIACC | <input type="checkbox"/> TELIS |
| <input type="checkbox"/> EXACT | <input type="checkbox"/> IMA GUI | <input type="checkbox"/> Product Database | <input type="checkbox"/> Wholesale Billing Interfaces |
| <input type="checkbox"/> HEET | <input type="checkbox"/> Directory Listings | <input type="checkbox"/> Other _____ | |

Please describe

Description of Change:

Is new information requested in a specific screen or transaction?

- Yes No

If yes, name the screen or transaction: _____

Products Impacted: Please check mark as appropriate and also list specific products within product group, if applicable

- | | | | |
|---|-------|--|-------|
| <input type="checkbox"/> Centrex | _____ | <input type="checkbox"/> Resale | _____ |
| <input type="checkbox"/> Collocation | _____ | <input type="checkbox"/> SS7 | _____ |
| <input type="checkbox"/> EEL (UNE-C) | _____ | <input type="checkbox"/> Switched Services | _____ |
| <input type="checkbox"/> Enterprise Data Services | _____ | <input type="checkbox"/> UDIT | _____ |
| <input type="checkbox"/> LIDB | _____ | <input type="checkbox"/> Unbundled Loop | _____ |
| <input type="checkbox"/> LIS | _____ | <input type="checkbox"/> UNE-P | _____ |
| <input type="checkbox"/> LNP | _____ | <input type="checkbox"/> Wireless | _____ |
| <input type="checkbox"/> Private Line | _____ | <input type="checkbox"/> Other _____ | _____ |

Please describe

Please describe

Known Dependencies:

Additional Information: (e.g., attachments for business specifications and/or requirements documents)

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Co-Provider Priority Level

High Medium Low

Desired Implementation Date: ASAP- High

Product Change Request Section

Products Impacted: Please check mark all that apply (if "Other" please describe further)

- | | | | | |
|---|---|--|---|--|
| <input type="checkbox"/> LIS/Interconnection <input type="checkbox"/> EICT <input type="checkbox"/> Tandem Trans./TST <input type="checkbox"/> DTT/Dedicated Transport <input type="checkbox"/> Tandem Switching <input type="checkbox"/> Local Switching <input type="checkbox"/> Other _____ | <input type="checkbox"/> Collocation <input type="checkbox"/> Physical <input type="checkbox"/> Virtual <input type="checkbox"/> Adjacent <input type="checkbox"/> ICDF Collo. <input type="checkbox"/> Other _____ | <input type="checkbox"/> UNE <input type="checkbox"/> Switching <input type="checkbox"/> Transport (incl. EUDIT) <input type="checkbox"/> Loop <input type="checkbox"/> UNE - P <input type="checkbox"/> EEL (UNE-C) <input type="checkbox"/> UDF <input type="checkbox"/> Other _____ | <input type="checkbox"/> Ancillary <input type="checkbox"/> AIN <input type="checkbox"/> DA <input type="checkbox"/> Operation Services <input type="checkbox"/> INP/LNP <input type="checkbox"/> Other _____ | <input type="checkbox"/> Resale |
|---|---|--|---|--|

Description of Change:

Known Dependencies:

Additional Information: (e.g., attachments for business specifications and/or requirements documents)

Co-Provider Priority Level

High Medium Low

Desired Implementation Date: _____

Process Change Request Section

Area Impacted: Please check mark as appropriate

- Pre-Ordering
 Ordering
 Billing
 Repair Other _____

Please describe

Description of Change:

Currently, CLECs' are responsible for testing UNE's prior to submitting a trouble report to Qwest. CLECs' are to provide test diagnostics including specific evidence that the trouble is in the Qwest Network along with the associated Qwest circuit identification number. If the CLEC elects not to perform the necessary UNE testing, Qwest will offer to do such testing on CLECs' behalf. If such testing is requested by the CLEC, Qwest will perform the additional testing and bill the CLEC the appropriate charges that are in their Interconnection agreement. If the CLEC does not provide test diagnostics and elects not to have Qwest perform additional testing on their behalf, Qwest will not accept a trouble report. Additional Charges may apply when the testing determines the trouble is beyond the Loop Demarcation Point

EXCEPTION 3094 – FOURTH RESPONSE

Qwest OSS Evaluation

This additional testing option is available on the Unbundled Loop Product Suite, Unbundled Dedicated Transport (UDIT), Enhanced Extended Loop (EEL) and Loop Mux.

Products Impacted: Please check mark as appropriate and also list specific products within product group, if applicable

| | |
|--|--|
| <input type="checkbox"/> Centrex <input type="checkbox"/> Collocation <input checked="" type="checkbox"/> EEL (UNE-C) <input type="checkbox"/> Enterprise Data Services <input type="checkbox"/> LIDB <input type="checkbox"/> LIS <input type="checkbox"/> LNP <input type="checkbox"/> Private Line | <input type="checkbox"/> Resale <input type="checkbox"/> SS7 <input type="checkbox"/> Switched Services <input checked="" type="checkbox"/> UDIT <input checked="" type="checkbox"/> Unbundled Loop <input type="checkbox"/> UNE-P <input type="checkbox"/> Wireless <input type="checkbox"/> Other |
| Please describe | Please describe |

Known Dependencies:

Additional Information: (e.g., attachments for business specifications and/or requirements documents)

Co-Provider Priority Level

High Medium Low

Desired Implementation Date: _____

This Section to be Completed by Qwest CICMP Manager

Qwest Account Manager Notification

Account Manager: _____ Notified: _____

Qwest CICMP Manager Clarification Request

Yes No

If yes, clarification request sent: _____ Clarification received: _____

Co-Provider Industry Team Clarification Request

Yes No

If yes, clarification request sent: _____ Clarification received: _____

Status, Evaluation and Implementation Comments:

10/01/01 – CR received by Deb Smith of Qwest
 10/01/01 – CR status changed to Submitted
 10/01/01 – Updated CR sent to Deb Smith

Candidate for a Release Yes No

If yes, Release Number: _____

EXCEPTION 3094 – FOURTH RESPONSE

Qwest OSS Evaluation

APPENDIX B

Process to Deploy Qwest CMP Improvements– 11-26-01

As Change Management Process redesign elements (major sections of the Master Redlined CMP Redesign framework) are discussed and baseline language is determined, Qwest and/or a CLEC-Core Team representative may propose to implement the baseline element. This request may occur prior to the completion of the CMP redesign effort. The CMP Redesign Core Team shall comply with the following process for implementing baseline changes:

- The Core Team reaches agreement to implement a given baseline element and determines the implementation date.
- Qwest develops an implementation presentation for the general CLEC community.
 - The Implementation Presentation shall include:
 - Language from the master redlined CMP framework
 - Other pertinent information, if applicable
 - Implementation/effective date
- At the next Monthly CMP meeting, Qwest and the Re-design Core Team will collectively present the proposed change. The Team shall seek comments, if any, from the general CLEC community.
- If there are no objections, Qwest shall implement the changes in accordance with the implementation plan.
- If there are objections, the Re-design Core Team will consider the input, and determine the appropriate course of action.

At the conclusion of the Re-design effort, the Core Team will present the Final Master Red-Line document to the general CLEC community for review and acceptance.

EXCEPTION 3094 – FOURTH RESPONSE

Qwest OSS Evaluation

APPENDIX C

Change Management Process (CMP) Improvements – 11-26-01

| Improvement | Implementation Date(s) |
|---|---------------------------------|
| Standard Naming Convention | August 2001 |
| Web Site Improvements - Design - Search Capabilities | October 2001 |
| CMP Process Improvements - CR Clarification Meetings - Meeting Distribution Package - Meeting Minutes - CR Tracking and Reporting Database - CR Project Management | August – November 2001 |
| Escalation and Dispute Resolution Process - Process - Web Site | November 2001 |
| Exception Process | September 2001 |
| OSS Interface 12 Month Development View | November 2001 |
| CLEC/Qwest Initiated OSS Interface CR Process - Process - Form | October – November 2001 |
| CLEC/Qwest Initiated Product and Process CR Process - Process - Form | October – November 2001 |
| PCAT Red-Line | November 2001 |
| Tech-Pub Red-Line | October 2001 |
| Point of Contact List | October 2001 |
| Established CMP Full Day Meetings | October 2001 |
| Prioritization of Qwest Originated OSS Interface CRs | August – November 2001 |
| Introduction of New OSS Interface | Ready when applicable |
| Web Tool to Support CLEC Comments on CRs | November 2001 |
| Retirement of OSS Interface | Ready when applicable |
| Changes to an Existing OSS Application to Application Interface - Draft Technical Specifications Walkthrough - CLEC Comment Cycle - Final Technical Specifications - CLEC Testing | Effective with IMA 10.0 Release |
| Changes to an Existing GUI - Draft User Guide - CLEC Comment Cycle - Final User Guide | Effective with IMA 10.0 Release |
| OSS IMA EDI Versioning | In Effect |
| Interface Testing Environment - SATE | In Place |

EXCEPTION 3094

APPENDIX D

5.4 Qwest Initiated Product/Process Changes

The following defines five levels of Qwest-initiated product/process changes and the process by which Qwest will initiate and implement these changes. None of the following shall be construed to supersede timelines or provisions mandated by federal or state regulatory authorities, certain CLEC facing websites (e.g., ICONN and Network Disclosures) or individual interconnection agreements. Each notice will state that it does not supercede individual interconnection agreements. The lists provided below are exhaustive/ finite but may be modified by agreement of the parties. Qwest will utilize these lists when determining the disposition (e.g., Level 0-4) to which new changes should be categorized. The changes that go through these processes are not changes to OSS Interfaces. Level 1-4 changes under this process will be tracked and differentiated by level in the History Log.

5.4.1 Level 0 changes

Level 0 changes are defined as changes that do not change the meaning of documentation and do not alter CLEC operating procedures. Level 0 changes are effective immediately without notice.

Level 0 Change Categories are:

- Font and typeface changes (e.g., bold to un-bold or bold to italics)
- Capitalization
- Spelling corrections and typographical errors other than numbers that appear as part of an interval or timeframe.
- Hyphenation
- Acronym vs. non-acronym (e.g., inserting words to spell out an acronym)
- Symbols (e.g., changing bullets from circles to squares for consistency in document)
- Word changes from singular to plural (or vice versa) to correct grammar
- Punctuation
- Changing of a number to words (or vice versa)
- Changing a word to a synonym
- Contact personnel title changes where contact information does not change
- Alphabetize information
- Indenting (left/right/center justifying for consistency)
- Grammatical corrections (making a complete sentence out of a phrase)
- Corrections to apply consistency to product names (i.e., "PBX - Resale" changed to "Resale - PBX")
- Moving paragraphs/sentences within the same section of a document to improve readability
- Hyperlink corrections within documentation
- Remove unnecessary repetitive words in the same paragraph or short section.

For any change that Qwest considers a Level 0 change that does not specifically fit into one of the categories listed above, Qwest shall issue a Level 3 notification.

5.4.1.1 Level 0 Process/Deliverables

For Level 0 changes, Qwest will not provide a notification, web change form, or history log to CLECs. Changes to the documentation will be updated and posted immediately.

5.4.2 Level 1 changes

Level 1 changes are defined as changes that do not alter CLEC operating procedures or changes that are time critical corrections to a Qwest product or process. Time critical corrections may alter CLEC operating procedures, but only if such Qwest product or process has first been implemented through the appropriate level under CMP. Level 1 changes are effective immediately upon notice.

Level 1 Change Categories are:

- Time Critical Corrections to information that adversely impacts CLECs ability to conduct business with Qwest
- Corrections/clarifications/additional information that does not change the product or process
- Correction to synch up related PCAT documentation with the primary PCAT documentation that was modified through a higher level change (notice needs to include reference to primary PCAT documentation)
- Document corrections to synch up with existing OSS Interfaces documentation (notice needs to include reference to OSS Interfaces documentation)
- Process options with no mandatory deadline, that do not supercede the existing processes and that do not impose charges, regardless of whether the CLEC exercises the option
- Modifications to Frequently Asked Questions that do not change the existing product or process
- Re-notifications issued within 6 months after initial notification (notice will include reference to date of initial notification or, if not available, reference to existing PCAT)
- Regulatory Orders that mandate a Product/Process change to be effective in less than 21 days
- Training information (note: if a class is cancelled, notification is provided 2 weeks in advance)
- URL changes with redirect link

For any change that Qwest considers a Level 1 change that does not specifically fit into one of the categories listed above, Qwest shall issue a Level 3 notification.

5.4.2.1 Level 1 Process/Deliverables

For Level 1 changes, Qwest will provide a notification to CLECs. Level 1 notifications will state the disposition (e.g. Level 1), description of change, changes are effective immediately, that there is no comment cycle and will advise CLECs to contact the CMP Manager, by email at cmpcr@qwest.com, immediately if the change alters the CLECs' operating procedures and requires Qwest's assistance to resolve. Qwest will promptly respond to the CLEC and work to resolve the issue. In addition, Qwest will provide the following for PCAT and NonFCC Technical Publication ("Tech Pub") changes:

- A web notification form that includes an exact cut and paste of the changes highlighted in green (PCAT) or redlined (Technical Publications). If necessary, additional text above and below the changes will be provided for context.
- A history log that tracks the changes

5.4.3 Level 2 changes

Level 2 changes are defined as changes that have minimal effect on CLEC operating procedures. Qwest will provide notice of Level 2 changes at least 21 calendar days prior to implementation.

Level 2 Change Categories are:

- Contact Information updates excluding time critical corrections (includes email, fax, TN, personnel changes)
- Changes to a form that do not introduce changes to the underlying process
- Changes to eliminate/replace existing Web functionality will be available for 21 days until comments are addressed. (New URL is implemented in parallel with existing; includes reference to existing and vice versa.)
- Removal of data stored under an archive URL
- Elimination of a URL re-direct
- Addition of new Web functionality (e.g., CNLA) either a demo or screen shot presentation will be available at the time of the notification for evaluation during the 21 day cycle.) Re-notifications issued 6 months or more after the initial notification (notice will include reference to date of initial notification or, if not available, reference to existing PCAT)
- Documentation concerning existing processes/products not previously documented
- Changes to manually generated notifications normally transmitted to CLECs through their OSS interfaces that are made to standardize or clarify, but do not change the reasons for, such notifications.
- LSOG/PCAT documentation changes associated with new OSS Interface release documentation resulting from an OSS interface CR
- Reduction to an interval in Qwest's SIG

For any change that Qwest considers a Level 2 change that does not specifically fit into one of the categories listed above, Qwest shall issue a Level 3 notification.

5.4.3.1 Level 2 Process/Deliverables

For Level 2 changes, Qwest will provide a notice to CLECs. Level 2 notifications will state the disposition (e.g. level 2), description of change, proposed implementation date, and CLEC/Qwest comment cycle timeframes. In addition to the notice, any documentation changes required to PCATs and Non-FCC Tech Pubs (red-line for Tech Pubs and green highlights for PCATs) will be available for review in the Document Review section of the CMP Website (<http://www.qwest.com/wholesale/cmp/review.html>), commonly known as the document review site. In the document review site, a comment button will be available next to the document to allow CLECs to provide comments. For Level 2 changes that do not impact PCATs or NonFCC Tech Pubs, a comments link will be provided within the notification for comments.

Qwest must provide initial notice of Level 2 changes at least 21 calendar days prior to implementation and adhere to the following comment cycle:

- CLECs have 7 calendar days following initial notification of the change to provide written comments on the notice
- Qwest will reply to CLEC comments no later than 7 calendar days following the CLEC cut-off for comments. The Qwest reply will also include confirmation of the implementation date.
- Qwest will implement no sooner than 21 calendar days from the initial notification.

CLECs may provide General comments regarding the change (e.g., clarification, request for modification). Comments must be provided during the comments cycle as outlined for level 2 changes.

For general comments, Qwest will respond to comments and provide a final notice of the change. Additionally, Qwest will provide documentation of proposed changes to Qwest PCATs and NonFCC Tech Pubs available to CLECs and implement the change(s) according to the timeframes put forth above. If there are no CLEC comments, a final notice will not be provided and the changes will be effective according to the date provided in the original notification.

If the CLECs do not accept Qwest's response, any CLEC may elect to escalate or pursue dispute resolution in accordance with the agreed upon CMP Escalation or Dispute Resolution procedures.

5.4.4 Level 3 changes

Level 3 changes are defined as changes that have moderate effect on CLEC operating procedures and require more lead-time before implementation than Level 2 changes. Qwest will provide initial notice of Level 3 changes at least 31 calendar days prior to implementation.

Level 3 Change Categories are:

- NC/NCI code changes
- Adding of new features to existing products (excluding resale)
- Customer-facing Center hours and holiday schedule changes
- Modify/change existing manual process
- Expanding the availability and applicability of an existing product or existing feature (excluding resale)
- Regulatory Orders that mandate a Product/Process change to be effective in 21 days or more

For any change that Qwest considers a Level 3 change that does not specifically fit into one of the categories listed above, Qwest shall issue a Level 3 notification.

5.4.4.1 Level 3 Process/Deliverables

For Level 3 changes, Qwest will provide a notice to CLECs. Level 3 notifications will state the disposition (e.g. level 3), description of change, proposed implementation date, and CLEC/Qwest comment cycle timeframes. Level 3 notifications will only include Level 3 Changes, excluding notification of changes to Tech Pubs. For Level 3 notifications that Qwest believes represent a new change category under Level 0, Level

1, Level 2, Level 3, or Level 4, Qwest should propose such new change category in the notice and CLECs and Qwest will discuss the proposal in the next monthly Product & Process CMP meeting. In addition to the notice, any documentation changes required to PCATs and Non-FCC Tech Pubs (red-line for Tech Pubs and green highlights for PCATs) will be available for review in the Document Review section of the CMP Website (<http://www.qwest.com/wholesale/cmp/review.html>), commonly known as the document review site. In the document review site, a comment button will be available next to the document to allow CLECs to provide written comments. For Level 3 changes that do not impact PCATs or Non-FCC Tech pubs, a link will be provided within the notification for comments.

Qwest will provide initial notice of Level 3 changes at least 31 calendar days prior to implementation and adhere to the following comment cycle:

- CLECs have 15 calendar days following initial notification of the change to provide written comments on the notice
- Qwest will reply to CLEC comments no later than 15 calendar days following the CLEC cut-off for comments. The Qwest reply will also include confirmation of the implementation date. In the event there are extenuating circumstances, (e.g. requested change requires significant research, information is required from national standards body or industry (e.g. Telcordia)), Qwest's response will indicate the course of action Qwest is taking and Qwest will provide additional information when available. Once the information is available Qwest will provide a notification and any available updated documentation (e.g. Tech Pubs, PCATs) at least 15 calendar days prior to implementation.
- Qwest will implement no sooner than 15 calendar days after providing the response to CLEC comments. For example, if there are no CLEC comments, Qwest may send out a final notification on the first day following the CLEC cut-off for comments (day 16 after the initial notification). Thus, implementation would be 31 days from the initial notification. However, if Qwest does not respond to the CLEC comments until the 15th day after the CLEC cut-off for comments, the earliest possible implementation date would be 45 calendar days from the initial notification.

CLEC comments must be provided during the comment cycle as outlined for Level 3 changes. Comments may be one of the following:

- General comments regarding the change (e.g., clarification, request for modification)
- Request to change disposition of Level. If the request is for a change to Level 4, the request must include substantive information to warrant a change in disposition (e.g. business need, financial impact).
- Request to change disposition to a Level 0, Level 1 or Level 2 doesn't have to include substantive information to warrant a change.
- Request for postponement of implementation date, or effective date

For general comments, Qwest will respond to comments and provide a final notice of the change. Additionally, Qwest will provide documentation of proposed changes to Qwest PCATs and Non FCC Tech Pubs available to CLECs and implement the change(s) according to the timeframes put forth above.

CLECs and Qwest will discuss requests to change the disposition Level of noticed changes, or to establish new change categories under Levels 0 – 4, at the next monthly Product & Process CMP meeting. In the event that the parties are not able to reach consensus on any such request, CLECs and Qwest will take a vote of the parties in

attendance at the meeting. The result will be determined by the majority. If the disposition Level of a change is modified, from the date of the modification forward such change will proceed under the modified Level with notifications and timelines agreed to by the participants. Except that, within five (5) business days after the disposition level is changed to a Level 1, Qwest will provide a Level 1 notification. When a change to the disposition Level of a particular notice also suggests that a new category of change be established under one of the Levels, a separate vote shall be taken for each.

For a request for postponement, Qwest will follow the procedures as outlined in Section 4 of this document.

If the CLECs do not accept Qwest's response, any CLEC may elect to escalate or pursue dispute resolution in accordance with the agreed upon CMP Escalation or Dispute Resolution procedures.

5.4.5 Level 4 Changes

Level 4 changes are defined as changes that have a major effect on existing CLEC operating procedures or that require the development of new procedures. Level 4 changes will be initiated using the CMP CR process and provide CLEC an opportunity to have input into the development of the change prior to implementation.

Level 4 Change Categories are:

- New products, features, services (excluding resale)
- Increase to an interval in Qwest's SIG
- Changes to CMP
- New PCAT/Tech Pub for new processes
- New manual process
- Limiting the availability and applicability or functionality of an existing product or existing feature
- Addition of a required field on a form excluding mechanized forms that are changed through an OSS interface CR

For any change that Qwest considers a Level 4 change that does not specifically fit into one of the categories listed above, Qwest shall issue a Level 3 notification.

5.4.5.1 Level 4 Process/Deliverables

Qwest will submit a completed Change Request no later than 14 calendar days prior to the CMP Product and Process Monthly Meeting. At a minimum, each Change Request will include the following information:

- A description of the proposed change
- A proposed implementation date (if known)
- Indication of the reason for change (e.g., regulatory mandate)
- Basis for disposition of level 4

Within two (2) business days from receipt of the CR:

- The Qwest CMP manager assigns a CR Number and logs the CR into the CMP Database.
- The Qwest CMP Manager forwards the CR to the CMP Group Manager,

- The Qwest CMP manager sends acknowledgment of receipt to the CR submitter and updates the CMP Database.

Within two (2) business days after acknowledgement,

- The Qwest CMP Manager posts the complete CR to the CMP Web site
- The CMP Group Manager assigns a Change Request Project Manager (CRPM) and identifies the appropriate Director responsible for the CR
- The CRPM identifies the CR subject matter expert (SME) and the SME's Director.
- The CRPM will provide a copy of the detailed CR report to the CR originator which includes the following information:
 - Description of CR
 - Assigned CRPM
 - Assigned CR number
 - Designated Qwest SME(s) and associated director(s)

Qwest will present the Change Request at the monthly Product and Process CMP meeting. The purpose of the presentation will be to:

- Clarify the proposal with the CLECs
- Confirm the disposition (e.g., level 4) of the Change (see below). If during the CMP meeting CLECs agree to change the disposition, then the type of change being made will be added to the list for the disposition to which it is changed.
- Propose suggested input approach (e.g., a 2 hour meeting, 4 meetings over a two week period, etc.), and obtain consensus for input approach.
- Confirm deadline, if change is mandated
- Provide proposed implementation date, if applicable

At the monthly CMP meeting, the parties will discuss whether to treat the Change Request as a Level 4 change. If the parties agree, the Change Request will be reclassified as a Level 0, 1, 2 or 3 change, and the change will follow the process set forth above for Level 0, 1, 2, or 3 changes, as applicable. If the parties do not agree to reclassify the Change Request as a Level 0, 1, 2 or 3 change, the following process will apply:

- The parties will develop a process for Qwest to obtain CLEC input into the proposed change. Examples of processes for input include, but are not limited to, one-day conferences, multi-day conferences, or written comment cycles.
- After completion of the input cycle, as defined during the CMP meeting, Qwest will modify the CR, if necessary, and design the solution considering all CLEC input.
- For Level 4 changes, when the solution is designed and all documentation is available for review, a notice of the planned change is provided to the CLECs. Level 4 notifications will only include Level 4 Changes, excluding notification of changes to Tech Pubs. This notice will be provided at least 31 calendar days prior to implementation. The notice will contain reference to the original CR, proposed implementation date, and the CLEC/Qwest comment cycle. In addition, any documentation changes required to PCATs and Non-FCC Tech Pubs will be available for review in the document review site (red-line for Tech Pubs and green highlighting for PCAT) with a Comment button available to provide written comments. For Level 4 changes that do not impact PCATs or NonFCC Tech Pubs, a comments link will be provided within the notification.
- CLECs have 15 calendar days following notification of the planned change to provide written comments on the notice

- Qwest will reply to CLEC comments no later than 15 calendar days following the CLEC cut-off for comments. The Qwest reply will also include confirmation of the implementation date. In the event there are extenuating circumstances, (e.g. requested change requires significant research, information is required from national standards body or industry (e.g. Telcordia)), Qwest's response will indicate the course of action Qwest is taking and Qwest will provide additional information when available. Once the information is available Qwest will provide a notification and any available updated documentation (e.g. Tech Pubs, PCATs) at least 15 calendar days prior to implementation.
- Qwest will implement no sooner than 15 calendar days after providing the response to CLEC comments. For example, if there are no CLEC comments, Qwest may send out a final notification on the first day following the CLEC cut-off for comments (day 16 after the initial notification). Thus, implementation would be 31 days from the initial notification. However, if Qwest does not respond to the CLEC comments until the 15th day after the CLEC cut-off for comments, the earliest possible implementation date would be 45 calendar days from the initial notification.

CLEC comments must be provided during the comment cycle as outlined for Level 4. CLEC comments may be one of the following:

- General comments regarding the change (e.g., clarification, request for modification)
- Request for stay or delay implementation, or effective date for which comments are being provided.

For general comments, Qwest will respond to comments and provide a final notice of the change. Additionally, Qwest will provide documentation of proposed changes to Qwest PCATs and NonFCC Tech Pubs available to CLECs and implement the change(s) according to the timeframes put forth above.

For a request to stay or delay, Qwest will follow the procedures as outlined in Section 4 of this document.

If the CLECs do not accept Qwest's response, any CLEC may elect to escalate the CR or pursue dispute resolution in accordance with the agreed upon CMP Escalation or Dispute Resolution procedures.

B

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., COMPLIANCE WITH § 271(C) OF THE TELECOMMUNICATIONS ACT OF
1996**

**QWEST CORPORATION'S COMMENTS DEMONSTRATING
SATISFACTION OF THE FCC'S SECTION 271
CHANGE MANAGEMENT EVALUATION CRITERIA**

2. The Interoperability Environment

Qwest established its first CLEC test environment in 1997, which subsequently evolved into the Interoperability environment in 1998. To date, 26 individual CLECs have tested in the Interoperability environment and subsequently have gone into production.¹ When a CLEC tests in the Interoperability environment, it submits IMA data transactions through EDI to Qwest's Interoperability environment. This environment uses a copy of the production IMA EDI software, thereby providing a production-like environment in which CLECs may test. A general description of the Interoperability environment is set forth in the attached "Overview of Interface Testing."² The IMA Implementation Guide document provides a greater level of detail on testing in the Interoperability environment.³ The following description relies on these documents.

The Interoperability environment validates transactions against actual production data using real production legacy systems to validate the data for pre-order and order transactions, including validation of account data. These transactions are then submitted by the system into a test database that is a copy of the production IMA database, yet is physically separate from production. Because these transactions are not sent to the production databases, post-order transactions in the Interoperability environment are manually generated. Each of the transaction types for pre-order, order and post-order activities that is supported by the production IMA release is likewise supported in the Interoperability environment.

¹ Notarianni Affidavit at ¶ 4.

² Notarianni Affidavit, Attachment B.

³ See Exhibit H.

The Interoperability environment supports all of the releases that are maintained in production, providing CLECs with the ability to test different versions of IMA releases at the same time. New versions of IMA are released in the Interoperability environment approximately 30 calendar days prior to their release in production unless that release is deemed to be in "red testing status."⁴ Red testing status indicates that the release's system testing effort has discovered significant issues that place the release in jeopardy. Additionally, Qwest supports releases of IMA in the Interoperability environment for an extended testing period. Each release is available to CLECs for six months after the next subsequent major IMA-EDI release is made available in production.

To aid CLECs in their implementation of IMA in the Interoperability environment, Qwest makes available a CLEC-specific IMA-EDI Implementation Team.⁵ The IMA-EDI Implementation Team works directly with a CLEC's EDI team during the testing and certification of the CLEC's interface software. As described above, the IMA-EDI Implementation Team for each CLEC is composed of a project manager, technical support engineer and a business analyst. The 9.0 version of the IMA-EDI Implementation Guide document includes a staffing plan appendix that details Qwest's implementation organization, including organization structure, roles and responsibilities, as well as process flow diagrams.⁶

In addition to a CLEC-specific implementation team, Qwest provides CLECs with the IMA-EDI Implementation Guide document to aid in their use of the Interoperability environment. The IMA-EDI Disclosure Document is also provided to CLECs to assist with the

⁴ See Draft Final Report, Test 24.6, § 2.1.1.4, p. 580.

⁵ See Draft Final Report, Test 24.6, § 2.1.1.4, p. 581.

⁶ See IMA-EDI Implementation Guide, Exhibit H, which is also available at <http://www.qwest.com/wholesale/ima/edi/document.html>.

development of their EDI interfaces. Both documents are discussed more fully above in Section VI (A).

As with other interface systems, Qwest provides CLECs with the opportunity to submit CMP Change Requests for the Interoperability environment. Interoperability CRs are managed by CMP in the same manner as IMA-EDI Production CRs.

3. The Stand-Alone Test Environment (SATE)

Qwest implemented SATE on August 1, 2001, as an alternative testing environment to the interoperability environment.⁷ Testing in the SATE environment can be performed in place of, or in addition to, conventional testing in the Interoperability environment, for both initial certification that CLEC systems will interface with Qwest's IMA-EDI systems and for subsequent testing of new releases of IMA-EDI software.

SATE provides a CLEC with the ability to learn how Qwest's IMA-EDI functions work and the ability to test its interface in a test environment that returns pre-defined test scenarios that mimic production responses. Qwest provides the account data and scenario information (test decks) to users through the IMA-EDI Data Document for SATE.⁸ Scenario submissions do not leave SATE during testing. By providing CLECs with a self-contained, production-like environment for sending transactions, CLECs have the opportunity to experience an environment that acts like production IMA-EDI without interfacing with the actual production environment. SATE uses test account data and requests that are subjected to the same IMA-EDI

⁷ See Draft Final Report, Test 24.6, § 2.1.1.4, p. 580.

⁸ CLECs may also request additions or changes to the test decks. Qwest generally is able to meet such requests within two weeks of approval.

edits as those used in production.⁹ SATE also permits CLECs to perform "regression testing," in which a CLEC determines whether systems changes on its end will affect its ability to interface via EDI with Qwest.

Qwest makes available in SATE the same support teams to CLECs to assist in testing and certifying CLEC interface software as it does in the Interoperability environment. Qwest's IMA-EDI Implementation Team works directly with CLECs using SATE. In addition, a SATE Users' Group meets regularly under the aegis of the Change Management Forum to discuss SATE-related issues and to recommend changes to SATE as appropriate. Qwest also provides CLECs with the IMA-EDI Implementation Guide and other documentation to aid in the utilization of SATE.¹⁰ Beginning with version 9.0, the IMA-EDI Implementation Guide has included a staffing plan which details Qwest's CLEC testing organizational structure and the roles and responsibilities of all resources that directly support SATE, as well as diagrams that describe the process flows of SATE.¹¹

Qwest built SATE to provide products and transactions that were currently being ordered by CLECs through IMA-EDI.¹² Qwest continues to monitor the products that CLECs express interest in and has created CMP CRs to add products to SATE.¹³ In addition, to ensure that CLECs have the functionality available in SATE that they require, CLECs may request

⁹ IMA (GUI and EDI) edits ensure that LSRs are populated in accordance with Qwest business rules as well as with the correct data characteristics and field length.

¹⁰ See <http://www.qwest.com/wholesale/ima/edi/document.html>.

¹¹ See <http://www.qwest.com/wholesale/ima/edi/document.html>.

¹² See Notarianni Affidavit, ¶ 11. The list of products can be found in the IMA-EDI Implementation Guide, which is available at <http://www.qwest.com/wholesale/ima/edi/document.html>. KPMG's closed unresolved Exception 3095, which questions whether products ordered through GUI interfaces should be included in SATE, is addressed below, in the third party test section.

¹³ Notarianni Affidavit, ¶ 11.

through the change management process that Qwest include additional products and functionality in its suite of SATE transactions.¹⁴ SATE CRs are managed by CMP in the same manner that IMA-EDI CRs are managed. A SATE Users' Group was formed in November 2001 as part of the CMP Forum, to give Qwest and CLECs an opportunity to communicate their current plans and needs, respectively, as well as to jointly present a list of change requests to CMP that ensures that future SATE enhancements meet the needs of CLECs.¹⁵

As a further enhancement to SATE, Qwest has provided automated post-order responses in SATE since Release 9.0 (January 26, 2002), through the Virtual Interconnect Center Knowledge Initiator ("VICKI"). VICKI is described in detail in the attached "White Paper on the Virtual Interconnect Center Knowledge Initiator."¹⁶ This new functionality provides CLECs with the ability to experience the behavior of IMA-EDI consistent with production timing of post-order transactions.¹⁷ It also ensures that CLECs receive automated responses consistent with those received in production.¹⁸

Although CLECs currently use SATE with success, SATE will continue to be enhanced in the coming months. For instance, despite the FCC's view that a BOC's test

¹⁴ See EDI Implementation Guide, Exhibit H, available at <http://www.qwest.com/wholesale/ima/edi/document.html/wholesale/ima/edi/document.html>. The process states that "additional functionality can be agreed upon and added in later releases. Requests for transactions not currently supported may be requested via CMP." See *id.*

¹⁵ See SATE Users' Group Meeting Minutes, November 13, 2001 (Exhibit L). The Users' Group has within its scope all EDI interface testing issues. See *id.* In addition to the SATE Users' Group, Qwest and individual CLECs can request changes to test environments.

¹⁶ "White Paper on the Stand Alone Test Environment (SATE) Virtual Interconnect Center Knowledge Initiator," Dec. 7, 2001, Version 1.00 ("VICKI White Paper") (Exhibit M).

¹⁷ VICKI is a tool that Qwest provides in the SATE environment to automatically generate valid production order and post-order responses to CLEC-generated test transactions. This further strengthens the CLEC's ability to test their EDI interface in a stand-alone fashion, with reduced requirements for CLEC/Qwest interaction. See VICKI White Paper (Exhibit M).

environment is not required to test flow-through,¹⁹ Qwest is in the process of implementing flow-through for all products in SATE that are flow-through eligible. Adding flow-through to SATE gives a CLEC the capability of testing whether a given local service request would flow through if had been sent to production.²⁰ Flow-through components for POTS and UNE-P were added to the Western Region (Oregon and Washington) on February 25, 2002.²¹ The implementation of flow-through should be completed throughout the entire Qwest territory by mid-May 2002.²² Once the transition to flow-through is complete, a CLEC will have the option of (1) sending its SATE transaction to a copy of the production service order processor, where only flow-through eligible LSRs will successfully flow, or (2) receiving a specified test scenario response.²³

4. Comparison of the Interoperability Environment with SATE

SATE is distinct from the Interoperability environment in several respects. The "Overview of Interface Testing" provides an explanation of those differences.²⁴ These differences also are described briefly below.

First, the Interoperability test environment uses real customer account data and uses production systems for preorder and LSR validation prior to the submittal of the LSR. In

¹⁸ Those post-order transactions that currently are done manually by an Interconnect Service Center ("ISC") representative in production are not automated in SATE. Those transactions are completed manually in SATE, as they are in production by ISC representatives.

¹⁹ See *Texas 271 Order*, 15 FCC Rcd at 18421 (¶ 138).

²⁰ Testing using flow-through is described in more detail in Qwest's "White Paper on Flow Through in the Stand Alone Test Environment," January 3, 2002, Version 1.00 ("Flow Through White Paper") (Exhibit T).

²¹ See Flow Through White Paper, Exhibit T.

²² *Id.*

²³ *Id.* Unlike BellSouth's CLEC Application Verification Environment, SATE will utilize distinct service order processors for SATE to avoid confusing test and production data. See *Evaluation of the Department of Justice Comments on BellSouth Georgia/Louisiana 271 Application*, CC Docket No. 01-277, filed Nov. 6, 2001, at 34.

²⁴ Attachment B to the Notarianni Affidavit. See also Draft Final Report, Test 24.6, §2.1.1.4, p. 580.

contrast, SATE utilizes test data provided by Qwest that is physically separate from production systems. CLECs are provided with customer accounts to perform testing in SATE. In addition, the SATE environment returns predefined responses. This permits CLECs to test scenarios to learn Qwest's response utilizing a Qwest-provided test deck and accounts.²⁵

Second, effective January 26, 2002, SATE permits CLECs to receive automated post-order responses through VICKI, as described above. This functionality provides CLECs with the ability to experience the behavior of IMA consistent with production timing of post-order transactions. Those CLECs who test in the Interoperability environment receive EDI messages generated by Qwest personnel.

Third, with the full implementation of flow-through in SATE in May, 2002, CLECs will have the option of testing the ability of their orders to flow through to a copy of the production service order processor. This capability is not present in the Interoperability environment. Qwest has chosen to implement flow-through capability in SATE even though the FCC does not require this under Section 271.²⁶

In evaluating Qwest's satisfaction of the Section 271 criteria for interface testing, it is important for the Commission to examine the full picture of Qwest's testing opportunities. SATE and the Interoperability environment both are successful testing environments, each of which independently meets the FCC's criteria. But they also offer CLECs different options for testing.

²⁵ CLECs may request additional predefined responses for existing SATE products and functionality through the IMA-EDI Implementation Team using the SATE Data Request form. This form is available on the Qwest Wholesale Website at <http://www.qwest.com/wholesale/ima/edi/document.html>. Pursuant to procedures set forth in the IMA-EDI Implementation Guide, once the request has been reviewed and approved, Qwest will load the data into SATE within ten business days. See IMA-EDI Implementation Guide, Exhibit H at 39.

²⁶ See *Texas 271 Order*, 15 FCC Rcd at 18421 (¶ 138).

B. Stable Test Environment that Mirrors Production.

Qwest's Interoperability environments and SATE each independently satisfy the FCC's requirements that BOCs make available a "stable testing environment that mirrors production."²⁷

Stability of the Test Environment. The FCC has defined a "stable testing environment" as "one in which the BOC makes no changes to the proposed release during the test period."²⁸ First, both the Interoperability environment and SATE are stable because Qwest has undertaken to make no changes (other than bug fixes) during the 30-day period prior to implementation of a major release. Effective with the release of IMA-EDI 9.0 in February 2002, this is now true for SATE as well as for Interoperability. This requirement has been incorporated into Qwest's change management procedures in the section titled "Change to Existing OSS Interfaces."²⁹ If a serious code issue is found during the 30-day window, however, Qwest will implement the bug (emergency) fix. The implementation of bug fixes allows CLECs to test with the fixed code prior to the production deployment and therefore increases the stability of the test environment. KPMG found that Qwest made available both testing environments to CLECs "approximately 30 calendar days prior to production deployment of a new version of IMA."³⁰

Qwest also makes the both the Interoperability environment and SATE available to CLECs for an extended testing period. They are available to CLECs approximately 30 days

²⁷ See *Rhode Island 271 Order*, App. D. at ¶ 42.

²⁸ See *Massachusetts 271 Order*, 16 FCC Rcd at 9048 (¶ 109).

²⁹ See Wholesale CMP, § 5.1.8.

³⁰ Draft Final Report, Test 24.6, § 2.1.1.4, p. 580.

prior to and six months after each major IMA-EDI release.³¹ This practice, known as "versioning," allows CLECs to remain using a prior release even after implementation of a new release, to give them time to decide when to migrate to the new release. Thus, beginning with the release of EDI 9.0 in February 2002, CLECs will be able to test in both Interoperability and in SATE for any one of three releases (7.0, 8.0, and 9.0) at the same time.³² (In the Interoperability environment, versioning had already been possible).³³ The FCC has approved of versioning because it "ensures that system changes and enhancements do not adversely affect a carrier's ability to access the BOC's OSS."³⁴

Mirroring the Production Environment. Both the Interoperability environment and SATE satisfy the FCC's requirement that the interface testing environment mirror the production environment. The FCC has held that in order to satisfy its "mirroring production" standard, a BOC need not provide a testing environment that is "identical to its production environment."³⁵ Rather, it is sufficient for a BOC to show that "the testing and production environments perform the same key functions."³⁶

The Interoperability environment by definition mirrors the production environment. The Interoperability test environment uses a copy of the EDI software used in

³¹ See Draft Final Report, Test 24.6, § 2.1.1.4, p. 580. SATE is available for testing of both major EDI releases and point releases, but the 30-day stable testing period prior to release is available only for major releases. This is consistent with the FCC's requirements and with the CMP redesign procedures agreed to by CLECs and Qwest. See, e.g., *Massachusetts 271 Order*, 16 FCC Rcd at 9016 (¶ 111).

³² See OSS Calendar, which can be found on the Qwest Wholesale Website, available at <http://www.qwest.com/wholesale/cmp/osscalendar.html>.

³³ See IMA-EDI Implementation Guide, Exhibit H, available at <http://www.qwest.com/wholesale/ima/edi/document.html>.

³⁴ Application of Verizon New England Inc., et al., for Authorization to Provide In-Region, InterLATA Services in Massachusetts, 16 FCC Rcd 8988 (2001) at ¶ 107, quoting *Texas 271 Order*, 15 FCC Rcd at 18408, ¶ 115.

³⁵ *Texas 271 Order*, ¶ 138.

production, uses real production pre-order and order databases to validate and accept the LSR, and provides EDI responses generated by Qwest personnel that mirror production responses.³⁷ SATE also mirrors production because it allows CLECs to run transactions that generate the same responses as in production without actually using production data or production systems. Qwest provides CLECs with test decks of predefined responses to test in SATE, and those responses mirror production. Transactions submitted by CLECs through SATE use the same IMA-EDI software that is used in production, as well as the same CLEC EDI software. All known differences between production and SATE are documented on an on-going basis.³⁸ If the implementation of IMA-EDI functionality into SATE causes the system behavior to differ from production, Qwest will likewise document this information.³⁹ Transactions between Qwest and CLECs submitted through SATE therefore operate almost identically to those submitted through the actual pre-ordering, ordering and post-ordering processes.⁴⁰ This enables CLECs to, in effect, run transactions with Qwest without using their own account data. CLECs also can use SATE to evaluate products they are considering offering to determine whether they can do so effectively through their IMA-EDI interfaces. To further enhance SATE, Qwest now provides

³⁶ *Id.*

³⁷ *See generally* "Overview of Interface Testing," Attachment B to the Notarianni Affidavit.

³⁸ KPMG, in the ROC third party test, and Hewlett Packard, in the Arizona third party test, both initially challenged the comparison of errors generated in SATE with the errors generated in the production environment. This issue is discussed in the third party test section, below.

³⁹ While SATE mirrors production, it is not a complete replica of the production environment. Because of the nature of the test environment, some differences arise. For details on the differences between SATE and production, see the Overview section of the IMA-EDI SATE Data Document, Exhibit J, which can also be found on the Qwest Wholesale Website at <http://www.qwest.com/wholesale/ima/edi/document.html>.

⁴⁰ The structure of data in SATE mirrors the structure of production data, but the actual content of SATE data is not identical to the content of any instance of production data. SATE does not contain production data so that a CLEC can easily test any production scenario without concern for any privacy issues. While the responses may occasionally differ between production and SATE, the test environment utilizes the same processing logic as the production system. As a result, the structure of the response should mirror production.

automated post-order responses (since January 26, 2002), and it has begun implementing test flow-through components, even though the FCC has not required this capability under Section 271.⁴¹

C. Commercial Data

Commercial results support these conclusions. To date, five individual CLECs, as well as five others through a service bureau,⁴² have successfully completed testing using SATE and have achieved production status for EDI implementation of pre-ordering capabilities.⁴³ In approving SBC's 271 application in Texas, the FCC found it compelling evidence of the adequacy of SBC's new test environment that three carriers had used it to achieve production status, with two carriers using it for a new release.⁴⁴ Here, the commercial data is even stronger. As noted above, a total of ten carriers have achieved production status after testing through SATE (individually or through a service bureau).

There is one PID that is relevant to SATE (PO-19). This SATE PID "evaluates Qwest's ability to provide accurate production-like tests to CLECs for testing both new releases and between releases in the SATE environment."⁴⁵ Specifically, PO-19 measures the percentage of SATE test transactions that are successfully completed for a software release or mid-release performance test based upon the transactions reported in the Qwest SATE Document. In a

⁴¹ See *Texas 271 Order*, 15 FCC Rcd at 18421 (¶ 138).

⁴² Several CLECs interested in testing their EDI interfaces are represented by service bureaus. A service bureau is a company that provides a variety of outsourced services to CLECs, including, but not limited to, establishing and maintaining connectivity between BOCs and CLECs, administering databases and managing associated hardware, as well as producing and transmitting EDI transactions.

⁴³ See Notarianni Affidavit at ¶ 4.

⁴⁴ See *Texas 271 Order*, ¶ 134.

⁴⁵ ROC PID Version 4.0 at 26 (PO-19), available at <http://www.qwest.com/wholesale/results/roc.html>.

January meeting, the ROC TAG agreed that a 95% benchmark would apply to PO-19 beginning in March.⁴⁶ As reflected in the commercial performance results, Qwest met the 95% standard in Colorado for March.⁴⁷ For the three months prior to March, Qwest also met or came close to meeting this 95 percent standard. For the four month period between December 2001 and February 2002, Qwest successfully executed 98.73, 94.57, 95.38, and 97.10 percent of test transactions within SATE.⁴⁸ Thus, Qwest either met the current benchmark or fell only a fraction of a percentage point short of it during the past four months.⁴⁹

Although Qwest has negotiated the current PO-19 PID with the CLECs, Qwest is currently proposing a modification to PO-19 based on feedback from AT&T in the most recent Arizona OSS Test workshop. This modification would include a sub-measure to execute the same transactions in production and in SATE, to further measure the extent to which SAT mirrors production. Once Qwest has provided initial results for this updated PID, AT&T has requested that HP (or another vendor) evaluate the execution and the results. Although we do not yet have the transcript available, in the Arizona workshop last week, the Arizona Corporation Commission Staff indicated that this update and subsequent evaluation would be outside of the Arizona 271 proceeding.

⁴⁶ See ROC Steering Committee, "Impasse Issue on Benchmark for PO-19 SATE Accuracy," January 28, 2002, Exhibit N.

⁴⁷ See Colorado Commercial Performance Results at 67 (PO-19), which can be found at www.qwest.com/wholesale/results/roc.html.

⁴⁸ See Colorado Commercial Performance Results at 67 (PO-19), which can be found at www.qwest.com/wholesale/results/roc.html.

⁴⁹ The Joint CLECs refer to HP performance data listed without citation, but Qwest assumes that the data are taken from the *HP 9.0 Report, supra*, at 24. Joint CLEC Brief at 22. The Joint CLECs neglect to mention HP's conclusion that SATE was adequate to permit CLECs to test new releases, or that Qwest had met, or came very close to meeting, the 95 percent benchmark established for PO-19 by the ROC.

Commercial data also support the conclusion that the Interoperability test environment provides an effective means for CLECs to test and certify their EDI interfaces. To date, 26 CLECs have successfully tested through Interoperability and achieved production status.⁵⁰ There is no PID to measure the ability of test transactions in the Interoperability environment to mirror production. As discussed above, however, because test transactions go directly to legacy production databases, they will match the production responses.

Dated this 26th day of April, 2002.

By: _____

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⁵⁰ Notarianni Affidavit at ¶ 4.

C

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:

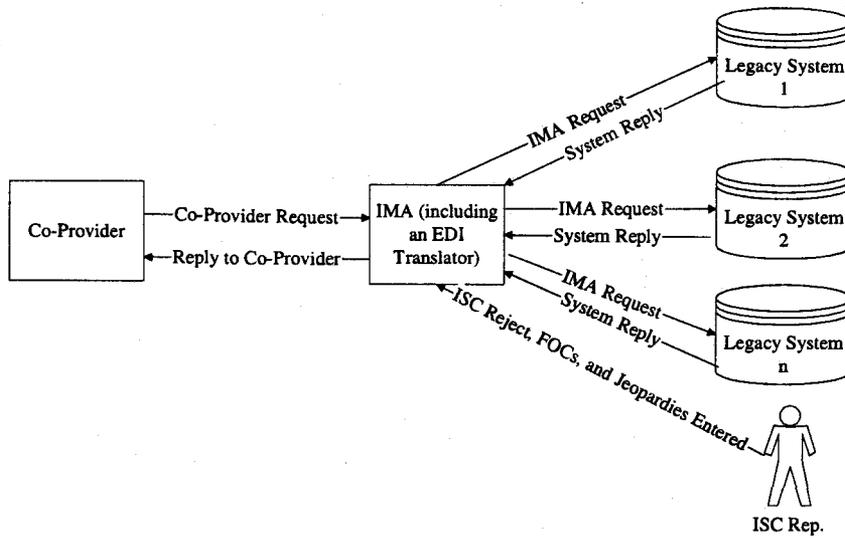
- Test a Co-Provider's EDI application against real IMA functionality. Co-Providers need an unsupervised test environment that does not rely on real production accounts and does not run the risk of interfering with production, but at the same time, interacts with their application as IMA does. Furthermore, 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.

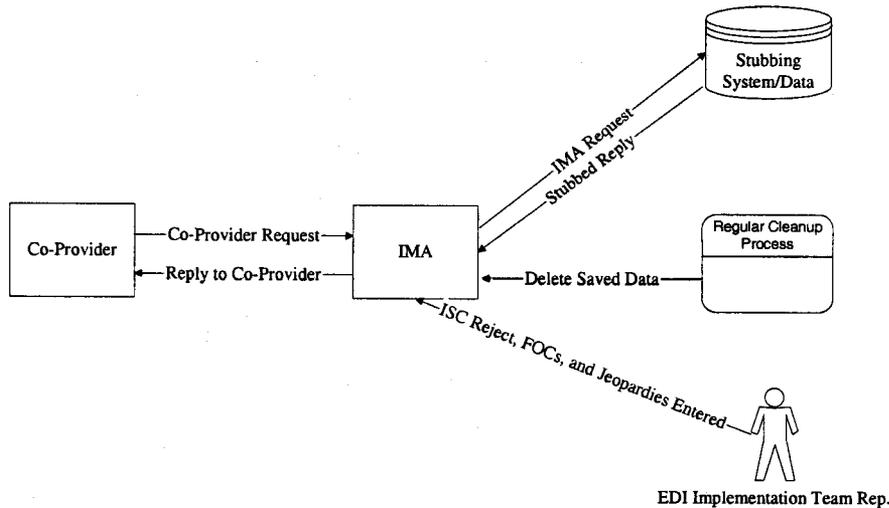
High-Level Definition

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 |
|--|--|--|--|---|
| System Test Strategy | Defines how system test will be conducted. Supports business confirmation of test approach | phase. 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.

D

EXCEPTION 3029—DISPOSITION REPORT

Qwest OSS Evaluation

Initial Release Date: August 31, 2001
First Response Date: September 28, 2001
Second Response Date: November 2, 2001
Third Response Date: January 8, 2002
Fourth Response Date: February 4, 2002
Disposition Report Date: March 14, 2002

EXCEPTION DISPOSITION REPORT

An exception has been identified as a result of the Qwest documentation review, and information gathered during interviews, for the Test 24.6 OSS Interface Development Review.

Exception:

Qwest's Interconnect Mediated Access (IMA) Electronic Data Interchange (EDI) Interoperability Testing Environment does not offer Co-Providers with sufficient testing capabilities.

Summary of Exception:

In the course of interviews and documentation reviews, KPMG Consulting noted that the IMA EDI 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. The following limitations were specifically identified:

- The Interoperability testing environment, does not offer true end-to-end testing capabilities through to Qwest's provisioning and billing systems.
- Flow-through orders are not supported in the Interoperability testing environment, even though these types of orders will be processed in the production environment. A CLEC is unable to predict the performance of flow-through orders in production. This limits the ability of a CLEC and Qwest to test completion of orders in a timely manner.
- In order to test transactions in the IMA/EDI Interoperability Testing Environment, CLECs must use valid production data, because the customer information is validated against data that resides in the production databases. The use of valid customer data could adversely impact CLEC customers.

KPMG Consulting stated that these limitations could hinder a CLEC's ability to effectively test its EDI interface capabilities. The inability to conduct effective testing could increase a CLEC's operating expenses as a result of additional time required to ensure the functionality of the systems, and could also decrease revenues if delays prevent a CLEC from servicing clients. KPMG Consulting issued Exception 3029 on August 31, 2001 based on these identified issues.

EXCEPTION 3029—DISPOSITION REPORT

Qwest OSS Evaluation

Summary of Qwest's Initial and Supplementary Responses:

Qwest initially responded on September 13, 2001, stating that the EDI Certification process involves a multi-step testing process that was agreed to by CLECs in workshops, and is described in Section 12.2.9.3 of the SGAT. Qwest further stated that the multi-step testing process has resulted in over 25 successful CLEC implementation and migrations (Release 4.0, 5.0, 6.0, 7.0 and 8.0) over the last 2 years.

In Qwest's response dated October 19, 2001, Qwest attempted to address the concerns that KPMG Consulting had outlined in its previous response. The concerns were outlined as follows:

1. Interop does not generate post-order responses in the same manner they are created in production,
2. Interop does not provide flow through,
3. Production data must be used in Interop.

In addressing the concerns of the Interoperability environment, Qwest specifically stated the following:

"Although these findings are focused on the Interop test environment, Qwest has no plans to continue to enhance the Interop environment; Qwest will continue to enhance SATE."

Within the context that Qwest would only devote resources to further developing the Stand Alone Test Environment (SATE), Qwest responded to each concern. For the first two items, Qwest stated that it would develop mechanisms to automate certain post order responses and to support flow through testing in future versions of SATE. The post order responses that would not be automated would continue to be manually generated by System Test Engineers. For the third point, Qwest stated that SATE provides the ability to use test accounts and scenarios, which can be readily reused, and that the CLECs can request new test scenarios as needed.

In Qwest's supplemental response dated December 21, 2001, Qwest provided further clarification regarding the implementation timeframes for the proposed SATE functionality enhancements (automated post order responses and flow through capabilities). Qwest also outlined proposed updates to the EDI Implementation Guide, including procedures for a CLEC to use both SATE and the Interoperability environment for a single implementation of EDI.

Qwest updated the EDI Implementation Guide on January 22, 2002, to include language that described how a CLEC could utilize both the SATE and Interoperability environment for a single EDI implementation. Qwest also issued a notification to make the CLEC community aware of the new EDI documentation. Subsequently, Qwest updated the EDI Implementation Guide and released another version of the documentation on February 18, 2002. The revisions included further clarification regarding the dual use of SATE and Interop for an EDI implementation. In Qwest's February 19, 2002 response, Qwest detailed the enhancements that it had made to the EDI Implementation Guide to adequately describe the process for using both SATE and Interop

EXCEPTION 3029—DISPOSITION REPORT

Qwest OSS Evaluation

for testing and implementing EDI. The enhancements specifically addressed documentation concerns that KPMG Consulting had outlined in its February 4, 2002 response.

KPMG Consulting's Disposition Report (03/14/02)

Summary of KPMG Consulting's Retest Activities:

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, 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.

Since the process of utilizing both testing environments for an implementation is a new process, Qwest modified the EDI Implementation Guide to describe the process and its ramifications. The EDI Implementation Guide was initially updated and released to CLECs on January 22, 2002. KPMG Consulting reviewed that version of the documentation and determined that it did not adequately and thoroughly describe the combined test environment process. In its February 4, 2002 response, KPMG Consulting specifically outlined the minimum documentation expected to support the combined test environment process. KPMG Consulting stated that such documentation should include, at a minimum, the following subjects:

- Full description of all steps in the new process, highlighting deviations from the normal progression testing process;
- Detailed description of how a CLEC can seamlessly transition between the two environments during testing;
- Requirements for using both environments;
- Limitations when using both environments;
- Pros and cons for choosing each of the testing options.

Qwest updated the EDI Implementation Guide as of February 18, 2002 and made it publicly available on the Qwest Wholesale website. KPMG Consulting reviewed the documentation, as well as Qwest's February 19, 2002 response, to determine if Qwest had adequately enhanced the EDI Implementation Guide per the minimum guidelines set forth by KPMG Consulting.

Summary of KPMG Consulting's Retest Results:

Based upon its review of the updated *EDI Implementation Guide* released on February 18, 2002, as well as Qwest's February 19, 2002 response, KPMG Consulting believes that Qwest has satisfactorily addressed the minimum documentation requirements to help CLECs understand the

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process for utilizing the combined test environment option. Therefore, KPMG Consulting is satisfied that the issues raised in this Exception are resolved.

KPMG Consulting recommends that Exception 3029 be closed.

E



Test Vendor ID: EXP 3029
Qwest Internal Tracking ID: TI 499
Observation/Exception Title: IMA EDI Interoperability Testing Environment
Test Type/Domain: Interface Development & Relationship Management
Date Qwest Received: 09/04/2001
Initial Response Date: 09/13/2001
Supplemental Response Date: 10/19/2001
2nd Supplemental Response Date: 11/20/2001
3rd Supplemental Response Date: 12/21/2001
4th Supplemental Response Date: 01/23/2002
5th Supplemental Response Date: 01/30/2002
6th Supplemental Response Date: 02/12/2002
7th Supplemental Response Date: 02/19/2002
8th Supplemental Response Date: 02/25/2002

Test Incident Summary:

An exception has been identified as a result of the Qwest documentation review, and information gathered during interviews, for the Test 24.6 OSS Interface Development Review.

Exception:

Qwest's Interconnect Mediated Access (IMA) Electronic Data Interchange (EDI) Interoperability Testing Environment does not offer Co-Providers with sufficient testing capabilities.

Background:

Qwest employs a phased approach for Co-Providers who wish to develop an IMA/EDI application-to-application interface with Qwest's OSS systems. The steps of the current process are listed below:¹

1. *Initial Communications*
2. *Proposed Project Plan*
3. *Requirements Review*
4. *Firewall Rules and Interactive Agent to Interactive Agent Testing*
5. *Testing (Interoperability/SATE)*
6. *Controlled Production*

¹ EDI Implementation Guidelines – for Interconnect Mediated Access (IMA) and Facility Based Directory Listings (FBDL), Section 2, Implementation Activities, Released July 25, 2001.



7. Production

Issue:

KPMG Consulting has observed through interviews, and documentation reviews, that the IMA EDI interoperability test environment does not provide the testing capabilities for a Co-Provider to sufficiently test the IMA EDI interface prior to connecting to Qwest's production systems. Certain limitations in the IMA EDI testing process have been identified, including the following:

- The interoperability testing environment, does not offer true end-to-end testing capabilities through to Qwest's provisioning and billing systems.
- Flow-through orders are not supported in the Interoperability Testing environment, even though these types of orders will be processed in the production environment. Co-Providers are therefore unable to predict the performance of flow-through orders in production. This limits the ability of Co-Providers and Qwest to test completion of orders in a timely manner.
- In order to test transactions in the IMA/EDI Interoperability Testing environment, Co-Providers must use valid production data, because the customer information is validated against data that resides in the production databases. The use of valid customer data could adversely impact CLEC customers.

Impact:

Qwest's existing IMA EDI testing environment limits a Co-Provider's ability to successfully develop and test its IMA EDI interface before connecting to Qwest's IMA EDI production environment, which can delay timely service delivery to the Co-provider's customers. This could increase a CLEC's operating expenses as a result of additional time required to ensure the functionality of the systems, and could also decrease revenues if delays prevent a CLEC from servicing clients.

Qwest Formal Response:

The Qwest EDI Certification process involves a multi-step testing process in its implementation with CLECs. Qwest has committed to provide CLECs with access to a stable testing environment to adequately test their EDI implementation end-to-end and describes the multi-step testing process in section 12.2.9.3 of the SGAT. This is language that Qwest and the CLECs have agreed to in the SGAT workshops. This multi-step testing process has resulted in over 25 successful CLEC implementation and migrations (Release 4.0, 5.0, 6.0, 7.0 and 8.0) over the last 2 years. These CLECs were able to immediately send large volumes of orders to the production environment following completion of certification. For example, in 2/99 a specific CLEC sent over 1000 orders within one week of being placed in production. Qwest works closely with each individual CLEC to ensure its desired implementation dates are fully supported and has multiple examples of accelerating typical project timelines to support CLEC business needs. Qwest has also worked with a number of service bureaus and software providers who support multiple CLECS and have successfully implemented EDI functionality by utilizing Qwest's certification process.

KPMG Comments (09/28/2001):

KPMG Consulting is providing additional clarification for this Exception.

Qwest provides an Interconnect Mediated Access (IMA) Electronic Data Interchange (EDI) interface as one of the options with which a co-provider can perform pre-ordering and ordering functions. A co-provider needs to certify its OSS systems and interfaces before connecting to the Qwest OSS production environment. Qwest's certification process includes several steps. As stated in Qwest's documentation²,

² EDI Implementation Guidelines – for Interconnect Mediated Access (IMA) and Facility Based Directory Listings (FBDL), Section 2,

"The typical project steps for those co-providers implementing a given release will include:

1. Initial Communications (includes kick off conference call)
2. Proposed Project Plan
3. Requirements Review
4. Firewall Rules and Interactive Agent to Interactive Agent Testing
5. Testing (Interoperability and/or SATE)
6. Controlled Production
7. Production (Turn-up)"

Interoperability testing is offered as an alternative to the Stand Alone Test Environment (SATE). The objectives of testing are threefold. First, to ensure that a co-provider can test the interfaces that it has developed using Qwest's documentation. Second, to provide some assurance that the test environment mirrors the production environment. And third, to ensure that when there are new releases, or system upgrades, that the changes to the systems do not interrupt ongoing business activity between a co-provider and Qwest.

This exception addresses the capabilities of the Interoperability Testing environment. KPMG Consulting has observed through interviews, and documentation reviews that the functionality of the IMA EDI interoperability test environment does not provide adequate testing capabilities for a co-provider to sufficiently test the IMA EDI interface. Certain limitations in the IMA EDI testing process have been identified, including the following:

- As stated in interviews with Qwest's EDI testing personnel, the interoperability testing environment does not generate post-order responses in the same manner as they are created in the production environment. Specifically, a Test System Engineer (TSE) manually provides responses to the CLEC that would be system-generated in the production environment (e.g. firm order completion notices, and other post-order responses such as rejections). Manual response generation is not representative of the production environment, and manual intervention increases the risk of human error.
- Flow-through is defined as orders that do not require manual intervention. These order types are not supported in the Interoperability Testing environment. Therefore, CLECs are not able to evaluate the behavior of the system in a manner that is consistent with flow-through orders in production. A test environment should mirror the production environment, and provide evidence of what is to be expected when entering production, including flow-through behavior.
- In order to test transactions in the IMA/EDI Interoperability Testing environment, co-providers must use actual customer data to submit valid orders. This customer information is validated against data that resides in Qwest's production databases. As stated in Qwest's documentation:³

"For scenario transactions to be successfully processed in the interoperability environment or Controlled Production Phase, the co-provider must supply valid account data and populate the Scenario Template field data according to the Developer Worksheet requirement before submitting the EDI transaction. This means that the account information must exist within the Qwest systems and be valid in terms of its owner (Qwest or Co-provider), account number, end user, and related content and format."

Implementation Activities, Released in July 25, 2001, Page 6.

³ EDI Implementation Guidelines – for Interconnect Mediated Access (IMA) and Facility Based Directory Listings (FBDL), Section 2, Implementation Activities, Released in July 25, 2001, Page 20.

Qwest's documentation states that the account used in testing will be left intact in Qwest's production systems, and that the orders are not provisioned. The use of production systems certainly provides some assurance that the same edits applied during testing, are applied in production. Nevertheless, the necessity of providing live accounts for testing is, in our opinion, both burdensome and risky for the CLEC.

Finally, KPMG Consulting does not believe that the fact that CLECs and Qwest have been able to make the Interoperability Testing environment work at some level removes the fundamental problems that exist therein.

KPMG Consulting recommends that Exception 3029 remain open.

Qwest Response to KPMG Comments (10/19/2001):

KPMG has outlined three objectives of testing in their 09-28-01 response. These are: 1) to ensure that a co-provider can test the interfaces that it has developed using Qwest's documentation, 2) to provide some assurance that the test environment mirrors the production environment, and 3) to ensure that when there are new releases, or system upgrades, that the changes to the systems do not interrupt ongoing business activity between a co-provider and Qwest. While it is arguable whether the Interoperability test environment satisfies all of these objectives, Qwest's overall testing process accomplishes these objectives. Further, the Stand Alone Testing Environment (SATE) was recently developed to streamline the testing process and more fully satisfy these objectives.

SATE and Interop provide the CLECs environments where they can test IMA transactions used in the production Electronic Data Interface (EDI) according to Qwest documentation. These environments allow the CLECs to test communication with the Qwest EDI system, ensure data fields meet the EDI standards, and ensure the transactions can be successfully received and processed by Qwest and that Qwest responses can be successfully received and interpreted by the CLEC. SATE and Interop include the ability to test post order transactions which will be experienced in production. SATE also provides test accounts and scenarios so that system upgrades and changes can be readily tested with the test data. As a final step, the Controlled Production environment will continue to allow CLECs to experience live production behavior prior to full production use.

The primary concerns outlined in KPMG's 09-28-01 response are abbreviated as follows:

1. Interop does not generate post-order responses in the same manner they are created in production,
2. Interop does not provide flow through,
3. Production data must be used in Interop.

Although these findings are focused on the Interop test environment, Qwest has no plans to continue to enhance the Interop environment; Qwest will continue to enhance SATE. The concerns raised by KPMG are specifically addressed below:

1. All post order transactions are produced manually by a Test System Engineer (TSE) in both SATE and the Interop environment. The TSE uses IMA to create Firm Order Confirmations (FOCs), manual rejects, jeopardies and non-fatal error transactions. IMA then automatically sends the transaction to the CLEC. This manual generation simulates the Interconnect Service Center representative's actions in production. However, if the LSR were to flow through, SATE and the Interop environment do not automatically generate the FOC. An automatically generated FOC occurs when the CLEC is performing their Controlled Production Testing.

In order to provide CLECs with the ability to test automated post order transactions earlier in the certification testing process, Qwest is developing automated post order transactions for the SATE environment. The new test scenarios will provide the ability to experience the behavior of IMA consistent with production timing of post-order transactions. So, while the current SATE and Interop

environment allows the CLEC to test all post order transactions in their EDI interface, these changes will resolve any timing concerns. The EDI transactions which will mirror the automatically generated transactions in production are:

- 855 FOC for LSR for Flow Through LSRs
- 865 Completion
- 855 Status Updates for the following:
- Physical Work Completed (Order Level)
- Posted To Be Billed (Order Level)

Transactions which are normally generated manually in production can continue to be requested and provided by SATE. SATE will automatically produce the following EDI 855 and 865 transactions when requested by the CLEC test scenario:

- Hold (Order Level)
- Jeopardy (Order Level)
- Manual FOC for LSR

The transactions listed above will be available on 01/26/02.

The following transactions will continue to be manually generated in SATE:

- Manual Errors (LSR Level)
- Non-Fatal Errors (LSR Level)
- Manual Jeopardies (LSR Level)
- Status Updates that follow the above manual transactions

LSR level Rejects will continue to be automatically generated in SATE.

2. Since Qwest's current testing environment exercises the same edits that exist in production, Qwest believes the absence of the flow through system in SATE only impacts the timing of an FOC on flow through eligible LSRs. This difference does not preclude a CLEC from thoroughly testing its EDI system, including conformance with Qwest's business rules that enable flowthrough. Even though the timing differences are addressed in item 1 above, Qwest will enhance the SATE environment to add a test flow through system and test Service Order Processors (SOPs), which mirror production. CLECs will have the option to choose when they want their SATE transaction to be sent to the test flow through systems, or receive a specific test scenario response which was described in item #1 above. If the CLEC chooses to have their transaction sent through the test flow through systems, only flow through eligible LSRs will successfully flow. LSRs which are not eligible for flow through will be sent to the queue for manual handling. The option to send the test LSR to the flow through systems will allow the CLEC to experience an immediate response if flow through is successful and a manual response if flow through is not successful. Qwest will provide a supplemental response by 11-19-01 to provide the date by which this capability will be available.
3. SATE currently provides the ability to use test accounts and scenarios which can be readily reused. The CLECs can request new test scenarios as needed.

Further, Qwest will hold requirement sessions for the test environment with the CLECs to ensure Qwest is meeting the CLEC's testing objectives. The introduction of the test environment requirement sessions was done at the 10-18-01 CMP meeting. The purpose of the sessions will be to collaboratively define the additional needs for the test environment. System enhancements resulting from the CLEC requirements sessions will be submitted as Change Requests to the CMP process and prioritized for implementation. The Change Requests can also include upgrades to the test scenarios that will allow the CLECs to more extensively test either their EDI interface, or their business process and LSR construction.

KPMG Supplemental Recommendation (11/01/2001):

Qwest has stated that its overall IMA EDI testing process, which allows CLECs the choice between the Interoperability environment (Interop) and the Stand Alone Test Environment (SATE), satisfies the objectives of testing stated in the KPMG Consulting comments provided on 9/28/01. It is important to note that this test exception only applies to the Interoperability environment. Although SATE was created to address some of the concerns with Interop, it is a different environment that is being evaluated separately for its ability to provide adequate testing capabilities for CLECs. Since CLECs have to choose between becoming certified in either Interop or SATE when implementing IMA EDI, KPMG Consulting is evaluating the testing process for Interop and SATE separately but based upon the same fundamental criteria. Therefore, the remainder of the comments for this exception will only address the Interop environment.

Qwest individually addressed each of the three primary concerns noted in the KPMG Consulting comments provided on 9/28/01. Those concerns are as follows:

1. Interop does not generate post-order responses in the same manner they are created in production.
2. Interop does not provide flow through.
3. Production data must be used in Interop.

In addressing these concerns, Qwest first stated:

“Although these findings are focused on the Interop test environment, Qwest has no plans to continue to enhance the Interop environment; Qwest will continue to enhance SATE.”

By making this statement, KPMG Consulting interprets Qwest’s statements as meaning that the deficiencies described in this exception will not be addressed within the Interop environment. Instead, Qwest intends to further enhance SATE to overcome the shortcomings of Interop. Qwest then proceeds to address each of the concerns individually. In each of its responses, it refers to features of, or the proposed enhancements to, SATE that should address the noted deficiency of the Interoperability Environment. However, Interop is a separate and distinct testing environment that CLECs can choose as an alternative to SATE. CLECs who continue to use the Interop environment will still have to conduct testing within the restrictive parameters previously defined. Therefore, CLECs choosing Interop will be placed at a relative disadvantage to their SATE counterparts.

KPMG Consulting recommends that Exception 3029 remain open until Qwest can directly address the concerns related to the Interop environment.

Qwest Response to KPMG Supplemental Recommendation (11/20/2001):

Working in collaboration with the CLECs through the CMP process, Qwest has moved forward with the implementation of the SATE to address among other requirements, the opportunity for CLECs to develop and test their EDI interface without having to provide “production data” to complete the testing. Qwest and CLECs continue to be successful in the testing process through the use of the interoperability test environment. Given the current use of the Interop environment, Qwest will continue to make it’s interoperability testing environment available to CLECs who prefer this method of testing until such time and if this option no longer makes sense to Qwest and the CLECs.

Additionally, Qwest has several enhancements planned to the SATE as described briefly below. A full description of this work is addressed in Qwest’s response to Exception 3077.

- Qwest will provide automated post-order responses in SATE

- Qwest will implement a test Flow Through System and test SOPs behind the SATE

Qwest has established a collaborative process with CMP members to further analyze and define any additional CLEC test environment needs. Qwest believes that the above plan addresses all issues raised by KPMG.

Qwest Supplemental Response (12/21/2001):

Qwest would like to clarify the availability of the automated post-order processing functionality in SATE. This functionality will be available for use by the CLECs on January 28, 2001 after the installation of the new version of SATE on January 26, 2001.

Qwest will add flowthru capability to SATE in two phases. The first phase is scheduled to be implemented on February 20, 2001. This phase will include POTS and UNE-P POTS flowthru for Western region LSRs. The second phase will include flowthru for all other flowthru eligible products, including POTS and UNE-P POTS, in the Central and Eastern regions. The second phase is scheduled to be implemented prior to May 20, 2002.

The current IMA EDI Implementation Guide (version 8.0) contains overviews of both of Qwest's EDI Test environments: SATE and Interoperability. These overviews include what products are supported by the environment and how post-order responses are provided. With the implementation of the next release of SATE, the guide will be updated to include new SATE functionality and the process if a CLEC wanted to utilize both environments.

With the implementation of post-order, the SATE section of the IMA EDI Implementation Guide will be updated. The updates will include:

- Adding a new goal to the list of goals of SATE for the receipt of automated post-order responses.
- Revise the "SATE Transaction Responses" to add explanation of automated post-order responses and remove references to manually generated FOCs and Completions.
- Add reference to "SATE Transaction Responses" to SATE VICKI data document.

To clarify the process for CLEC use of both environments, information will be added to the Progression Testing Phase section that reads:

A CLEC may choose to use one or both of Qwest's two testing environments. If a CLEC chooses to use both environments during a single implementation or migration, the CLEC should indicate on the scenario summary which environment will be used to test each scenario. Additionally, the CLEC should ensure that the appropriate connectivity set-up is completed for both environments.

The next version of the guide will be published on January 21, 2002.

SATE is available for new release testing approximately 30 days prior to the implementation in production of that release. This is explained on page 25 of the IMA EDI Implementation Guide.

KPMG 2nd Supplemental Recommendation (01/08/2002):

As stated in the original Exception, KPMG Consulting's three concerns with the Interop environment are:

1. Interop does not generate post-order responses in the same manner in which they are created in production,
2. Interop does not provide flow through,
3. Production data must be used in Interop.

To address the first and third concerns, Qwest stated that the SATE environment will produce automated post order responses with the release of SATE 9.0, which will be available to CLECs on January 28, 2002. SATE also provides CLECs with a test deck of data that is used exclusively for testing purposes, eliminating the need for live, production data. Qwest has asserted that it will allow a CLEC to begin certifying IMA EDI using both the SATE and Interop testing environments, and that the process for utilizing both environments will be documented in the next version of the EDI Implementation Guide, slated for release on January 21, 2002. Based on the anticipated SATE enhancements, and the assertion that a CLEC will be able to use both SATE and Interop as a unified testing environment to certify its IMA EDI interface, KPMG Consulting believes that Qwest is attempting to address these two issues with the combined capabilities of the testing environments. Once Qwest makes the aforementioned documentation publicly available, and once SATE 9.0 is implemented, KPMG Consulting will review the documentation and make a further determination regarding the issues identified in this Exception.

For the second concern, Qwest stated in its December 21, 2001 response, "*Qwest will add flowthru capability to SATE in two phases. The first phase is scheduled to be implemented on February 20, 2001. This phase will include POTS and UNE-P POTS flowthru for Western region LSRs. The second phase will include flowthru for all other flowthru eligible products, including POTS and UNE-P POTS, in the Central and Eastern regions. The second phase is scheduled to be implemented prior to May 20, 2002.*"

Based on its response, and on the fact that a CLEC will be able to use a combination of SATE and Interop on a scenario-by-scenario basis to certify its IMA EDI interface, KPMG Consulting believes that Qwest plans to address the issue of flow through capabilities within SATE. However, until such proposed enhancements are implemented, the current test environment does not provide a CLEC with an accurate representation of the production environment's flow through capabilities. Therefore, KPMG Consulting recommends that this issue remain open, as stated in Exception 3077, until the proposed enhancements are fully implemented in SATE.

KPMG Consulting recommends that Exception 3029 remain open, pending a review of the revised documentation regarding testing environment options for CLECs.

Qwest Response to KPMG 2nd Supplemental Recommendation (01/23/2002):

In the 12/21/01 response, Qwest committed to updating the *IMA EDI Implementation Guide* with:

- New SATE functionality
- The process to follow if a CLEC wants to utilize both the SATE and Interoperability environments

Qwest completed the updates to the *IMA EDI Implementation Guide* on 01/22/02 (pp. 28-34). The updated document can be accessed on Qwest's Wholesale web site at:

<http://www.qwest.com/wholesale/ima/edi/document.html>. The associated industry notification was issued on 1/22/02 with the subject line, "9.0 Release Implementation Guide, FAQ, IMA EDI Corrective Procedures and Error Codes Document and the FBDL EDI Corrective Procedures and Confirmation/Error Codes."

In addition, Qwest completed updates to the *VICKI Path Document*⁴ on 1/21/02. The updated document was provided as an attachment to the industry notification issued on 1/21/02 with the subject line, "Documentation – SATE Data Documents, VICKI Path Document and Data Request Form 012102."

Qwest Supplemental Response (01/30/02):

Qwest committed to the following action item in the 12/21/01 response:

⁴ Previously referred to as the *SATE VICKI data document* in the 12/21/01 response.

"Qwest would like to clarify the availability of the automated post-order processing functionality in SATE. This functionality will be available for use by the CLECs on January 28, 2001 after the installation of the new version of SATE on January 26, 2001."

The IMA EDI Stand Alone Test Environment (SATE) 9.0 was successfully deployed during the weekend of January 26, 2002. This release is now available to the CLECs for use in their EDI testing. SATE's release includes Virtual Interconnect Center Knowledge Initiator (VICKI). VICKI will provide automation of SATE's post-order processing.

The associated industry notification was issued on 1/28/02 with the subject line, "SATE 9.0 Deployed Successfully."

KPMG 3rd Supplemental Recommendation (02/04/2002):

In its December 21, 2001 response, Qwest stated that it would update the *EDI Implementation Guide* to include language that would clarify, in detail, how CLECs would be able to utilize both the Interoperability environment and SATE for a single implementation of IMA EDI. Qwest updated the *EDI Implementation Guide*, and released the new version publicly on the Qwest Wholesale Web site as of January 21, 2002.

According to Qwest, a CLEC now has three test environment options for testing and certifying products before entering production:

1. Stand Alone Test Environment (SATE)
2. Interoperability environment (Interop)
3. Combination of SATE and Interop

The third option, the combined use of SATE and Interop as a single testing environment, has been established by Qwest to overcome the previously identified limitations of Interop as an independent EDI testing option. As stated in its October 19, 2001 response, Qwest does not plan to invest further resources into the Interop environment, but plans to devote all future test environment development efforts towards SATE. Furthermore, Qwest stated in its previous responses that SATE features would overcome the deficiencies of Interop, which have been identified by KPMG Consulting in this Exception. Therefore, Qwest asserted in its December 21, 2001 response, "With the implementation of the next release of SATE, the guide will be updated to include new SATE functionality and the process if a CLEC wanted to utilize both environments."

KPMG Consulting reviewed the new version of the *EDI Implementation Guide*. KPMG Consulting found only one reference that explicitly addresses the use of both SATE and Interop for testing during a single EDI implementation. The passage states:

*"A CLEC may choose to use one or both of Qwest's two testing environments. If a CLEC chooses to use both environments during a single implementation or migration, the CLEC should indicate on the scenario summary which environment will be used to test each scenario. Additionally, the CLEC should ensure that the appropriate connectivity set-up is completed for both environments."*⁵ [Italics added]

KPMG Consulting could identify no other reference(s) to the new process for using both test environments. Additionally, Qwest added several flowcharts to the *EDI Implementation Guide* that depict the various processes during an EDI implementation. The flowcharts for progression testing make no reference to the

⁵ EDI Implementation Guidelines – for Interconnect Mediated Access (IMA) and Facility Based Directory Listings (FBDL), Section 2, Implementation Activities – Progression Testing Phase, Released on January 21, 2002, Page 28.

fact that both SATE and Interop can be used in concert. In fact, the flowcharts display the two testing environments as separate, distinct options for the CLEC.

As the option of using both environments for a single implementation is a new process for both CLECs and Qwest, KPMG Consulting would expect the new process, and all of its impacts, to be documented in detail. Such documentation should include, at a minimum, the following subjects:

- Full description of all steps in the new process, highlighting deviations from the normal progression testing process;
- Detailed description of how a CLEC can seamlessly transition between the two environments during testing;
- Requirements for using both environments;
- Limitations when using both environments;
- Pros and cons for choosing each of the testing options.

Based on the review of the documentation, KPMG Consulting does not believe that Qwest has adequately documented how the new combined SATE/Interop testing process will function.

KPMG Consulting recommends that Exception 3029 remain open until Qwest adequately documents the combined test environment process.

Qwest Response to KPMG 3rd Supplemental Recommendation (02/12/2002):

Upon further evaluation Qwest will enhance its documentation to address functionality of the combined SATE and Interop testing process. Qwest is currently evaluating the specific changes and will make the updated EDI Implementation Guide available by 2/18/02.

Qwest Supplemental Response (02/19/2002):

In regards to flow through capability in SATE, the phase one addition as originally described in Qwest's 12/21/01 response, has been rescheduled for a 2/25/02 implementation. The first phase will include POTS and UNE-P POTS flow through for Western region LSRs.

In addition, the updates to the EDI Implementation Guide for combined SATE and Interoperability testing, as referenced in Qwest's 02/12/02 response, were completed on 02/18/02. The associated industry notification was issued on 02/18/02 with the subject line, "EDI Implementation Guidelines, Version 9.1"

More specifically, in KPMG's Fourth Supplemental Response, KPMG provided several recommendations for updates to the IMA EDI Implementation Guide regarding the option of using both the SATE and Interoperability environments during a single implementation. Each of the bullet points below, with text in italics, represents KPMG's recommendations. In the text below each bullet point, Qwest has provided detail about the updates made to the guide that addresses KPMG's recommendations.

- *KPMG Comment: Full description of all steps in the new process, highlighting deviations from the normal progression testing process*

Qwest Response: The method for using both the Interoperability and SATE environments for a single Progression Test phase is integrated with the Implementation process and therefore documented throughout the EDI Implementation Guide. The process flows for the impacted processes have been updated to reflect these changes. Specific highlights include:

- In the Implementation Activities section, beginning on page 8, the definition of Progression Testing includes introductory information on using both environments.
 - In the Establishing a Dedicated Circuit section, beginning on page 20, Qwest has clarified that the same circuit can be used to connect to the production environment, the interoperability environment, and SATE simultaneously.
 - Additionally, the process flow diagram in this section indicates the steps that must be repeated if the CLEC is not using the same IP address to test in both environments.
 - In the Scenario Summary and Template Development and Approval section, beginning on page 23, Qwest restructured the opening section to indicate the activities to be performed during this process depending upon the testing phase and environment utilized. Specifically, a new paragraph was added to describe which documents were required when testing occurs in both the Interoperability environment and SATE.
 - In the Progression Testing Phase section within Scenario Summary Creation – Progression, on page 39, Qwest clarified that the CLEC must indicate in which environment a scenario will be tested on the Scenario Summary.
 - Throughout the document, references that once read ‘Interoperability or SATE’ were changed to read ‘Interoperability and/or SATE’, as appropriate.
- *KPMG Comment: Detailed description of how a CLEC can seamlessly transition between the two environments during testing*

Qwest Response: The responsibility for submitting any CLEC transaction to a Qwest environment is the responsibility of the CLEC through the use of the appropriate environment-specific IP Address. This responsibility is no different if the CLEC chooses to utilize more than one test environment. As a result, Qwest has chosen to address this in the EDI Implementation Guide as follows:

- In the Implementation Activities section for Progression Testing overview, beginning on page 8, in the second paragraph Qwest states:

“If the CLEC chooses to test in both environments as part of a single Progression Testing Phase, the details of such an arrangement will be determined on the regularly scheduled CLEC implementation calls and reflected in the project plan... During testing, it is the CLEC’s responsibility to navigate between the two environments.”
- *KPMG Comment: Requirements for using both environments*
 - Qwest Response: The requirements are integrated with the Implementation process and therefore documented throughout the EDI Implementation Guide. Specific highlights are provided in Qwest’s response to the first bullet listed above.
 - *KPMG Comment: Limitations when using both environments;*

Qwest Response: There are no specific limitations imposed by Qwest around a CLEC using both environments for Progression Testing. However, there are certain items that a CLEC should be aware of when planning to use both environments. As stated on page 8 of the Implementation Guide, “...certain activities, such as connectivity, may have to be repeated for each environment. During testing, it is the CLEC’s responsibility to navigate between the two environments.”
 - *KPMG Comment: Pros and cons for choosing each of the testing options*

Qwest Response: In the Progression Testing Phase section, Qwest included a summary overview of the products and functionality that each environment provides (see Chart 2, page 33). As indicated in the chart, which is reproduced below, Qwest identifies the functionality supported by the 9.0 Interoperability and 9.0 SATE environments (including flow through, response generations, and test data). Based upon this information, each CLEC must determine which environment best meets the needs for their testing.

Chart 2 SATE vs. Interoperability Functionality

| SATE | Interoperability |
|---|--------------------------------|
| Flow Through | No Flow Through |
| Automated Responses | Manual Responses |
| Provided Test Data | CLEC must use valid Qwest data |
| Common Products Supported (See page 31) | All IMA products supported |

Based upon the changes to the published EDI Implementation Guide, Qwest believes that it has sufficiently documented the combined test environment process, specifically addressing the points raised in KPMG's Fourth Supplemental Recommendation on 02/04/2002.

Qwest Supplemental Response (02/25/2002):

Qwest stated the following in the 2/19/02 response:

"In regards to flow through capability in SATE, the phase one addition as originally described in Qwest's 12/21/01 response, has been rescheduled for a 2/25/02 implementation. The first phase will include POTS and UNE-P POTS flow through for Western region LSRs."

Qwest completed implementation of phase one SATE flow through capability on 2/25/02. The associated industry notification was issued on 2/25/02 with the subject line, "Deployment of SATE 9.0 Flowthrough, Phase 1."

Attachments: None

F

EXCEPTION 3077 – DISPOSITION REPORT

Qwest OSS Evaluation

Initial Release Date: November 7, 2001
First Response Date: January 8, 2002
Second Response Date: January 24, 2002
Third Response Date: April 3, 2002
Disposition Report Date: April 15, 2002

EXCEPTION DISPOSITION REPORT

An exception has been identified as a result of the Qwest documentation review, and information gathered during interviews, for the Test 24.6 OSS Interface Development Review.

Exception:

Qwest's Interconnect Mediated Access (IMA) Electronic Data Interchange (EDI) Stand Alone Test Environment (SATE) does not offer CLECs sufficient testing capabilities.

Summary of Exception:

KPMG Consulting observed, through interviews and documentation reviews, that the IMA EDI SATE does not provide sufficient testing capabilities for CLECs prior to connecting to Qwest's production systems. Certain limitations in the IMA EDI SATE were identified, including the following:

- SATE does not generate post-order responses in the same manner as they are created in the production environment.
- Flow-through orders are not supported in SATE, even though these types of orders will be processed in the production environment.
- The volume of order responses supported in SATE is restricted due to manual response handling.
- The data contained within the order responses is not consistent, and may not mirror the data that would be found in production responses.

A limited or insufficient testing environment could delay the timely implementation of a CLEC's IMA EDI release. Also, problems could arise in the production environment that may have otherwise been avoided if SATE more closely mirrored the production environment. These factors could increase a CLEC's operating expenses as a result of additional time required to ensure the functionality of the systems, and could inhibit revenues if testing delays hinder a CLEC's ability to service its customers.

Summary of Qwest's Initial and Supplementary Responses:

Throughout the course of the testing and in response to this Exception, Qwest addressed each of the identified issues as follows:

- (1) *SATE does not generate post-order responses in the same manner as they are created in the production environment.*

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Qwest implemented an enhancement to SATE called the Virtual Interconnect Center Knowledge Initiator (VICKI) on January 28, 2002. VICKI was created to provide a method for CLECs to receive automated post-order responses in the test environment based on the request of the CLEC.

Qwest responded to the following issues related to VICKI:

- *VICKI response times may not match production response times*
- *VICKI response detail may not match production response detail*
- *VICKI does not support “real world scenario testing”*

Qwest addressed the first two issues by stating that it would modify the VICKI supporting documentation on April 15, 2002 to clarify the language that caused KPMG Consulting to raise the issues. For the remaining “real world scenario testing” issue, Qwest stated that VICKI is purposefully dissimilar from the production environment and is designed to allow CLECs to certify IMA EDI capabilities by making paths available to trigger the all of the necessary post order responses.

(2) Flow through orders are not supported in SATE

Qwest committed to implementing a test flow through system and test Service Order Processors (SOPs) in SATE. At the time that this Disposition Report was filed, Qwest was scheduled to implement the remainder of test flow through capabilities by May 20, 2002. Qwest implemented the test flow through capability for two types of orders, POTS and UNE-P POTS orders, in the Western region on February 22, 2002.

In response to a concern raised that flow through enhancements would not include all types of post order transactions, Qwest stated that the order completion or jeopardy is independent of whether an order was created by a service center representative or automatically with flow through. Qwest indicated that it could manually provide other responses, such as an order completion or jeopardy, for a flow through LSR if desired by the CLEC. Qwest believes that there is no limitation for a CLEC to test all desired responses with a potential flow through LSR.

(3) The volume of order responses supported in SATE is restricted due to manual response handling.

As part of the EDI Implementation Guide updates for 9.0 published on January 22, 2002, Qwest removed all references to the FOC limit in SATE. Qwest believes that these actions resolved the perceived post-order capacity restraint in SATE, as referenced by KPMG Consulting.

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

In response to KPMG Consulting’s examples of Qwest documentation and sample CLEC EDI test transactions that indicated that the SATE transaction responses were not consistent with those found in the production environment, Qwest asserted that SATE order responses are consistent with production responses even though the specific data within the responses may be different. SATE contains facilities, addresses, CSRs, and other data instances that do not exist in production. The type of data in SATE mirrors production data, but the SATE data instance is not

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identical to production data instances. For the specific examples provided, Qwest stated that three of the four examples differed from production because they were handled manually. With the implementation of VICKI, this was not expected to occur again.

Qwest further stated that all known differences between the IMA production environment and SATE are included in the Overview section of the IMA EDI SATE Data Document. Any case where SATE had to differ from production due to a functional requirement for SATE, the case was noted for inclusion in the Data Document. For future implementations in SATE, if a new functionality causes the system behavior to differ from production, this information will be added to the Overview section of the IMA EDI SATE Data Document.

Qwest also noted that the SATE PID (PO-19) helps to ensure that Qwest has a complete and accurate Data Document. On a monthly basis, the PID tests that the data in the Data Document reflects the data in the system. This helps CLECs to feel confident that a successful test in SATE will mean a successful move to production.

In its April 8, 2002 response, Qwest respectfully requested that KPMG close this Exception and categorize it as "Closed/Unresolved".

KPMG Consulting's Disposition Report (04/15/02):

Summary of KPMG Consulting's Retest Activities and Results:

KPMG Consulting's response for each of the issues identified is below.

(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.

EXCEPTION 3077 – DISPOSITION REPORT

Qwest OSS Evaluation

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.

G

EXCEPTION 3095 – DISPOSITION REPORT

Qwest OSS Evaluation

Initial Release Date: December 11, 2001
First Response Date: January 6, 2002
Second Response Date: February 5, 2002
Third Response Date: April 2, 2002
Disposition Report Date: April 11, 2002

EXCEPTION DISPOSITION REPORT

An exception has been identified as a result of the Qwest documentation review, and information gathered during interviews, for the OSS Interface Development Review, Test 24.6.

Exception:

Qwest's Interconnect Mediated Access (IMA) Electronic Data Interchange (EDI) Stand Alone Test Environment (SATE) does not offer CLECs testing capabilities for all Qwest products offered in production.

Summary of Exception:

KPMG Consulting observed, through interviews and documentation reviews, that the IMA EDI SATE does not offer testing capabilities to CLECs, prior to connecting to Qwest's production systems, for all Qwest wholesale products. SATE only supports a subset of the products and transactions that are available in the IMA production environment. Therefore, KPMG Consulting raised the specific issue that SATE does not accurately and comprehensively represent Qwest's production environment. This potentially prohibits CLECs from testing any desired product before migrating to the production environment.

Additionally, if a CLEC desires to test a product that is not currently supported in SATE, the additional product(s) must be requested via a Change Request (CR) issued through the Change Management Process (CMP). Once the CR is submitted, it needs to be discussed and prioritized within the parameters of the CMP. Given the current schedule for CMP and implementation of major releases, the requesting CLEC(s) may have to wait several months for a new release before the requested products can be included in SATE's functionality. Therefore, the CLEC(s) cannot test all of its products for the current IMA release.

By not providing for testing of all of Qwest's available products in SATE, and by not being able to quickly incorporate those products into the test environment, CLECs are not able to sufficiently test all of the products that they can sell to their customers.

Summary of Qwest's Initial and Supplementary Responses:

In its first response, Qwest stated that any product that a CLEC had implemented into production or was in the process of testing was included in the initial deployment of SATE. This ensured that when SATE was placed into production, it would support those products that the CLECs needed to be able to use SATE to migrate to the next release. Qwest also stated that CLECs had

EXCEPTION 3095 – DISPOSITION REPORT

Qwest OSS Evaluation

not expressed a desire to add new products in either the CMP forum or at the SATE User Group meetings that began in November 2001. Furthermore, as part of the CMP Redesign process, Qwest and the CLECs discussed the development of a Bona Fide Request process to allow a CLEC to pay for CRs to be implemented when a CR does not get prioritized high enough to get implemented based upon the available Qwest resources. If agreed upon, this process would allow a CLEC to add a product to SATE even if it is not a priority for the CLEC community.

In its January 30, 2002 response, Qwest stated that CLECs wish to prioritize all SATE functionality, including the addition of new products, through the Change Management Process. In support of this position, Qwest created Change Requests (CRs) for the IMA products that SATE does not currently support. These changes were presented to the CLEC community for prioritization on March 21, 2002. In addition to putting into practice a separate SATE prioritization process, Qwest also asked CLECs to vote "Yes" or "No" on accepting each CR as a desired change and implementing the associated functionality. Qwest provided the results of the prioritization vote in its April 5, 2002 response. Based on those results, Qwest believes that CLECs have demonstrated that it is acceptable for SATE to support less than 100% of the products and transactions available in the production environment. Qwest plans to continue to separately prioritize SATE and to update the Master Red Lined CMP Document to reflect the separate SATE prioritization process.

Qwest stated that even without the availability of a product in SATE, a CLEC has the ability to implement the product in EDI using the Interoperability environment and the associated testing process. Through that mechanism, CLECs are able to test all of the products for the current IMA release.

In its April 5, 2002 response, Qwest respectfully requested that KPMG close this Exception and categorize it as "Closed/Unresolved".

KPMG Consulting's Disposition Report (04/11/02):

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 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.

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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.

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Qwest Communications OSS Evaluation

Draft Final Report

VERSION 1.0

Submitted by:

 ***Consulting***

April 19, 2002

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II. Evaluation Overview

1.0 Objective

The objectives of this Evaluation Overview are to provide:

- Background on the Regional Oversight Committee's consideration of Qwest Communication's (Qwest's) compliance with the requirements of Section 271 of *The Telecommunications Act of 1996* (the Act);
- A summary of the business processes, supporting functions, and interfaces selected for testing as outlined in the *Master Test Plan* (MTP);
- A high-level description of the processes that KPMG Consulting followed in evaluating Qwest's interfaces, systems, policies, procedures, and documentation.

2.0 Audience

KPMG Consulting anticipates that the audiences for this document will fall into two main categories:

- Regulators who will utilize this document during formal regulatory evaluations of Qwest's Operating Support Systems (OSS), including State Commissions; the Federal Communications Commission (the FCC), and the Department of Justice (the DOJ); and
- Other parties who have some interest in the results of Qwest's OSS evaluation, and wish to have insight into the test results, including Qwest, Competitive Local Exchange Carriers (CLECs), and other Incumbent Local Exchange Carriers (ILECs).

While many of the above parties have stated an interest in the test, and its results, only Qwest and the Regional Oversight Committee have contractual rights to this document. Third party reliance on this report is not intended, and is explicitly prohibited. It is expected that each of the participating State Commissions will review this report in forming its own assessment of Qwest's compliance with the requirements of the Act.

3.0 Background

The Regional Oversight Committee is comprised of the 14 state commissions regulating telecommunications in Qwest's operating area. The Regional Oversight Committee is considering the matter of Qwest's compliance with the requirements of the Act. The Act, together with FCC interpretations, requires an ILEC to:

- Provide non-discriminatory access to its OSS on appropriate terms and conditions;
- Provide the documentation and support necessary for CLECs to access and use these systems; and
- Demonstrate that the ILEC's systems are operationally ready, and provide an appropriate level of performance.

Compliance with these requirements is intended to allow competitors to obtain pre-ordering information, execute service orders for resold services and unbundled network elements (UNE),

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manage troubles, establish and maintain a customer relationships with Qwest, and obtain billing information at a level deemed to be non-discriminatory when compared with Qwest's retail operations.

Thirteen of the fourteen Regional Oversight Committee member states (Arizona excepted) agreed to pursue the collaborative OSS testing effort, of which this Final Report is one work product. This group of participating states will, henceforth, be referred to as the ROC for the purposes of this document.

The ROC Technical Advisory Group (the TAG) includes Staff members from the thirteen State Commissions, as well as representatives from Qwest and many of the CLECs. The TAG was responsible for:

- Developing the principles that were applied during the development and conduct of the collaborative test;
- Developing performance measures that were used during the test; and
- Providing input on various decisions regarding test design and conduct.

4.0 Master Test Plan Scope

The ROC, with significant input from the TAG, developed the *Test Requirements Document* (TRD), dated March 9, 2000, to define the scope and specific approaches to testing. The TRD also set out the roles for three testing vendors: the Test Administrator (TA), the Pseudo-CLEC (P-CLEC), and the Performance Measures Auditor (PMA). The TRD was provided to prospective vendors to solicit proposals for conducting the third-party testing work.

In the TRD, the ROC specified that the third party testing should focus on the following service delivery methods:

- Resale;
- Unbundled Network Element (UNE) loops;
- UNE Platform (UNE-P);
- UNE combinations, such as Enhanced Extended Loops (EELs);
- Other UNEs, such as Unbundled Dedicated Interoffice Transport (UDIT); and
- Any other delivery methods that become available during the test.

Furthermore, the TRD specifically identified four OSS functions to be evaluated:

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

The TRD also called for normal, peak, and stress volume testing of those OSS interfaces that support pre-ordering, ordering, and maintenance and repair functions for both resale and UNE services.

KPMG Consulting was awarded the role of TA, Hewlett-Packard Consulting (HPC) the role of P-CLEC, and Liberty Consulting the role of PMA. After selection as TA, KPMG Consulting worked with the ROC TAG to develop a *Master Test Plan* that outlined the scope of testing described in the TRD. Please refer to the TRD for additional information regarding the roles and responsibilities of the individual vendors.

5.0 Approach

5.1 Domains

The TRD described four domains, or logical business areas, to facilitate testing of Qwest's wholesale operations. Wholesale operations are defined as those Qwest operations that involve selling local services and providing support to CLECs. Each domain was further divided into several discrete tests in the MTP along functional lines. Organizing the test in this manner facilitated parity comparisons of test results, where appropriate, to those of Qwest's retail operations (i.e., those Qwest operations selling local services and providing support to end-user customers).

The four test domains and associated tests are:

- Pre-Order, Order and Provisioning (POP)
 - Tests 12, 12.7, 12.8, 13, 14, 14.7, 14.8, 15, 22, 24.8, and 24.9;
- Billing (BLG)
 - Tests 19, 19.6, 20, 20.7, and 24.10;
- Maintenance and Repair (M&R)
 - Tests 16, 17, 18, 18.7, and 18.8; and
- Relationship Management and Infrastructure (RMI)
 - Tests 23, 24.3, 24.4, 24.5, 24.6, and 24.7.

Capacity Management evaluations are included in each of the appropriate Pre-Order, Order and Provisioning, Billing, Maintenance and Repair, and Relationship Management and Infrastructure tests.

Within each domain, specific methods and procedures were applied to evaluate Qwest's wholesale performance *vis-à-vis* specific test targets. Details on the evaluation methods, analysis methods, and results of each evaluation are provided in the individual test sections. A summary of the evaluations and results is provided in Section III, Test Summaries.

5.2 Test Types

The ROC OSS test utilized two fundamental types of testing techniques: transaction-based testing; and, operational analysis testing. Each of these techniques develops a different type of record about Qwest's wholesale operations. In several cases, the results of transaction-based tests were used to supplement the information obtained during execution of operational analysis tests.

5.2.1 Transaction-based Tests

One of the goals of transaction-based testing was to live the CLEC experience. The fundamental idea was to establish a pseudo-CLEC, develop applicable interfaces using Qwest's publicly available documentation, and submit pre-order, order, and repair transactions using those interfaces – much as a real CLEC would do. Transaction-based system testing was utilized extensively in the POP, M&R, and BLG domains. These tests are “non-invasive” in that they depend on arms-length interactions between Qwest and the P-CLEC using publicly available interfaces and documentation.

KPMG Consulting and HPC combined efforts to accomplish the transaction-based tests. KPMG Consulting's roles were those of a CLEC's marketing, billing, and facilities management groups. KPMG Consulting supplied the HPC Ordering group with information about customer requirements, managed the inventory of test accounts and facilities, monitored Qwest's performance, and evaluated carrier-to-carrier bills.

HPC's roles were those of a CLEC's Information Technology and Order Operations groups. HPC established electronic bonding with Qwest, translated back and forth between business rule and electronic interface rule formats; created and tracked orders, resolved problems with missing orders and responses, and entered trouble tickets.

POP test transactions were submitted via the Interconnect Mediated Access - Graphical User Interface (IMA GUI), the Interconnect Mediated Access - Electronic Data Interchange (IMA EDI) interface, facsimile, and a participating CLEC's EXACT/TELIS system.

Bills were processed for the BLG evaluations through three regional (Central, Eastern, and Western) Customer Records Information Systems (CRIS) invoicing systems. Usage was processed through a variety of systems, which identify the CLEC to whom the usage belongs, translate the records into EMI format, and deliver records to the CLEC via the Daily Usage Feed (DUF) distribution process.

M&R trouble tickets were submitted through the Customer Electronic Maintenance and Repair (CEMR) and Electronic Bonding – Trouble Administration (EB-TA) interfaces.

Actual commercial CLEC transaction activity provided an alternative test method for transactions that were not practical to execute in the test environment. Moreover, commercial CLEC transaction activity provided a different perspective on production functionality and performance.

5.2.2 Operational Analysis Tests

Operational analysis tests focused on the form, structure, and content of the business process under study. This testing technique was used to evaluate Qwest's day-to-day operations and operational management practices, including procedural development and procedural change management. These tests were “invasive,” in that KPMG Consulting received access to Qwest's internal documentation, personnel, and procedural descriptions that are not necessarily publicly available.

Operational analysis techniques were also used to evaluate a Qwest process to determine if the process appeared to function correctly, in accordance with documentation and expectations. In

some cases, KPMG Consulting reviewed management practices and operating procedures, comparing the results against legal or statutory requirements or against "best practices" identified by KPMG Consulting.

5.3 *Military-style Test Philosophy*

In conducting the ROC OSS test, KPMG Consulting employed a "military-style" test philosophy. In a military-style test, a mindset of "test until you pass" is generally adopted so that a baseline set of working systems and processes would be available to the CLECs by the end of the test period. This was believed to be in the best interest of all parties seeking an open, competitive market for local services in the Qwest operating area.

The military-style test process for the ROC worked as follows:

- One of the testing vendors (KPMG Consulting, HPC, or Liberty Consulting) tested a Qwest component (e.g., system, document or process);
- The testing vendor informed Qwest of any problems encountered by creating a written Exception or Observation describing the failed component and the potential impact on a CLEC;
- Qwest prepared a written response to the Exception or Observation, describing any intended fix or providing clarification of the identified issue;
- After any required Qwest fixes were complete, the testing vendor retested the component as required; and
- If the Exception or Observation is cleared, the process is considered complete, and the testing vendor prepared a written closure statement for consideration by the ROC TAG. Otherwise, the testing vendor continued to iterate through the cycle until Exception or Observation closure was reached, or until such time as the ROC TAG or Qwest requested that the Exception or Observation be "Closed/Unresolved." A "Closed/Unresolved" Exception or Observation indicated that the vendor has been directed not to proceed with any additional retesting activities and, therefore, should reflect the "as-is" conditions of the Qwest component in the Final Report.

5.4 *Test Bed*

In order to accomplish testing, Qwest was required to provision a test bed of initial accounts that represented Qwest's, or another CLEC's, customers to be migrated to the P-CLEC, and P-CLEC accounts that would undergo various change activities during the course of the test. The notion of a test bed is a logical concept, in that the test accounts were created in Qwest's production systems, not in a separate test system.

KPMG Consulting and the ROC TAG cooperated to define the test bed specifications. Using the test scenario descriptions contained in the MTP, KPMG Consulting developed test cases for each scenario. Based on the test cases, KPMG Consulting delivered a set of line and account requirements to be provisioned by Qwest. These requirements covered a range of customer starting states (e.g., Qwest retail, CLEC UNE); line counts (single and multi-line); service types (business, residential); and features (e.g., call waiting, call forwarding). The test bed accounts

were established across thirty-seven central offices (COs) covering different rate centers, population density zones, and switch types.

The test bed specifications that were submitted to Qwest provided no indication of the subsequent order activity planned by KPMG Consulting. In addition to the baseline test bed accounts, Qwest also provided KPMG Consulting with spare facility and customer information (cable-pair assignments, telephone numbers, and addresses) that would be required when populating specific service requests, such as new or add orders.

From discussions regarding the necessary elements of the test bed, three types of test bed accounts were established: Resale and UNE-P testing utilized virtual accounts; UNE-Loop testing utilized physical; and working accounts were used for testing DS1 loops, DUF, and M&R. Virtual accounts used a real Telephone Number (TN) and port on the switch, but used pseudo-address and pseudo-cable pair information. Physical accounts used a real TN and cable pair, a pseudo-address, and were wired to terminate in the CO with dial tone. Working accounts used a real TN and real address, and generally terminated outside the CO. Prior to the initiation of testing, KPMG Consulting validated the provisioning of the test bed by Qwest to ensure the proper start state existed for the test accounts.

In addition to the test bed described above, two other test beds were created for this test. A separate test bed was created by Qwest, using specifications supplied by KPMG Consulting, for accounts to be used for the POP volume test. These accounts were built under a different P-CLEC identity than the one used for all other testing so that the same account could be used multiple times during the execution of the volume test. The third test bed was built to provide KPMG Consulting with a pool of spare accounts that could be used for retest purposes.

Additional details on the individual test beds are provided in the test reports.

5.5 *Blindness*

As previously stated, one of the objectives of the transaction-based tests was to live the CLEC experience. Yet, it was virtually impossible for all OSS test activities to be truly blind to Qwest. For example, the faults inserted on lines for the M&R test had to be inserted by Qwest employees at KPMG Consulting's direction and oversight.

To partially offset this lack of blindness, KPMG Consulting instituted certain procedures to help ensure that KPMG Consulting and HPC would not receive treatment from Qwest that was obviously different from that received by a real CLEC. For example, KPMG Consulting required that all documents given to HPC be generally available to all CLECs, and that any training courses attended by KPMG Consulting or HPC personnel for test purposes be available to all CLECs. KPMG Consulting and HPC reported problems using the same help desk mechanisms used by CLECs.

Furthermore, a procedure of "sighting" was developed to control knowledge of the P-CLEC's identity within Qwest. A sighted employee was made aware of the P-CLEC's identity, including any related company codes, and given standard instructions regarding the use of this information. Qwest maintained a list of sighted employees, which was updated and distributed on a regular basis. Care was taken in all cases in which the P-CLEC's identity was discussed with Qwest representatives to ensure that no "blind" employees were involved in such

discussions. Qwest participation in some meetings and conference calls was prohibited to further preserve the test's blindness.

5.6 Limitations

The MTP was limited to Resale, UNE-P, and UNEs for feature/function testing in the Pre-Ordering, Ordering and Provisioning, Maintenance and Repair, and Billing domains. However, even though the test exercised a set of activities that is much broader than that likely to be undertaken by any single CLEC in the near future, the test was not intended to be exhaustive because it is neither feasible nor desirable to test all possible permutations and combinations of all features and functions across all offered products.

In some cases, it was not practical to simulate certain order types, troubles, and processes in a test situation. Examples include orders with very long interval periods, and provisioning of large volumes of test transactions that would exceed the manual capacity of Qwest's work centers. In some cases, KPMG Consulting and HPC lacked access to telecommunications facilities and equipment needed to perform certain order types, such as the submission of Local Number Portability (LNP). In this example, KPMG Consulting, in collaboration with the ROC, solicited the participation of actual CLECs to execute LNP service requests.

6.0 Results

As of the date of this report, some test execution activities are ongoing. Test results for all domains are based on the information available to KPMG Consulting at the time of the writing of this report. A final report will be prepared by KPMG Consulting for submission to Qwest and the ROC TAG upon completion of all test execution activities and the closure (for evaluation purposes) of all Exceptions.

6.1 Evaluation Criteria and Results

Test targets and their corresponding evaluation criteria provided the basis for conducting tests. Evaluation criteria were the norms, benchmarks, standards, and guidelines used to evaluate items identified for testing. Evaluation criteria also provided a framework for identification of the scope of tests, the types of measures that must be made during testing, and the approach necessary to analyze results.

The ROC TAG collaboratively developed a set of Performance Indicator Definitions (PIDs) that defined the measures and standards to be used for purposes of KPMG Consulting's evaluation. In cases in which a test evaluation criterion mapped to a Qwest PID, the test results were compared against the proposed standards. In cases where a standard did not exist, results were evaluated using explicit standards established by KPMG Consulting, using our professional judgment.

For quantitative evaluation criteria for which a benchmark standard existed, KPMG Consulting applied a "stare and compare" analysis. In such a case, if the test result was less than the standard, that criterion was classified as a failure. For quantitative evaluation criteria for which there was a parity standard, KPMG Consulting applied a dual statistical test to determine whether the result was statistically significant. For details of the statistical approach to parity standards, see Appendix G of the MTP.

In cases in which failure to satisfy the criterion might, in KPMG Consulting's judgment, present a significant business impact to CLECs, KPMG Consulting issued an Exception. Exceptions were a means of identifying to Qwest defects in its OSS components. Where applicable to an evaluation criterion, the significant details of an Exception are documented in the "Comments" column of *Section 3.0 Results Summary* for each test. Other items worthy of mention that might not present a significant business impact to CLECs are also described in the "Comments" column.

For information on all Exceptions, please access the ROC OSS Repository Web site at:

<http://www.nrri.ohio-state.edu/oss/oss.htm>

Each evaluation criterion was analyzed individually and has its own associated result and comments. The results fall into the following categories:

- Satisfied — KPMG Consulting's analysis demonstrated that the evaluation criterion was satisfied through existing business operations components (e.g., procedure, system, or document). A criterion was satisfied by meeting a quantitative, qualitative, parity, or existence parameter established for purposes of the test.
- Not Satisfied – KPMG Consulting's analysis demonstrated that the evaluation criterion was not satisfied through existing business operations components (e.g., procedure, system, or document). A criterion was not satisfied by failing to meet a quantitative, qualitative, parity, or existence parameter established for purposes of the test.
- Unable to Determine – KPMG Consulting's evaluation and analysis were not able to fully determine that a criterion was satisfied or not satisfied. There were several possible causes for an Unable to Determine result, including: activities that took place inside a system and were, therefore, not visible to the tester; event-driven activities for which no event trigger occurred during the testing period; and activities that are planned to occur in the future, such as planned system or process changes.
- Not Complete – test execution is in progress and/or Exceptions remain open.
- Diagnostic – the PID standard is Diagnostic only.

KPMG Consulting must point out that the criteria are not all of equal importance. Some are less important as stand-alone measures, but are important when considered as a group. Other criteria are significant in their own right. A simple numerical counting or averaging of results by result category is misleading and should be avoided.

6.2 Incorporation of Hewlett-Packard Consulting Results

In addition to discrete test reports and other components developed by KPMG Consulting, this Draft Final Report contains materials produced by HPC. Specifically, HPC prepared report materials for Tests 10, 12 (A, B, and C), and 24.8, and Appendices A, B, and C. HPC is solely responsible for the content of its materials, which have been incorporated, without review or modification, by KPMG Consulting into this Draft Final Report.

In cases in which failure to satisfy the criterion might, in KPMG Consulting's judgment, present a significant business impact to CLECs, KPMG Consulting issued an Exception. Exceptions were a means of identifying to Qwest defects in its OSS components. Where applicable to an evaluation criterion, the significant details of an Exception are documented in the "Comments" column of *Section 3.0 Results Summary* for each test. Other items worthy of mention that might not present a significant business impact to CLECs are also described in the "Comments" column.

For information on all Exceptions, please access the ROC OSS Repository Web site at:

<http://www.nrri.ohio-state.edu/oss/oss.htm>

Each evaluation criterion was analyzed individually and has its own associated result and comments. The results fall into the following categories:

- Satisfied — KPMG Consulting's analysis demonstrated that the evaluation criterion was satisfied through existing business operations components (e.g., procedure, system, or document). A criterion was satisfied by meeting a quantitative, qualitative, parity, or existence parameter established for purposes of the test.
- Not Satisfied – KPMG Consulting's analysis demonstrated that the evaluation criterion was not satisfied through existing business operations components (e.g., procedure, system, or document). A criterion was not satisfied by failing to meet a quantitative, qualitative, parity, or existence parameter established for purposes of the test.
- Unable to Determine – KPMG Consulting's evaluation and analysis were not able to fully determine that a criterion was satisfied or not satisfied. There were several possible causes for an Unable to Determine result, including: activities that took place inside a system and were, therefore, not visible to the tester; event-driven activities for which no event trigger occurred during the testing period; and activities that are planned to occur in the future, such as planned system or process changes.
- Not Complete – test execution is in progress and/or Exceptions remain open.
- Diagnostic – the PID standard is Diagnostic only.

KPMG Consulting must point out that the criteria are not all of equal importance. Some are less important as stand-alone measures, but are important when considered as a group. Other criteria are significant in their own right. A simple numerical counting or averaging of results by result category is misleading and should be avoided.

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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 for interested parties 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, and is undergoing significant changes. 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 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 of the essential components of CMP. The draft CMP document, *Master Redlined CLEC-Qwest CMP Redesign Framework*, is open to ongoing discussions in CMP Redesign and has not been finalized.¹⁵⁹

Qwest and CLEC representatives manage the CMP, and each 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

¹⁵⁹ 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>.

issues. Qwest must notify CLECs of its desire to have an *ad hoc* meeting at least five business days in advance.

Qwest has proposed an Exception Process to expedite a Qwest or CLEC request. This Exception Process remains subject to the outcome of ongoing 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 is comprised of two components: Systems CMP, and Product/Process CMP. Each is described in more detail below.

2.1.1 Systems CMP

The Systems CMP distinguishes among four types of changes:

- Regulatory changes
- Industry guideline changes
- Qwest-originated changes
- CLEC-originated changes.

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. Either Qwest or a CLEC can complete the CR Form, and submit it to a designated Qwest Change Management email account. A CR tracking number is assigned to every request 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, on the basis that it is out of scope, 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. In addition, Qwest will also 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 used to select CRs for implementation when demand exceeds capacity for an upcoming OSS interface or test environment release. Prioritization allows 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. 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. Qwest and CLECs jointly rank the priority of Qwest- and CLEC-initiated CRs for that particular software release.

Regulatory and industry guideline changes are not subject to the prioritization process. The Special Change Request Process (SCRCP) 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, 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 determines the changes to be included in the upcoming software release.

The CMP includes software release intervals for the introduction of, and changes to, OSS interfaces. In July 2001, Qwest proposed to improve the existing notification process for changes to OSS interfaces to meet the release documentation intervals proposed in the Ordering and Billing Forum (OBF). 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 the distribution of release documentation, a walk-through of technical specifications with CLECs, CLEC comments on draft technical specifications, Qwest's response, and a timeline for CLEC testing.

For changes to an existing EDI interface, Qwest provides 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 provides 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 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 defines the notification and resolution intervals that WSHD follows in addressing known system defects. 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 can 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. A CLEC may utilize the escalation and dispute resolution process if it does not accept Qwest's response.

Qwest-initiated Changes

At the conclusion of the Change Management Test, the portion of Product/Process CMP that governs Qwest-initiated changes was still undergoing Qwest-CLEC negotiations in CMP Redesign. On April 1, 2002, Qwest implemented an interim process that governs Qwest-originated Product/Process changes, subject to further modifications.

The interim process 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. Qwest and CLECs conceptually agreed that a CLEC may utilize a special process to postpone a Qwest-initiated Product/Process change. At the time of this report, the process for implementing regulatory changes that involve manual processes had not been finalized.

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

2.4 Evaluation Methods

The sources of data for this test included reviews of Qwest notifications, Qwest documentation, the Qwest Wholesale Web site¹⁶⁰, 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 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

¹⁶⁰ The Qwest Wholesale Web site is located at <http://www.qwest.com/wholesale/>.

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 |
|----------------------|--|---------------------|--|
| 23-1 | The change management process responsibilities and activities are defined. | Satisfied | <p>Qwest's change management process responsibilities and activities are defined.</p> <p>The <i>Master Redlined CLEC-Qwest CMP Redesign Framework</i>, dated April 8, 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 CMP.</p> <p>Qwest internal methods and procedures (M&Ps) documentation contains information about the roles and responsibilities of the change management staff and relevant Qwest IT, product, and process groups.</p> <p>The draft CMP document specifies that CLECs designate representatives as their respective points-of-contact (POCs). The POCs are responsible for submitting CRs, attending relevant CMP meetings, participating in the prioritization process, commenting on Qwest process documents, and providing feedback about proposed changes and CMP issues in accordance with specified processes and intervals.</p> <p>The draft CMP document is accessible on the Qwest CMP Web site, at which a Web-based POC update form and current POC information may be found.</p> |
| 23-2 | The change management process is in place and documented. | Unable to Determine | <p>Because Qwest-CLEC negotiations are ongoing as part of CMP Redesign, Qwest's change management process is not fully implemented or documented.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|---|---------------------|---|
| | | | <p>In KPMG Consulting's professional opinion, the draft CMP document does not include all of the essential components that constitute a well-formed and complete change management process. While Qwest and CLECs have made significant progress in CMP Redesign, the parties have not completed discussions about key elements of CMP, and have not documented all of the essential activities within CMP. The CMP Redesign Process is scheduled to continue through June 2002.</p> <p>Qwest and CLECs disagree regarding the scope and effective date of the incremental changes resulting from CMP Redesign work sessions to-date. The draft CMP document remains subject to ongoing modifications and is not finalized.</p> <p>During testing, KPMG Consulting issued Exception 3094, which identified that Qwest did not adhere to the change management process for notifying CLECs about a proposed process change. In addition, Qwest implemented the desired change without responding to CLEC concerns.</p> <p>In response to Exception 3094, Qwest indicated that Qwest and CLECs were at impasse over the process that governs Qwest-initiated Product/Process changes.</p> <p>On April 1, 2002, Qwest implemented an interim process, subject to further development, negotiation, and modification in CMP Redesign.</p> <p>KPMG Consulting closed Exception 3094 as closed/unresolved. See Exception 3094 for additional information on this issue.</p> <p>Due to the test schedule for the Qwest OSS Evaluation, KPMG Consulting was not able to evaluate the final Product/Process CMP with respect to Qwest-initiated changes.</p> |
| 23-3 | The change management process has a framework to evaluate, categorize, and prioritize proposed changes. | Unable to Determine | Qwest and CLECs reached conceptual agreement about the framework to categorize and prioritize changes, but did not complete discussions and documentation of the processes for |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>evaluating, categorizing, and prioritizing changes. KPMG Consulting was, therefore, unable to observe the prioritization process of Systems CRs for a major release, or the categorization of Qwest-initiated Product/Process changes.</p> <p>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.</p> <p>Also during initial testing, KPMG Consulting found that Qwest did not adhere to the interim change management process for the implementation of a Product/Process change. KPMG Consulting issued Exception 3094.</p> <p>In response to Exception 3094, Qwest indicated that Qwest and CLECs disagree about the process that should govern Qwest-initiated Product/Process changes.</p> <p>On April 1, 2002, Qwest implemented an interim process for Qwest-initiated Product/Process changes, subject to further modifications in CMP Redesign. Qwest and CLECs did not complete discussions and documentation of all of the essential components of Product/Process CMP.</p> <p>KPMG Consulting closed Exception 3094 as closed/unresolved. See Exception 3094 for additional information on this issue.</p> <p>KPMG Consulting was not able to evaluate Product/Process CMP due to the ROC OSS test schedule.</p> <p>During testing, KPMG Consulting determined that Qwest's internal OSS interface change management documentation was inconsistent, and</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>lacked process flows and process descriptions. As a result of these deficiencies, KPMG Consulting issued Exception 3102.</p> <p>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.</p> <p>KPMG Consulting also found that the Systems CMP lacked both guidelines for prioritizing CLEC-initiated system CRs, and criteria for developing the scope of an OSS Interface Release Package. KPMG Consulting issued Exception 3111.</p> <p>Qwest subsequently developed internal M&Ps that contain 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.</p> <p>KPMG Consulting reviewed relevant process documentation, and verified information reflecting Qwest-CLEC discussions in the CMP Redesign work sessions to-date. However, KPMG Consulting was not able to observe the prioritization process for a major software release, and closed Exception 3111 as inconclusive. See Exception 3111 for additional information on this issue.</p> <p>Further KPMG Consulting testing revealed that Qwest did not have a comprehensive, and fully documented, production support process. KPMG Consulting issued Exception 3112.</p> <p>Qwest subsequently revised its process documentation to eliminate inconsistencies.</p> <p>KPMG Consulting reviewed the revised documents, noting that Qwest clarified that</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>it would notify CLECs of defects in backend systems that affect OSS functionality. KPMG Consulting 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.</p> <p>KPMG Consulting also 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.</p> <p>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.</p> <p>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.</p> <p>At the conclusion of the Qwest OSS Evaluation, KPMG Consulting observed that Qwest and CLECs continued discussion about relevant issues in CMP Redesign, including:</p> <ul style="list-style-type: none"> • Criteria for determining a method of implementing Regulatory changes that concern manual processes • The process for postponing a Qwest-initiated Product/Process change • The process for implementing changes for both OSS interfaces and products or processes |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <ul style="list-style-type: none"> • Special Change Request Process • Exception Process • Completion and finalization of the draft CMP document. <p>Based on the closure status of Exceptions 3094 and 3111, KPMG Consulting was unable to fully assess Qwest's framework to evaluate, categorize, and prioritize proposed Systems and Product/Process changes.</p> |
| 23-4 | The change management process includes procedures for allowing input from all interested parties. | Satisfied | <p>Qwest's change management process allows for input from interested parties.</p> <p>Qwest and CLECs attend monthly 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 CMP meetings.</p> <p>From July 11, 2001 through April 16, 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:</p> <ul style="list-style-type: none"> • Qwest will discuss all Qwest-initiated CLEC-impacting Systems and 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. <p>During testing, HPC formally identified that Qwest did not distribute adequate advance notification of product-related meetings held to allow CLECs to provide input.</p> <p>Qwest subsequently implemented improvements to existing notification processes, and addressed remaining issues in CMP Redesign.</p> <p>Also during initial testing, HPC formally identified that Qwest had not defined the parameters for the CR clarification</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | meeting. Qwest subsequently responded that the CR clarification meeting is confined to Qwest and the CLEC that originated the CR. |
| 23-5 | The change management process defines intervals for considering and notifying customers about proposed changes. | Satisfied | Qwest's change management process 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, as well as the initiation, evaluation, and notification of CLEC-initiated Product/Process CRs. For example, for changes to an existing EDI interface, Qwest provides 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 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. Qwest implemented an interim Product/Process process on April 1, 2002. The interim process separates Qwest-initiated Product/Process changes into five categories (Levels 0 to 4), each with defined notification and implementation intervals. |
| 23-6 | Documentation regarding proposed changes is distributed to wholesale customers. | Satisfied | Qwest distributes documentation regarding proposed changes to CLECs. Such documentation includes: <ul style="list-style-type: none"> • Information about open CRs • Qwest response to escalated CRs • Software release notes • Process document releases and updates. The Interactive CR Status Reports contain information about existing Systems and Product/Process CRs. The reports are available on the CMP Web site, and included in the monthly CMP distribution |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>package.</p> <p>Information about ongoing escalations is available on the CMP Web site. The Ongoing Escalations and Disputes Web site contains relevant correspondence and documentation.</p> <p>Qwest utilizes both emails and the Wholesale Web site to distribute documentation for releases and updates.</p> <p>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.</p> <p>During testing, KPMG Consulting formally identified that Qwest had not consistently informed CLECs of CLEC-impacting changes in the point release versions of IMA.</p> <p>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 systems changes as CRs, and provide CLECs with software release documentation. The document release dates are included in the Web-based OSS Release Calendar.</p> <p>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.</p> <p>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.</p> <p>KPMG Consulting also found that Qwest lacked uniform standards and processes</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>for document management. KPMG Consulting issued Exception 3093.</p> <p>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.</p> <p>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.</p> <p>During testing, HPC formally identified that the <i>CEMR User Guide</i> did not reflect documentation updates described in a Qwest notification.</p> <p>In response to the identified discrepancies between notification and document update, Qwest suggested that HPC might have mistakenly downloaded an earlier version of the <i>CEMR User Guide</i> due to Web browser configuration, and stated that future notifications would include a reminder of Web site reloading, whenever it was deemed appropriate.</p> <p>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 <i>CEMR User Guide</i> and <i>Release Notes</i> to reflect the version requirements of software development.</p> |
| 23-7 | Procedures and systems are in place to track information such as descriptions of proposed changes, key notification dates, and change status. | Unable to Determine | <p>Systems CMP</p> <p>Procedures and systems are in place to track information such as descriptions of CRs, release dates, and CR status prior to change implementation.</p> <p>However, KPMG Consulting was not able to validate the procedures and systems for tracking release documentation requirements.</p> <p>Qwest utilizes a Microsoft Access database to track Qwest- and CLEC-initiated Systems CRs. The interactive status report generated from this database</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>is available on the CMP Web site, and is included in the monthly CMP distribution package.</p> <p>The draft CMP document specifies that Qwest provide CLECs with a list of changes scheduled for implementation in 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.</p> <p>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.</p> <p>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.</p> <p>KPMG Consulting closed Exception 3110 as inconclusive. See Exception 3110 for additional information on this issue.</p> <p>Product/Process CMP</p> <p>Procedures and systems are in place to track information about CLEC-initiated CRs. However, KPMG Consulting was not able to verify that procedures and systems are in place for categorizing Qwest-initiated changes to product,</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>process, and associated documentation.</p> <p>Qwest utilizes a Microsoft Access database to track CLEC-initiated Product/Process CRs. The interactive status report generated from this database is available on the CMP Web site, and included in the monthly CMP distribution package.</p> <p>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. Qwest internal documentation indicates that relevant documentation teams track respective notification and release documentation intervals.</p> <p>However, since the set of criteria for categorizing Qwest-initiated changes remains subject to modifications in CMP Redesign, KPMG Consulting is not able to verify that procedures and systems are in place to follow Qwest-initiated Product/Process change categories, and the associated intervals.</p> |
| 23-8 | Criteria are defined for the prioritization system and for severity coding. | Unable to Determine | <p>Criteria are defined for the prioritization of Systems CRs and for severity coding of trouble tickets. The categorization and associated intervals for Qwest-initiated Product/Process changes remain subject to Qwest-CLEC negotiation in CMP Redesign.</p> <p>Systems Changes</p> <p>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.</p> <p>Regulatory and industry guideline changes are not subject to the prioritization process. Another exception to the prioritization process takes the form of a</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>Special Change Request Process, utilized by either Qwest or CLECs, to financially sponsor a CR and bypass the prioritization process.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>KPMG Consulting recognizes that the prioritization for IMA 10.0, 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</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>changes.</p> <p>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.</p> <p>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 Exception 3111.</p> <p>Qwest subsequently updated the draft CMP document to state that Qwest provides CLECs with LOE and release capacity information, in terms of person hours, during the prioritization process. In addition, Qwest developed internal M&Ps for the prioritization process.</p> <p>KPMG Consulting reviewed relevant process documentation, and verified information reflecting Qwest-CLEC discussions in the CMP Redesign work sessions to-date. KPMG Consulting observed that Qwest and CLECs had not finalized discussions about the prioritization process before prioritization for IMA Release 10.0 occurred.</p> <p>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.</p> <p>Product/Process Changes</p> <p>The draft CMP document describes the initiation, evaluation, and notification of CLEC-initiated Product/Process CRs. Qwest-initiated Product/Process changes, and the process for implementing regulatory changes involving manual processes, remain subject to ongoing Qwest-CLEC negotiation in CMP Redesign.</p> <p>During testing, KPMG Consulting observed that Qwest implemented a desired process change over CLEC objections. KPMG Consulting issued</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>Exception 3094.</p> <p>In response to Exception 3094, Qwest indicated that Qwest and CLECs disagreed about the process governing Qwest-initiated Product/Process changes.</p> <p>On April 1, 2002, Qwest implemented an interim process, subject to further modifications in CMP Redesign. The interim process separates Qwest-initiated Product/Process changes into five categories. The interim process defines the notification and implementation intervals for each category based on perceived impact to CLEC business operations.</p> <p>KPMG Consulting was not able to evaluate the interim process due to the test schedule, and closed Exception 3094 unresolved. See Exception 3094 for additional information on this issue.</p> <p>Production Support</p> <p>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.</p> <p>KPMG Consulting monitored System Event Notifications during the testing period, and confirmed that the notifications contained severity information.</p> <p>During 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.</p> <p>In response, Qwest extended production support functions to include the 30-day testing window prior to the EDI implementation process.</p> |

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| | | | <p>Exception Process</p> <p>Both Systems and Product/Process portions of CMP employ differing process flows to accommodate changes that either Qwest or a CLEC requests be implemented on an expedited basis.</p> <p>The Exception Process remains subject to ongoing Qwest-CLEC negotiation in CMP Redesign.</p> |
| 23-9 | Qwest complies with notification intervals and documentation release requirements. | Unable to Determine | <p>Due to continuous changes to both Systems and Product/Process CMP, KPMG Consulting was not able to verify Qwest's adherence to notification intervals and documentation release requirements.</p> <p>Systems CMP</p> <p>The draft CMP document defines software release documentation intervals for the introduction of, as well as changes to, OSS interfaces. For example, for changes to an existing EDI interface, Qwest provides 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 provides CLECs with draft release notes at least 28 calendar days in advance, and final release notes and user guide at least 21 calendar days before the scheduled deployment.</p> <p>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. Due to test schedule, KPMG Consulting was not able to observe Qwest's adherence to the current process of the documentation release requirements for a major software release.</p> <p>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.</p> <p>Qwest subsequently implemented a new process at WSHD to ensure that all</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>notifications include attachments in the Microsoft Word format.</p> <p>In addition, KPMG Consulting formally identified that System Event Notifications contained discrepancies related to:</p> <ol style="list-style-type: none"> 1) Notification date inaccuracies 2) Inaccurate time-stamps 3) Lateness in distribution. <p>Qwest subsequently conducted internal training to ensure that Qwest staff follows the notification intervals set forth in the draft CMP document.</p> <p>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.</p> <p>Further testing activities determined that Qwest did not distribute the mailout notifications in a timely manner, and did not follow the 48-hour interval for planned outages. KPMG Consulting issued Exception 3110.</p> <p>As a result, Qwest implemented a login system to ensure that the Notifications Department promptly logs and distributes notifications. KPMG Consulting's retesting confirmed that the changes were implemented.</p> <p>KPMG Consulting considers the issue specifically relevant to this evaluation criterion resolved, and closed Exception 3110 as inconclusive due to issues identified in 23-7. See Exception 3110 for additional information on this issue.</p> <p>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.</p> <p>Qwest subsequently updated process documentation to specify that Qwest would notify CLECs of changes in connectivity requirements at least five days in advance.</p> <p>In addition, HPC formally identified that</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>Qwest did not address the inaccurate and incomplete information in IMA disclosure documents in a timely manner.</p> <p>Qwest implemented changes to the subsequent release documentation.</p> <p>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.</p> <p>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.</p> <p>Product/Process CMP</p> <p>On April 1, 2002, Qwest implemented an interim process that governs Qwest-initiated Product/Process changes, including updates to Product Catalogs (PCATs) and Technical Publications. Qwest and CLECs have not completed discussions and documentation of this portion of the Product/Process CMP.</p> <p>KPMG Consulting was not able to validate compliance with product and process notification intervals.</p> |

24.6. Test Results: Operational Support Systems (OSS) Interface Development Review (Test 24.6)

1.0 Description

The OSS Interface Development Review evaluated Qwest's OSS interface development procedures. Specifically, the test evaluated Qwest's documentation, specifications, and support provided to Competitive Local Exchange Carriers (CLECs) in developing, providing, and maintaining OSS interfaces for pre-ordering, ordering, maintenance and repair, and billing. This test also included an assessment of Qwest's capacity management and growth planning processes.

The objectives of this test were 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, maintenance and repair, and billing.

2.0 Method

This section summarizes the test execution method.

2.1 Business Process Description

CLECs may access Qwest's OSS for pre-order, order, maintenance and repair, billing, and other services using a variety of interfaces. The process that CLECs must follow in order to interconnect with Qwest differs by type of interface, as each has different development and testing requirements.

2.1.1 Pre-Order/Order Interfaces

For pre-order and order transactions, CLECs may interconnect through either an Electronic Data Interchange (EDI) interface or a Web-based Graphical User Interface (GUI). CLECs intending to electronically interface with Qwest work directly with their assigned Qwest Service Managers, and other Qwest teams, in setting up the electronic interface(s). The CLEC's choice of interface, either EDI or GUI, determines whether or not CLECs must perform interface development coding.

CLECs that utilize the EDI interface must develop their interface in accordance with Qwest's technical specifications. In addition, the CLECs are required to test connectivity to Qwest systems, as well as the ability to successfully send and receive pre-order and order transactions, before using the production environment. EDI implementation includes:

- Development or installation of a data transport mechanism;
- Development of the necessary 'translation maps;' and
- Integration of the translation environment with the CLEC's existing systems.

If a CLEC chooses to use the Web GUI to connect to Qwest, and conduct pre-order and order transactions, Qwest provides the CLEC with documentation that describes the procedures for

obtaining digital certificates and passwords. Since the Web GUI interface is available to CLECs with a working, secure Internet connection:

- The development process for this type of interface does not include support for establishing interface connectivity or the use of a stand-alone test environment; and
- CLECs do not perform system development work in order to be certified or to use the GUI interface.

2.1.1.1 New Entrant Process for EDI

A CLEC that intends to connect to Qwest via EDI for the first time for pre-order and order transactions first contacts Qwest to express its interest in developing EDI capabilities. Qwest then sets up an introductory meeting with the CLEC to discuss the stages of the EDI implementation process, as well as the requirements and options for implementation. Each CLEC works through this process with a dedicated EDI implementation team.

The Qwest EDI implementation process consists of the following stages:

- Initial Communications (includes Kick-Off conference call);
- Preparation of an Implementation or Migration Project Plan (proposed/negotiated);
- Requirements Review (by the CLEC);
- Firewall and Interactive Agent-to-Interactive Agent (IA) Testing (and Connectivity);
- Progression Testing - Interoperability Environment (Interop) and/or Stand-Alone Test Environment (SATE);
- Controlled Production; and
- Production ("Turn-Up").

A CLEC follows the implementation process to be certified for IMA EDI. The steps are generally sequential, although the timing of certain steps may overlap. Once the CLEC has passed the Controlled Production phase of EDI implementation, the CLEC is considered 'certified,' and is prepared to send pre-order and order transactions to the production environment. A required certification process exists for each product that the CLEC plans to offer.

2.1.1.2 New Entrant Process for GUI

New entrants that wish to use the Web GUI must choose from two options: dial-up (i.e., directly to Qwest), or E-Business (i.e., secure connection to Qwest IMA GUI interface across the Internet). Dial-up requires a SecurID, corporate ID, user name, and password. E-Business requires a digital certificate, corporate ID, user name, and password.

The first step in the process is for the CLEC to contact its Service Manager and identify which connection method it wishes to use. The Service Manager then sends the CLEC User Questionnaire, which includes necessary profile information. Subsequently, Qwest provides a SecurID, corporate ID, user name, and password for dial-up connection, or a digital certificate for E-Business. A detailed description of setting up the IMA GUI is described in the *IMA Connection Guide* document.

2.1.1.3 New Release Migration Process

Every major IMA Release applies to the IMA GUI and EDI interfaces. The IMA GUI interface does not require any CLEC migration, as CLECs are automatically cut over to the newest version of IMA GUI. CLECs are notified of changes applied to IMA GUI through the Qwest Wholesale Change Management Process (CMP). Only one version of IMA GUI is available at any given time.

In contrast, Qwest provides up to three versions of IMA EDI in the production environment. Qwest issues at least two, but no more than four, major CLEC-impacting releases per year. Qwest's IMA EDI architecture allows it to support multiple versions of EDI in the production environment. Since IMA EDI involves directly connecting to Qwest IMA systems to send order and pre-order transactions, the EDI migration process requires a CLEC to modify its interface to handle changes in functionality.

The IMA EDI interface allows for the submittal of a greater volume of transactions, at a faster rate than the IMA GUI. When Qwest releases a new version of the EDI interface, the CLEC may choose to migrate to the new version of IMA EDI. The CLEC must follow these steps when migrating to a new version of IMA EDI:

- Contact the Qwest-assigned EDI Implementation Project Manager;
- Attend an initial migration meeting call to discuss re-certification, migration strategy, and data conversion;
- Develop a migration project plan and mutually agree with Qwest to assist in the scheduling of appropriate resources. This plan acknowledges 'blackout dates,' during which resources and systems may be unavailable to the re-certification/migration project;
- Complete a scenario summary with test scenarios to comply with all new release testing requirements; and
- Perform the Progression Testing Phase per the minimum testing requirements for those transactions that are to be migrated to the new release.

Qwest works with the CLEC to determine exactly which products and transactions will require re-certification when migrating to a new release. Point releases, in contrast to major releases, do not require re-certification.

2.1.1.4 Qwest's Interface Development Methodology

The Qwest Interface Development Methodology includes the use of two types of Change Requests (CRs): internal and external. An internal CR process is used by Qwest to initiate its internal development work. Qwest's interface development process is initiated by the submission of internal CRs by Qwest personnel for production bugs, internal process changes, suspected or actual problems identified during software development, or software document changes. The CR contains a narrative description of the problem or proposed change, information to identify the source of the request, and information to aid in evaluating the request.

The external CMP CR process is subject to the processes, procedures, and policies governed by the Wholesale Change Management Process. A CMP interface development-related CR may be

initiated by Qwest or by a CLEC, and is prioritized via the Qwest Wholesale Management Process framework. An interface development CMP CR may also be created based on industry guideline changes (e.g., Local Service Ordering Guide [LSOG] updates) or regulatory changes.

The following stages represent the software development life cycle that Qwest uses for creating and deploying a new release of IMA EDI and IMA GUI:

- Define Candidates;
- Package and Initiate a Release;
- Consolidate Release Candidates;
- Detailed Design;
- Code and Unit Test;
- Integration and System Testing;
- CLEC Testing Environment (applicable to EDI only); and
- Production Deployment.

Each of these stages is described in further detail below.

1) Define Candidates

The first step in the development process is to define the candidates that could be included in the upcoming release. Candidates represent all items (e.g., new functionality) that are considered for inclusion in a software package release.

Various teams from Qwest meet to discuss and define the candidates, and to determine the impact of each candidate on Qwest's existing systems and documentation. At the end of this phase, the requirements and impacts for each candidate are identified and assessed.

2) Package and Initiate a Release

This stage in the development process describes the tasks required by all IMA teams to package fully defined candidates into a software release, and to initiate the plan for that release. The main steps in this stage include:

- Conducting inventory of potential candidates;
- Applying release criteria and determining resource availability;
- Making a packaging recommendation, and approving/modifying the recommendation;
- Establishing the Release Team leads;
- Planning the initial phases of the release; and
- Packaging late candidates.

This phase is complete when Qwest's Program Change Control Board (PCCB) approves the release package.

3) Consolidate Release Candidates

Once a release package is created, the IMA teams work together to consolidate the various work products that are included in the release package. Various dependencies and synergies among candidates are taken into consideration. The following key tasks are conducted during this stage:

- Consolidation and reconciliation of release requirements;
- Creating database schemas and designs; and
- Planning the data and interface needs for the release.

The completion of these tasks prepares the release for the Detailed Design activities described below.

4) Detailed Design

The purpose of this stage in the development process is to verify that all steps are completed, thus ensuring that candidate CRs will be implemented in the upcoming release. At the end of this stage, the design for the addition of candidates is finalized, and the working specifications for the system coders are prepared.

5) Code and Unit Test

The individual application development teams (i.e., EDI, Web GUI) are responsible for writing the software code based on the requirements developed in the preceding stages. Once the code is written, developers conduct unit tests on one another's code. After the code passes the unit tests, it is ready for integration testing. During this phase, EDI translator maps are created, and a system integration test plan is prepared, as described below.

6) Integration and System Testing

Once coding is finished, and unit testing is complete, the complete IMA system is prepared for integration and system testing. Integration testing verifies that the separately developed components of the software perform as expected when integrated into the existing OSS systems. System testing is performed to test the performance of transactions within the software.

If any problems are found during integration or system testing, the tester creates an internal CR describing the issue, which is subsequently routed to the appropriate developer for resolution. Once corrective action is taken, the software is then retested to ensure that the issue has been satisfactorily resolved. These CRs are used for internal Qwest development and testing.

Once the integration and systems tests have taken place, the software is ready for initial deployment into the CLEC testing environment.

7) CLEC Testing Environment (CTE)

Qwest currently maintains two test environments, Interop and SATE, in which CLECs test EDI transactions before entering the production environment. Both Interop and SATE are offered to CLECs approximately 30 calendar days prior to production deployment of a new version of IMA. An exception to this schedule occurs if the release is deemed to be in "red testing status." This status indicates that severe problems that could jeopardize the release date were uncovered during system testing.

The CTE allows CLECs to test their EDI interfaces through transaction testing. Qwest works directly with CLECs during testing to ensure that the interfaces are functioning properly, and that the expected transaction responses are received. The test environment allows CLECs and Qwest to rectify any problems before migrating into production.

CLEC implementation of the GUI interface does not include a testing environment phase of development. Since CLECs do not have to develop an interface for GUI, a testing environment is not a necessary component of the software development life cycle.

8) Production Deployment

After the software has been deployed in CTE for 30 days, Qwest deploys the final EDI software version into the production environment. Qwest deploys both the EDI and GUI software during the weekend preceding the Monday of the official release date. In order to verify that the software is functioning properly, the interfaces are loaded into the production environment and tested by the System Test Team.

If problems are encountered, a CR is created and routed to the development team for resolution. Depending upon the severity of any CRs, the IMA Leadership team makes a "Go/No Go" decision for the release. If the release needs to be delayed, both the CLEC and Qwest parties are notified immediately through appropriate channels.

2.1.1.5 Documentation

Qwest publishes multiple documents that support its interface development processes and procedures. These documents are made available to CLECs publicly through the Qwest Wholesale Web site at <http://www.qwest.com/wholesale/ima/edi/index.html>, or by one of the Qwest teams (e.g., EDI Implementation Team).

2.1.1.5.1 EDI Implementation Guide

The *EDI Implementation Guidelines for Interconnect Mediated Access (IMA)* describes the end-to-end EDI implementation process for a CLEC. The *EDI Implementation Guidelines for Interconnect Mediated Access (IMA)* outlines each step of the process in detail, from initial communication to production deployment. The *EDI Implementation Guidelines for Interconnect Mediated Access (IMA)* also provides references to other documents that support the interface development process.

2.1.1.5.2 Disclosure Document

The *Disclosure Document* contains Qwest's specific business rules and procedures for submitting pre-order and order transactions. Each chapter in the *Disclosure Document* describes the requirements for a particular product, and is updated when a major software release takes place. Currently, Qwest releases the initial draft version to CLECs approximately five weeks before deploying the new release into production. Qwest releases an addendum to the *Disclosure Document* two weeks after the initial publication date. Beginning with IMA 10.0, scheduled for release on June 17, 2002, Qwest plans to begin issuing an initial draft 73 days before the release implementation date.

2.1.1.5.3 Test Environment Supporting Documentation

Qwest provides CLECs with multiple documents to support SATE. For each major IMA EDI release supported, Qwest maintains a *SATE Data Document*, a *SATE Data Request Form*, and a *Virtual Interconnect Center Knowledge Initiator (VICKI) Path Document*. The *SATE Data Document* includes the data necessary to populate pre-orders and orders in SATE, as well as the expected results from those transactions.

The *SATE Data Request Form* is used to request new test deck data for products currently supported in SATE and/or to request the addition of a VICKI path. The *VICKI Path Document* outlines a series of "paths" that allow a CLEC to receive specific, expected responses in an automated fashion.

The *EDI Implementation Guide and Disclosure Document* provide information relative to both the Interop and Stand Alone Test Environment. Since Interop is integrated with the Production Environment, there is no additional support documentation provided.

2.1.1.5.4 IMA EDI Corrective Procedures and Error Codes

The *IMA EDI Corrective Procedures and Error Codes* documentation is intended to aid CLECs in understanding and successfully managing the process of confirming and correcting wholesale requests submitted from their organization to Qwest. The document provides descriptions of error codes to facilitate CLECs attempting to troubleshoot problematic transactions.

2.1.1.5.5 Other EDI Supporting Documentation

In addition to the documentation outlined above, Qwest maintains other supporting documentation on the Qwest Wholesale Markets Web site. Such documentation includes release notes that provide version specific *ad hoc* information about the IMA EDI interface, a Frequently Asked Questions document, and an Access Issues document that outlines how to connect to IMA when the gateway is not functioning.

2.1.1.5.6 IMA Connection Guide

The *IMA Connection Guide* presents the user with a comprehensive step-by-step process for connecting to the IMA GUI, using either Dial-Up or E-Business, and also includes digital certificate registration instructions. The document also includes browser configuration, desktop requirements, security considerations and passwords, and instructs the CLEC as to how to manage its profile within the GUI.

2.1.1.5.7 IMA User's Guide

The *IMA User's Guide* is a reference to help CLECs to prepare, submit, and monitor the status of Local Service Requests (LSRs) through the IMA GUI. The guide covers pre-order, order, and post-order functions prior to provisioning, as well as common error messages that a CLEC may encounter when using the IMA GUI.

2.1.1.5.8 GUI I-Charts

The *GUI I-Charts* provide field level details for pre-order and order transactions and the post-order responses. The I-Charts outline the reference numbers, field names, action types, negotiated business rules, field lengths, field characteristics, and valid values associated with each IMA GUI transaction.

2.1.1.5.9 Other GUI Supporting Documentation

Qwest maintains several other documents to support the IMA GUI environment. The additional documentation includes:

- *CLEC System Administration Guide* – details the typical tasks that a CLEC system administrator will need to perform;
- *IMA Documentation Change Log* – highlights changes to IMA GUI documentation;
- Release notes – outlines upcoming changes to IMA GUI; and
- Frequently Asked Questions.

2.1.1.6 Capacity Management Processes

Qwest ensures that there is sufficient capacity to handle CLEC transactions for both the EDI and the Web-GUI interfaces by monitoring the utilization of the wholesale systems. Qwest uses forecasting and planning methods to ensure that the IMA systems do not encounter capacity management issues. Qwest also maintains disaster recovery plans for its systems.

2.1.2 Maintenance and Repair Interfaces

Qwest offers CLECs two maintenance and repair interfaces, Mediated Access System for Electronic Bonding Trouble Administration (MEDIACC EB-TA), and Customer Electronic Maintenance and Repair (CEMR), for performing trouble administration. MEDIACC EB-TA and CEMR allow the CLEC to electronically submit trouble tickets for designed and non-designed services circuits to Qwest's back-end systems, Work Force Administration/Control (WFA/C) or Loop Maintenance Operating System (LMOS). Troubles are routed to the correct system based on circuit type and format.

CLECs that wish to conduct business using Qwest's MEDIACC EB-TA interface are required to have an initial kick-off meeting with Qwest to develop a *Joint Interconnection Agreement (JIA)*. The JIA is a document that defines the development, testing, and support conducted jointly between Qwest and the CLEC. Specifications to design a MEDIACC EB-TA interface are referenced in the JIA. Negotiations on the terms of agreement, deliverables, and concerns are addressed during weekly meetings between the two parties.

Connectivity to Qwest's testing environment must be established by the CLEC using the X.25 transmission protocol. The requirement to use the X.25 transmission protocol is documented in the JIA, and is communicated to the CLEC at the initial kick-off meeting.

Qwest provides CLECs a *System Test Plan for Electronic Bonded Trouble Administration* document that clearly defines the steps and different phases required to develop a fully functional MEDIACC EB-TA interface. This document outlines the different stages required to test a CLEC's MEDIACC EB-TA interface with Qwest's systems. Quality measures, such as pre-defined entrance and exit criteria, are defined for a CLEC to test in Qwest's testing environment, and to progress through each of the different stages of implementation.

Prior to commencing any interface testing, Qwest has a review process with the CLEC to determine the test scenario inputs and expected outputs that will be used for testing. Qwest offers a document called *End-to-End Functional Test Scenarios*, which includes baseline test

scenarios for a variety of transactions. A CLEC works with Qwest to remove, modify, and/or add specific test scenarios to this document. The resulting set of test scenarios are used for testing.

During the testing process, Qwest and the CLEC hold a conference call with the Qwest Test Engineer, whose job is to provide support for the processing of the test scenarios. Results of the test scenarios, and defects encountered during testing, are documented. Weekly test calls are conducted between Qwest and the CLEC to review the progression of testing, to identify and address issues, and to communicate new system and/or documentation changes.

Upon completion of the development and testing of all required test scenarios, Qwest and the CLEC conduct an Operational Readiness Test, during which a limited subset of System Test Procedure test cases are submitted and processed through Qwest's MEDIACC EB-TA production environment.

Qwest offers the CEMR interface to CLECs as another option for submitting their maintenance and repair trouble reports. CEMR is an amalgamation of the functionality of two older retired systems called Customer Terminal Access System (CTAS) and Interconnect Mediated Access Graphical User Interface (IMA GUI). The CEMR interface is accessed through a secure Internet connection using a Netscape Communicator Web browser. The end user is required to obtain a digital certificate from Qwest in order to gain access to CEMR through a secure, private connection. The process for establishing connectivity, and using the complete functionality of CEMR, is documented in the *CEMR User Guide*. This documentation is publicly available on the Qwest Wholesale Web site. No interface development is required on the part of the CLEC.

2.1.3 Billing Interfaces

CLECs specify which options they wish to use for the receipt of their billing information via a New Customer Questionnaire that is available either on the Qwest Wholesale Markets Web site or through the CLEC's Qwest Service Manager. CLECs receive both Customer Records and Information System (CRIS) summary bills and Daily Usage Files (DUFs) from Qwest. CRIS summary bills are offered in the following formats:

- Paper (Official Qwest Bill of Record - Automatically Provided);
- EDI via Network Data Mover (NDM) (dedicated circuit);
- EDI via Value Added Network (VAN);
- EDI via File Transfer Protocol (FTP) - (dedicated circuit);
- Web Access;
- Diskette; and
- CD ROM (ASCII files) - Must have over \$10,000 of revenue on a single Summary Billing Number to qualify.

Each option may require certain procedural steps to prepare CLECs to receive CRIS summary bills. Qwest works directly with each CLEC to facilitate access to the electronic delivery options. Additionally, customer guides and set-up checklists are publicly available on the

Wholesale Markets Web site. However, CLECs are not required to formally develop interfaces for any of the aforementioned electronic delivery options.

For EDI delivery formats, CLECs are required to have an EDI translator to read the output files. Records are based on a standard 811 transaction set defined by the Telecommunication Industry Forum (TCIF). Qwest provides documentation describing the standard EDI response specifications on its Wholesale Markets Web site to support CLECs choosing to receive billing information in the EDI format.

DUFs can be received through the following media:

- Network Data Mover (NDM) (Dedicated Circuit or Dial-In);
- File Transfer Protocol (FTP) - (Direct Only); and
- Web Access.

The DUF is sent in the Ordering and Billing Forum (OBF) Exchange Message Interface (EMI) format. EMI is a standard message exchange guideline for the telecommunications industry. Qwest's Wholesale Markets Web site provides links to EMI documentation. As with CRIS summary bills, CLECs are not required to develop an interface to accept DUFs.

Qwest provides information on the various types of billing formats available in the *CLEC/Reseller Guide to OSS Interfaces*, which is located on the Qwest Wholesale Markets Web site at <http://www.qwest.com/wholesale/systems/generalinfo.html>. Additional information regarding the electronic delivery of billing information can be found at <http://www.qwest.com/wholesale/clecs/electronicaccess.html>.

2.2 Scenarios

Scenarios were not applicable to this test.

2.3 Test Targets & Measures

The test targets were Qwest's documentation, specifications, and support provided to CLECs in developing, providing, and maintaining OSS interfaces for pre-ordering, ordering, maintenance and repair, and billing. 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 24.6-1: Test Target Cross-Reference

| Process | Sub-Process | Evaluation Measure | Test Cross-Reference |
|---------------------------------|--|---|---|
| Developing Interfaces | Interface Development Methodology | Adequacy and completeness of interface development methodology | 24.6-1-1 – 24.6-1-2, 24.6-2-1 – 24.6-2-2 |
| | Provision of Interface Specifications and Related Documentation | Adequacy and completeness of interface documentation distribution procedures | 24.6-1-3 – 24.6-1-6, 24.6-2-3 – 24.6-2-6 |
| Enabling and Testing Interfaces | Interface Enabling and Testing Methodology | Adequacy and completeness of carrier-to-carrier interface enabling and testing procedures | 24.6-1-7, 24.6-1-13, 24.6-2-7, 24.6-2-13 |
| | Availability of Test Environments and Technical Support to CLECs | Availability and adequacy of functioning test environments, testing protocols, production cut over protocols and technical support for all supported interfaces | 24.6-1-8 – 24.6-1-10, 24.6-1-14, 24.6-2-8 – 24.6-2-10, 24.6-2-14 |
| | Interface Enabling and Testing Support | Adequacy and completeness of interface enabling and testing procedural documentation | 24.6-1-11, 24.6-2-11 |
| Maintaining Interfaces | Release Management | Adequacy and completeness of interface enhancement and software release management and regression testing protocols | 24.6-1-12, 24.6-1-15 – 24.6-1-20, 24.6-2-12, 24.6-1-15 – 24.6-1-20 |
| | Capacity Management | Adequacy and completeness of capacity and growth planning processes | 24.6-1-21 – 24.6-1-24, 24.6-2-21 – 24.6-2-24 |

2.4 Evaluation Methods

KPMG Consulting performed the following data gathering and collection activities for the OSS Interface Development Review:

- Reviewed Qwest's documentation on the Interface Development processes for the various interfaces. The documentation included both publicly available information on the Qwest Wholesale Markets Web site and internal documentation proprietary to Qwest;
- Conducted interviews with Qwest personnel involved with the various aspects of interface development for the appropriate interfaces; and
- Conducted interviews with, and reviewed documentation from, a CLEC, the Pseudo-CLEC (P-CLEC), and a CLEC service provider to understand their respective commercial experiences regarding interconnection with Qwest OSS interfaces.

To test process adherence, KPMG Consulting relied primarily on the implementation results of the P-CLEC, Hewlett-Packard Consulting (HPC). HPC performed full implementations for IMA EDI 5.0, 6.0, and 8.0. For EDI testing, HPC utilized only Qwest's Interoperability environment.

HPC did not perform process or transaction testing in Qwest's SATE for the Qwest OSS Evaluation.

2.5 Analysis Methods

The OSS Interface Development Review included a checklist of evaluation criteria developed by KPMG Consulting during the preparation of test activities for the Qwest OSS Evaluation. These evaluation criteria provided the framework of norms, standards, and guidelines for the OSS Interface Development Review.

The data collected was analyzed employing the evaluation criteria referenced above, and included in the "Evaluation Criteria and Results" table below.

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 tables below. A separate evaluation analysis table exists for the pre-order/order and maintenance and repair functional areas. Within each table, multiple interfaces may be evaluated. For example, the pre-order/order table includes evaluation and comments for both the EDI and GUI interfaces used by CLECs to perform the pre-order and order functions.

CLECs wishing to receive electronic CRIS/CABS or DUF billing information can do so via EDI, ASCII for CRIS/CABS, or EMI for DUF. Data can be retrieved via FTP, Internet, or NDM transport mechanisms. Connection methods include Direct:Connect[®] (dedicated circuit), Dial-Up or WEB GUI. Once a CLEC has chosen the data format, transport mechanism, and connection type, they have completed the interface process. There is no software interface development required for the CLEC. Test 19.6, DUF Return Production and Distribution Process Evaluation, and Test 20.7, Bill Production and Distribution Process Evaluation discuss billing processes.

Definitions of evaluation criteria, possible results, and Exceptions are provided in Section II.

3.1.1 Pre-Order/Order Interfaces

Table 24.6-2.1: Evaluation Criteria and Results

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|--|-----------|---|
| Methodology | | | |
| 24.6-1-1 | Qwest has a documented software/interface development methodology that addresses requirements and specifications definition, design, development, testing, and implementation. | Satisfied | <p>Qwest has an internal, proprietary documented interface development methodology, known as the Comprehensive Delivery Process (CDP), that addresses requirements and specifications, definition, design, development, testing, and implementation for both EDI and GUI.</p> <p>Process documentation was provided by Qwest for each of the phases of the IMA EDI development process:</p> <ul style="list-style-type: none"> • Define Candidates; • Package and Initiate a Release; • Consolidate Release Candidates; • Detailed Design; • Code and Unit Test Process; • Integration and System Testing; • CLEC Testing Environment; and • Production Deployment. <p>Each of these documents defined the inputs, activities, and tasks performed, and the outputs of each phase. KPMG Consulting received samples of these outputs for both IMA EDI and GUI.</p> <p>Qwest utilizes a streamlined version of the CDP approach, called Rapid Application Development (RAD), for SATE.</p> |
| 24.6-1-2 | Interface development methodology defines how quality is to be assured. | Satisfied | <p>Qwest internal interface development methodology defines how quality is to be assured.</p> <p>Qwest conducts internal code tests, unit tests, integration tests, and system tests on IMA EDI software code prior to deployment. The developers perform code tests and unit tests, while integration tests and system tests are performed by dedicated integration test and system test teams. Test plans describing testing methodology, test cases, and other testing considerations, are created by the System Test and Integration Test Teams for use in their respective tests.</p> <p>System Testing, Integration Testing, and</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|---------------------------------|--|-----------|---|
| | | | <p>User Acceptance Testing are also performed on the SATE.</p> <p>Issues uncovered during internal testing are logged as Change Requests (CRs) by the testing personnel, and are tracked in the Distributed Defect Tracking System (DDTS). These CRs are used only by internal Qwest development and testing teams for tracking purposes.</p> <p>CRs are assigned one of four severity levels. Severity Level 1 is the most severe, while Severity Level 4 is the least severe. The Qwest-defined process is to not release any software for which Severity Level 1 and Severity Level 2 CRs exist.</p> <p>KPMG Consulting received and reviewed samples of CRs, sample test plans, test plan templates, and a screenshot of Qwest's test case repository.</p> <p>Qwest conducts code review/unit testing, integration testing, system testing, and user acceptance testing on the IMA GUI software code. Once the code has been written, it undergoes a code review. The code review is performed by one or more GUI developers, who collectively review and run test cases on the code to ensure its functionality.</p> <p>KPMG Consulting received and reviewed samples of code review comments, a screenshot of Qwest's test case repository, and test plans for IMA GUI.</p> |
| Interface Specifications | | | |
| 24.6-1-3 | Responsibilities and procedures for developing and updating interface specification document(s) are defined. | Satisfied | <p>Qwest responsibilities and procedures for developing and updating interface specification document(s) are defined.</p> <p>The <i>IMA Disclosure Document</i> and <i>EDI Implementation Guidelines for Interconnect Mediated Access (IMA)</i> are used by CLECs to develop their IMA EDI Interfaces. CLECs conducting testing of their interfaces in SATE also use the <i>SATE Data Document</i>. These documents are available on the Qwest Markets Wholesale Web site at www.qwest.com/wholesale/ima/edi/document.html.</p> <p>The EDI Specifications group, the Qwest Business group, and the Qwest</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|--|-----------|--|
| | | | <p>Documentation group are responsible for updating these specification documents.</p> <p>Updates to existing interface specifications, and new release documentation are issued via the Change Management Process. New release documentation is developed in accordance with internal project planning requirements.</p> |
| 24.6-1-4 | <p>Interface specifications that define applicable business rules, data formats/definitions, and transmission protocols are made available to customers.</p> | Satisfied | <p>Qwest Interface specifications that define applicable business rules, data formats/definitions, and transmission protocols are made available to customers.</p> <p>The <i>EDI Implementation Guidelines for IMA, IMA Disclosure Document, SATE Data Document, SATE Data Request form</i>, and other EDI-related documentation are all available on the Qwest Wholesale Markets Web site at www.qwest.com/wholesale/ima/edi/document.html.</p> <p>The P-CLEC identified areas of deficiency in Qwest's interface documentation, and subsequently issued Exceptions 2005, 2008, 2009, and 2014. These Exceptions outlined problems in the definition, applicability, and accuracy of business rules and other interface specifications including:</p> <ul style="list-style-type: none"> • Insufficient information to create and submit accurate LSRs for DID In Only Trunks; • Error in the IMA EDI 6.0 Disclosure Document regarding the Request Type (REQTYPE) data element for shared loops; • Inconsistency in IMA EDI 6.0 Disclosure Document and the Business Rules for ordering UNE-P POTS services; and • Inconsistency in the documented service availability of "Seasonal Suspend" service for specific geographic regions. <p>Qwest revised its disclosure documentation, and issued Qwest Communicators to the CLEC community through the Qwest CMP. Exceptions 2005, 2008, 2009, and 2014 are closed.</p> <p>Documentation for IMA GUI is publicly available on the Qwest Wholesale Markets</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|-----------------------------------|---|-----------|---|
| | | | Web site. |
| 24.6-1-5 | On-call customer support for interface specifications is provided. | Satisfied | <p>The CLEC's EDI Implementation team provides on-call support for IMA EDI interface specifications during the EDI implementation and migration.</p> <p>The P-CLEC used this support for addressing issues during its EDI implementation and certification.</p> <p>KPMG Consulting reviewed Meeting Summaries, Question Logs, and Documentation Logs provided by the P-CLEC.</p> <p>CLECs access the Wholesale Systems Help Desk (WHS) for interface related issues while operating in the Production Environment. The WHSD provides IMA GUI support.</p> |
| 24.6-1-6 | Procedures for updating interface specifications are integrated with formal change management procedures involving customers. | Satisfied | <p>Procedures for updating interface specifications are integrated with formal change management procedures involving customers.</p> <p>Qwest and the CLECs are required to use Qwest's CMP to request changes to any of Qwest's systems or specification documents. The CMP is described in the <i>EDI Implementation Guidelines for IMA</i> and on the CMP Web site.</p> <p>CLECs are notified of changes to systems or of updated interface specification documentation via a Qwest Communicator electronic newsletter. These newsletters are also referred to as Release Notices. Communicators/Release Notices for IMA EDI System changes are archived at http://www.qwest.com/wholesale/ima/edi/release.html.</p> <p>Release notices for all systems, including IMA GUI, are archived in the general Release Notice archive at http://www.qwest.com/wholesale/cmp/release.html.</p> |
| Carrier-to-Carrier Testing | | | |
| 24.6-1-7 | Qwest has a documented methodology for conducting carrier-to-carrier testing with customers seeking to interconnect. | Satisfied | <p>Qwest has a documented methodology for conducting carrier-to-carrier testing with customers seeking to interconnect.</p> <p>The process is documented externally in the <i>EDI Implementation Guidelines for IMA</i>, and internally in Qwest's internal process</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|--|---------------|---|
| | | | <p>documentation for Interop/SATE and Controlled Production testing. Entrance and exit criteria for each phase of testing are defined and documented in both the internal and external documentation.</p> <p>KPMG Consulting observed testing activities, and reviewed documented test results provided by P-CLEC for Interop testing. Commercial testing activities and documented results were also reviewed for SATE.</p> <p>CLECs using the IMA GUI do not have to develop an interface. As such, carrier-to-carrier testing is not required for IMA GUI.</p> |
| 24.6-1-8 | A functional test environment is made available to customers for all supported interfaces. | Not Satisfied | <p>A functional test environment is not made available to customers for all supported interfaces.</p> <p>Prior to August 2001, Qwest supported only its Interop test environment for CLECs testing an EDI interface. KPMG Consulting identified Interop deficiencies in Exception 3029:</p> <ul style="list-style-type: none"> • Interop requires CLECs to use valid production data in their test cases; • Responses to the test cases are generated manually as opposed to generating production system-like responses; and • Interop has no flow-through capability as does the Production Environment. <p>Qwest responded that it was devoting its testing resources to developing SATE, and that no further enhancements would be made to Interop. Qwest revised the <i>EDI Implementation Guidelines for IMA</i>, so that it now provides more detailed information on the pros and cons of using Interop vs. SATE, or a combination of both, environments. Exception 3029 is closed.</p> <p>In August 2001, Qwest introduced SATE as a result of a CR submitted through Qwest's Change Management Process (CMP) by a CLEC. SATE is separate from Qwest's production systems.</p> <p>KPMG Consulting reviewed SATE documentation and identified that SATE transaction responses are manually</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|---------------------|--------|---|
| | | | <p>generated, and that the environment does not support flow-through transactions. As a result, KPMG Consulting issued Exception 3077.</p> <p>In its response, Qwest requested that KPMG Consulting close Exception 3077 without waiting for SATE enhancements to be implemented, and subsequent retest verification activities to be completed. Exception 3077 is closed/unresolved.</p> <p>KPMG Consulting formally identified that Qwest did not supply CLECs with sample EDI transactions for the various types of test cases available.</p> <p>Qwest released the <i>Populated X12 Mapping Examples – IMA EDI 9.0 Release</i> document through the CMP Release Notification process.</p> <p>KPMG Consulting verified that CLECs were supplied with sample EDI transactions, and the issue was resolved.</p> <p>KPMG Consulting identified problems related to adding functionality to SATE in Exception 3095. The issues raised included the process for adding new IMA products for testing as well as adding existing products not currently supported in SATE.</p> <p>In its response, dated 4/5/2002, Qwest requested that KPMG Consulting close Exception 3095 without waiting for SATE enhancements to be implemented, and subsequent retest verification activities to be completed. Exception 3095 is closed/unresolved.</p> <p>The P-CLEC's testing for the Qwest OSS Evaluation was limited to Interop. During its Interop testing experience, the P-CLEC identified limitations with the Interoperability Testing environment. Exception 2010 identified that the responses on multiple orders with the same scenario parameters received Firm Order Confirmation (FOC) on some orders, while other orders were rejected.</p> <p>Qwest corrected the issue, and committed to training Help Desk personnel to ensure that transactions are handled and processed accurately. Exception 2010 is closed.</p> <p>In Exceptions 2030 and 2031, HPC</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|---|-----------|---|
| | | | <p>identified that the processing of an order for multiple Qwest products resulted in the P-CLEC receiving a Firm Order Confirmation (FOC) and then an ISC-generated reject (FATAL).</p> <p>Updates to the IMA EDI Disclosure Documentation Releases 7.0 and 8.0 were made, and a notification was issued. Exceptions 2030 and 2031 are closed.</p> <p>Qwest does not require carrier-to-carrier testing for IMA GUI.</p> |
| 24.6-1-9 | Carrier-to-carrier test environments are available and segregated from Qwest production and development environments. | Satisfied | <p>Carrier-to-carrier test environments are made available and are segregated from Qwest production and development environments.</p> <p>Until August 2001, Qwest offered only its Interoperability testing environment to CLECs developing an interface for IMA EDI. The Interoperability test environment is dependent upon the production back-end systems, and, as a result, CLECs must use actual production data for testing. Because of this and other deficiencies in the Interoperability environment, KPMG Consulting issued Exception 3029.</p> <p>In August 2001, Qwest introduced SATE as a result of a CMP CR submitted by a CLEC. SATE is separate from Qwest's production systems. Qwest now allows CLECs to use either Interop, SATE, or a combination of both environments for testing. The <i>EDI Implementation Guidelines for IMA</i> document was updated to describe the process for testing in both environments, and includes a table listing the capabilities of each of the test environments.</p> <p>KPMG Consulting reviewed the revised documentation, and determined that the availability of SATE, or a combination of Interop and SATE, sufficiently addressed the issues raised in the Exception. Exception 3029 is closed.</p> <p>No development work is required on the CLEC side to use IMA GUI, and, therefore, a carrier-to-carrier testing environment is not required for IMA GUI.</p> |
| 24.6-1-10 | On-call customer support for interface testing is provided. | Satisfied | The Qwest EDI Implementation team assigned to each CLEC provides on-call |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|--|-----------|---|
| | | | <p>customer support for interface progression testing (i.e., for new release implementation or migration). The CLEC is also provided with the email addresses and telephone numbers of its Implementation team members should the CLEC need to contact Qwest for support.</p> <p>Limited support for regression testing is provided exclusively via email. Qwest does not provide on-call customer support for regression testing. Regression testing is designed for CLECs to test their EDI interfaces without the supervision and direct support from Qwest.</p> <p>Responsibilities for support are documented for CLECs in the <i>EDI Implementation Guidelines for IMA</i>.</p> <p>The P-CLEC received support from its IMA EDI Implementation team, as documented in its Question Logs, Documentation Logs, and Implementation Meeting Minutes. KPMG Consulting also observed the P-CLEC's weekly implementation calls with Qwest.</p> <p>There is no carrier-to-carrier testing required for IMA GUI, and therefore, on-call support for interface testing is not required.</p> |
| 24.6-1-11 | Carriers are provided with documented specifications for active test environments. | Satisfied | <p>CLECs are provided with documented specifications for active test environments in the form of the <i>EDI Implementation Guidelines for IMA and Disclosure Document</i>. These documents are available on the Qwest Wholesale Markets Web site at www.qwest.com/wholesale/ima/edi/document.html. CLECs that plan to conduct testing in SATE can use the <i>SATE Data Document</i>, which is available at the same URL.</p> <p>The P-CLEC was provided with the <i>EDI Implementation Guidelines for IMA</i> and the URL for the <i>Disclosure Document</i> at its Implementation Kick-off meeting with Qwest.</p> <p>No development work is required to use IMA GUI, and therefore, a carrier-to-carrier testing environment, with its associated specifications, is not required.</p> |
| 24.6-1-12 | Active test environments are | Satisfied | Active test environments are subject to |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|--|------------------|--|
| | <p>subject to version control, and carriers are notified before changes are made to active test environments.</p> | | <p>version control. Carriers are notified before changes are made to active test environments.</p> <p>SATE can support up to three versions of IMA EDI at any given time. Qwest policy is to have the newest version of IMA EDI available in SATE one month prior to its release into production. The various versions of IMA EDI available in SATE correspond to those in the IMA EDI production environment. The IMA EDI release/retirement schedule is described in the <i>EDI Implementation Guidelines for IMA</i>, and a 12-month release calendar is available on the CMP Web site, at http://www.qwest.com/wholesale/cmp/release.html.</p> <p>Qwest has a documented process in place for ensuring that the version of IMA EDI that is loaded in SATE matches the version of IMA EDI that is, or will be, loaded in the production environment.</p> <p>KPMG Consulting reviewed the process in the <i>SATE and IMA Synchronization</i> document.</p> <p>Interop supports all the releases of IMA EDI that are available in the production environment.</p> <p>CLECs are notified by email of any changes to the test environments through a Qwest Communicator newsletter. Communicators are sent out for the introduction of a new version of IMA EDI, including "dot" releases.</p> <p>No development work is required on the CLEC side to use IMA GUI, and therefore, a carrier-to-carrier testing environment, including version control management policies, is not required for IMA GUI.</p> |
| <p>24.6-1-13</p> | <p>Procedures are defined to log software "bugs," errors, and omissions in specifications and other issues discovered during carrier-to-carrier testing.</p> | <p>Satisfied</p> | <p>Procedures are defined to log software "bugs," errors, and omissions in specifications and other issues discovered during carrier-to-carrier testing.</p> <p>CLECs encountering problems with software or specifications during the carrier-to-carrier testing phase document those concerns in their Question Logs, and discuss them with the EDI Implementation team during the weekly Implementation</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|-------------------------------------|--|-----------|---|
| | | | <p>calls.</p> <p>During all phases of IMA EDI testing, if problems with the software or specifications are encountered that require Qwest to make changes to their systems and documentation, the EDI Implementation team will create an internal CR in their internal tracking system, DDTS. If the problem is restricted to a specific CLEC, the CR is not shared with the rest of the CLEC community. If the problem affects more than one CLEC, Qwest issues a general notification to the entire CLEC community informing it of the problem and the expected resolution date.</p> <p>Internal CRs created by Qwest as a result of CLEC testing and/or Qwest testing are tracked and assigned to Qwest personnel for resolution through DDTS.</p> <p>HPC, in its role as P-CLEC, raised issues with Qwest's internal severity coding process, the publication of identified defects and implementation dates, and the process for assigning severity codes to change requests identified during EDI Certification testing. Qwest proposed to resolve these issues through the CMP Redesign process with the CLEC community.</p> <p>There is no carrier-to-carrier testing required for IMA GUI, and therefore trouble tracking processes for that phase are not required for IMA GUI.</p> |
| <i>Production Interface Support</i> | | | |
| 24.6-1-14 | On-call technical support is provided for production versions of interfaces. | Satisfied | <p>The Qwest EDI Implementation team provides on-call technical support to CLECs for production versions of interfaces.</p> <p>EDI Implementation team support is provided for the first 30 days of production after the CLEC's implementation, following CLEC certification for a new product and new release. After the 30-day interval, Qwest provides technical support via the WSHD.</p> <p>The WSHD creates a Trouble Ticket for each problem a CLEC calls to report. Problems that cannot be solved are referred on to successively higher tiers of production support until resolution can take place.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>The production support role is documented in the Support section of the <i>EDI Implementation Guidelines for IMA</i>.</p> <p>KPMG Consulting confirmed with the P-CLEC that the assigned EDI Implementation team provided 30 days of post-implementation support.</p> <p>The WSHD provides primary support for IMA GUI. Problems that cannot be solved by the WSHD are referred on to successively higher tiers of help desk support until resolution. The <i>IMA User Guide</i> and IMA GUI Frequently Asked Questions Web page at http://www.quest.com/wholesale/ima/gui/faq.html directs CLECs to call the WSHD for any IMA GUI production interface issue.</p> <p>KPMG Consulting observed WSHD work center operations as part of Test 24.7, Wholesale Systems Help Desk process review, and confirmed that technical support is provided to CLECs for both IMA GUI and IMA EDI. KPMG Consulting also reviewed the Help Desk trouble log maintained by the P-CLEC.</p> |
| 24.6-1-15 | Procedures are defined to track software "bugs," errors, and omissions in specifications and other issues discovered during production use of interfaces. | Satisfied | <p>Procedures are defined to track software "bugs," errors, and omissions in specifications and other issues discovered during production use of interfaces.</p> <p>CLECs encountering issues in IMA EDI or IMA GUI production are required to first contact the WSHD. The WSHD creates a trouble ticket for each problem, which are tracked using the Problem Change Request Management (PCRM) system. During Qwest's internal investigation of the problem, if it is found that changes need to be made to software to resolve the problem, an internal CR is created and is tracked in Qwest's DDTs. If Qwest applies any changes to software or documentation that impact CLECs, it notifies CLECs through the CMP process.</p> <p>KPMG Consulting reviewed methods and procedure documentation that defined how Qwest used the PCRM system to track bugs, errors, and omissions detected during production. KPMG Consulting gathered and reviewed PCRM data as an output of</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| 24.6-1-16 | Business rules and software change logs exist, are updated, and are shared with customers. | Satisfied | <p>the tracking process.</p> <p>Business rules and software change logs exist, are updated, and are shared with customers.</p> <p>CLECs are notified of changes to the EDI documentation via electronic newsletters called Communicators. Communicators are emailed directly to all CLECs on the Communicator distribution list, and are also archived on the Qwest wholesale Web site at http://www.qwest.com/wholesale/ima/edi/release.html, and also on the CMP Web site at http://www.qwest.com/wholesale/cmp/releasenote.html. These change management procedures are defined in the <i>Master Redlined CLEC-Qwest CMP Redesign Framework</i> document.</p> <p>KPMG Consulting and the P-CLEC received notifications regarding updated business rules and software changes.</p> <p>Change logs are included in addenda to the <i>Disclosure Document</i> for the latest release. These changes are both posted on the Qwest Wholesale Markets Web site at http://www.qwest.com/disclosures/netdisclosure409.html, and issued via a Communicator to the CLEC community.</p> <p>CLECs are notified of changes to the IMA GUI documentation through the same process used for IMA EDI. IMA GUI documentation also uses a Change Log in addition to the Communicator process. The Change Log is publicly available on the Qwest external Web site at http://www.qwest.com/wholesale/ima/gui/document.html.</p> <p>KPMG Consulting confirmed that Qwest shares updates to business rules with CLECs.</p> |
| Release Management | | | |
| 24.6-1-17 | Internal software acceptance testing is defined and documented. | Satisfied | <p>Qwest has an internal software acceptance testing procedure that is defined and documented.</p> <p>Prior to deploying a new release into the production environment, Qwest conducts code and unit tests, System tests, Integration tests, and User Acceptance Tests (UAT) on the IMA EDI and IMA GUI software code.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>SATE also undergoes internal testing prior to release. SATE code is developed in parallel with IMA EDI production code.</p> <p>Qwest has internal process documentation on all the phases of testing. Internal software acceptance testing is defined in the internal <i>User Acceptance Test Process</i>, <i>User Acceptance Test Execution Procedure</i> and <i>Comprehensive Delivery Process</i> documents.</p> <p>KPMG Consulting received and reviewed sample test plans, test plan templates, and test results as outputs of this phase of the software acceptance testing. KPMG Consulting also substantiated that Qwest plans and manages the UAT for SATE by reviewing internal support documentation.</p> |
| 24.6-1-18 | <p>Methods and procedures are defined for ensuring that changes found during all phases of testing are incorporated into instances of software code.</p> | Satisfied | <p>Methods and procedures are defined for ensuring that changes found during all phases of testing are incorporated into instances of software code.</p> <p>Qwest's internal process document, the <i>EDI Developers Handbook</i>, defines the methods and procedures that Qwest's internal testing teams are to follow for all phases of testing. Any issues encountered during Qwest's internal testing phases are tracked as internal CRs in DDTS. A severity level is associated with the internal CR. This process of creating CRs in DDTS is defined in the <i>ClearDDTS™ User's Guide</i>.</p> <p>Development and testing teams are required to address Severity 1 and 2 CRs before they can proceed to the next stage of the IMA EDI or IMA GUI development cycle. Testing teams hold regular meetings during the testing phases to review internal CRs and other issues.</p> <p>KPMG Consulting received and reviewed the <i>EDI Developers Handbook</i> and the <i>ClearDDTS™ User's Guide</i>. KPMG Consulting conducted on-site interviews with Qwest testing teams, developers, and managers who described their activities to be consistent with documented processes. KPMG Consulting also reviewed historical examples of internal CRs as evidence of Qwest's adherence to defined processes.</p> |
| 24.6-1-19 | Processes direct that new | Satisfied | Qwest employs processes that require new |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | <p>releases undergo testing prior to migration to a test environment.</p> | | <p>releases of IMA EDI to undergo testing prior to migration to a test environment.</p> <p>Interop uses production code and the associated test process. As such, the code in Interop undergoes Code and Unit testing, Integration Testing, System Testing, and UAT prior to deployment into the Interoperability environment. The <i>Comprehensive Delivery Process</i> outlines the testing of new releases through various phases, as previously defined.</p> <p>KPMG Consulting received and reviewed the project plans, deployment plan, and code review results for IMA EDI and Interop.</p> <p>Prior to migration to the SATE test environment, code undergoes unit testing, system testing, integration testing, and user acceptance testing.</p> <p>KPMG Consulting received and reviewed copies of the test plans and results for SATE release 7.0 and SATE release 9.0.</p> <p>No development work is required on the CLEC side to use IMA GUI, and therefore, a carrier-to-carrier testing environment is not required for IMA GUI.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| 24.6-1-20 | Defects and required changes are identified and tracked during pre-production testing. | Satisfied | <p>Defects are identified and tracked during pre-production testing for IMA EDI and IMA GUI.</p> <p>Qwest's internal testing methods are defined in the <i>EDI Developers Handbook</i>. The document defines the methodology for each testing phase. Testers define test cases, execute those test cases, and compare actual results to expected results for each test case. Discrepancies between actual and expected results indicate potential defects.</p> <p>Defects are logged as internal CRs in the DDTS CR tracking system. Once logged in DDTS, CRs are assigned to the associated development group. This group is then responsible for resolving the CR. During the various testing phases, IMA teams conduct regular meetings to review any CRs or other issues uncovered during pre-production testing.</p> <p>KPMG Consulting reviewed sample CRs extracted from DDTS and confirmed adherence to procedures outlined in the <i>EDI Developers Handbook</i>.</p> |
| <i>Capacity Management</i> | | | |
| 24.6-1-21 | Measures are defined and tools exist to monitor system resource utilization levels. | Satisfied | <p>Qwest defines measures and has tools to monitor system utilization levels.</p> <p>The Qwest Automated Test and Measurement (ATM) team has tools in place to capture the utilization of IMA systems. The tools and measures for IMA GUI are the same as those for IMA EDI.</p> <p>KPMG Consulting received and reviewed reports, charts, and graphs that show utilization levels for IMA systems.</p> <p>The <i>Scalability Process Document</i> details the process for managing capacity of the IMA system. The document is prepared by the Load, Capacity, and Performance Team. The <i>Scalability Checklist</i> is used to see if system utilization is nearing capacity thresholds. The checklist includes monitoring processes and procedures.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|---|-----------|--|
| 24.6-1-22 | There are defined conditions that trigger the addition of resources. | Satisfied | <p>There are defined conditions that trigger the addition of resources for IMA EDI and IMA GUI.</p> <p>Qwest uses eight measurements and time benchmarks for tracking and reporting. IMA Response Time Measurement (IRTM) will trigger alarms to the ATM if the benchmarks are exceeded. HP Glance is used to monitor the utilization of the CPU for the HP servers. Also, if production volumes are nearing the six-month forecasted threshold, an internal severity 2 CR is issued.</p> <p>KPMG Consulting reviewed the <i>Scalability Process Document</i> for IMA GUI and IMA EDI, as well as CLEC utilization levels current at the time of the review.</p> |
| 24.6-1-23 | Procedures are in place to adjust for changes in demand of services once the need for these changes is detected. | Satisfied | <p>Qwest procedures are in place for IMA EDI and IMA GUI to adjust for changes in demand of services once the need for these changes is detected.</p> <p>Qwest's document, <i>Scalability Process Document</i>, describes the process that Qwest uses to plan a six-month system capacity forecast based on CLEC and Qwest demand forecasts. Qwest also uses reporting tools as inputs to make necessary long-term adjustments to systems capacity.</p> <p>If it is found that additional capacity is required, an internal CR is opened to address the capacity issue. The Qwest <i>Downstream Systems Impact Diagram</i> document defines how system capacity is added in the event that a need is identified.</p> <p>KPMG Consulting interviewed Qwest staff directly involved with the capacity planning process. KPMG Consulting received and reviewed various reports on system utilization and capacity to validate that the processes for detecting and adjusting to changes in demand are being followed.</p> |
| 24.6-1-24 | Contingencies are defined to mitigate the impact of unexpected changes in business and transaction volumes on OSS interfaces. | Satisfied | <p>Contingencies are defined to mitigate the impact of unexpected changes in business and transaction volume on OSS interfaces.</p> <p>The Qwest capacity planning process for IMA EDI and IMA GUI allows for unexpected changes in transaction volumes to spike to 80 percent of the current six month forecast. Sustained volumes of 80</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>percent of the current six-month forecast are a factor in the addition of capacity.</p> <p>The <i>Scalability Process Document</i> details the process for managing capacity of the IMA system.</p> <p>KPMG Consulting received and reviewed internal trend data that indicates that system capacity has remained within defined tolerances.</p> <p>The infrastructure group has a disaster recovery plan for the IMA systems. The <i>IMA GUI/EDI Disaster Recovery Plan</i> described the processes necessary for the recovery of the IMA EDI and IMA GUI applications. Capacity planning personnel periodically conduct walk-throughs of the disaster recovery processes and procedures.</p> <p>KPMG Consulting conducted interviews with Qwest personnel and reviewed documentation provided by Qwest to confirm existence of IMA GUI and IMA EDI Disaster Recovery Plans.</p> |

3.1.2 Maintenance and Repair Interfaces

Table 24.6-2.2: Evaluation Criteria and Results

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|----------------------|--|-----------|--|
| <i>Methodology</i> | | | |
| 24.6-2-1 | Qwest has a documented software/interface development methodology that addresses requirements and specifications definition, design, development, testing, and implementation. | Satisfied | <p>Qwest has a documented software/interface development methodology that addresses requirements and specifications definition, design, development, testing, and implementation.</p> <p>Qwest follows an internal and proprietary process called the Comprehensive Delivery Process (CDP) for developing its interface specifications for the MEDIACC EB-TA and CEMR interfaces. Qwest roles and responsibilities are defined for each of the CDP phases including Code and Unit Test, Integration Test, System Test, and UAT processes.</p> <p>The <i>Master Test Plan</i>¹⁶⁴ outlines detailed specifications and testing procedures for development of the MEDIACC EB-TA and CEMR interfaces. The <i>Master Test Plan</i> includes entrance criteria, tasks to be performed, and exit criteria.</p> <p>KPMG Consulting examined sample results of the entrance and exit criteria for the Unit Test, Integration Test, and System Test performed by Qwest on MEDIACC EB-TA and CEMR.</p> |
| 24.6-2-2 | Interface development methodology defines how quality is to be assured. | Satisfied | <p>Interface development methodology defines how quality is to be assured.</p> <p>Qwest incorporates quality assurance processes as part of the interface development methodology for MEDIACC EB-TA and CEMR. Qwest follows a documented procedure, found in the <i>Master Test Plan</i>, which structures the test strategy and approach. Qwest developers and testers are subject to entrance and exit criteria during internal testing.</p> <p>Qwest Testers are able to test their designs in an internal testing environment separate from production. Any issues encountered during internal QA testing are documented</p> |

¹⁶⁴ The document referenced is a Qwest internal development document, and is not to be confused with the *OSS Evaluation Project Master Test Plan*.

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|---------------------------------|--|-----------|---|
| | | | <p>in the DDTS tracking system and resolved by the Qwest developers.</p> <p>KPMG Consulting reviewed process documentation and several internal CRs from DDTS for the MEDIACC EB-TA and CEMR interfaces.</p> |
| Interface Specifications | | | |
| 24.6-2-3 | Responsibilities and procedures for developing and updating interface specification document(s) are defined. | Satisfied | <p>Qwest has defined responsibilities and procedures for developing and updating interface specification documents.</p> <p>An internal management group, the Business Area Partners (BAP), has responsibility for determining the specifications required for MEDIACC EB-TA. The BAP consists of managers from various disciplines within Qwest.</p> <p>Interface specifications conform to the American National Standards Institute (ANSI) guidelines of ANSI T1.227-1995, T1.228-1995, and T1.262-1998, as well as other industry standard guidelines. CLECs and Qwest exchange requests over an X.25 protocol-based network as defined by the International Organization for Standardization (ISO).</p> <p>Qwest has a Documentation group responsible for all edits made to specifications documents for both MEDIACC EB-TA and CEMR. Design and system test specifications are created and tested to minimize errors.</p> <p>Documentation changes for the progression of the draft specifications are tracked in the DDTS.</p> |
| 24.6-2-4 | Interface specifications that define applicable business rules, data formats/definitions and transmission protocols are made available to customers. | Satisfied | <p>Interface specifications that define applicable business rules, data formats/definitions and transmission protocols are made available to customers.</p> <p>Qwest uses interface specifications based on industry standards outlined by the Alliance of Telecommunications Industry Solution (ATIS)/Telecommunications Industry Forum (TICF) to develop MEDIACC EB-TA. These industry standards are ANSI T1.227-1995, T1.228-1995, and T1.262-1998.</p> <p>Qwest documents and references other specifications required for CLECs to develop their EBTA in the JIA, including,</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>X.25 transmission protocol. The JIA refers to business rules as defined in the Qwest/MEDIACC EBTA documents for WFA/C and LMOS. The JIA is negotiated and finalized prior to the CLEC beginning implementation.</p> <p>Interface specification documents are not required for a CLEC using CEMR since it is a Web-based GUI. Qwest has a <i>CEMR User Guide</i> that describes the connectivity, PC requirements, and security rights to access CEMR. The <i>CEMR User Guide</i> also documents CEMR's functionality and describes how end users can navigate through the CEMR interface. The <i>CEMR User Guide</i> is publicly available on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/training/emrguide.html.</p> <p>KPMG Consulting reviewed applicable interface specification documentation for the MEDIACC EB-TA and CEMR interfaces.</p> <p>Qwest distributes documentation through the CLEC's assigned Account Team. Subsequent changes to the interface specifications are made available through the Wholesale CMP.</p> |
| 24.6-2-5 | On-call customer support for interface specifications is provided. | Satisfied | <p>On-call customer support for interface specifications is provided.</p> <p>Qwest contact information, with roles and responsibilities for support, is provided to CLECs during the MEDIACC EB-TA implementation kick-off meeting. Qwest provides customer support through its weekly MEDIACC EB-TA calls for interface related issues during testing. Offline discussions involving Qwest subject matter experts can occur on an informal, as needed basis. The on-call customer support process is documented in the <i>Qwest Electronic Bonding Trouble Administration (EBTA) Implementation Process</i>, which is also publicly available from the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/systems/mediacc-ebta.html.</p> <p>The P-CLEC was involved in the negotiations and regularly scheduled meetings with Qwest to review JIA. During</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>the development of the MEDIACC EB-TA interface, the P-CLEC was required to use a documented question log for any issues raised.</p> <p>The P-CLEC formally raised an issue regarding the lack of adequate support to address open questions in the questions log.</p> <p>To resolve this issue, Qwest implemented a new communications process between Qwest and CLECs developing MEDIACC EB-TA. This process is documented in the <i>Qwest Electronic Bonding Trouble Administration (EBTA) Implementation Process</i>, and is also publicly available on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/systems/mediacc-ebta.html.</p> <p>Although CLECs do not develop an interface for CEMR, the WSHD provides technical support for CEMR interface specifications.</p> <p>KPMG Consulting observed the P-CLEC's use of the WSHD for CEMR related trouble issues. KPMG Consulting also conducted an on-site interview with P-CLEC representatives regarding WSHD support provided by Qwest for the CEMR system.</p> |
| 24.6-2-6 | Procedures for updating interface specifications are integrated with formal change management procedures involving customers. | Satisfied | <p>Procedures for updating interface specifications are integrated with formal change management procedures involving customers.</p> <p>Qwest updates interface specifications for MEDIACC EB-TA through issuance of an internal CR with an internal tracking system called DDTS that documents all system changes, documentation changes, and test results. DDTS is described in the <i>CLEARDDTS™ User's Guide</i>.</p> <p>CLEC-impacting system changes and documentation changes are discussed at the CMP meetings. Information on the CMP meetings and processes is found on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/cmp.whatiscmp.html. Qwest also maintains an archive of past release notifications that are posted publicly on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/cmp/archive.html. CLECs are</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
|-----------------------------------|--|-----------|--|
| | | | <p>able to suggest changes to the MEDIACC EB-TA interface specifications by submitting a formal request through the CMP. The Qwest CMP is outlined in the <i>Master Redlined CLEC-Qwest CMP Redesign Framework</i> document. This interface was not updated during the scope of this test.</p> <p>Updates made to the <i>CEMR User Guide</i> are the responsibility of the Documentation group. The Qwest Business group is responsible for sending notification to the CLEC community announcing any changes to systems and documentation. CLECs are able to initiate any changes to the <i>CEMR User Guide</i> documentation by submitting a formal request through the CMP.</p> <p>CLEC-impacting changes to the CEMR interface specifications are governed by the policies of the Qwest Wholesale CMP.</p> <p>KPMG Consulting and the P-CLEC received CMP notifications for updates to the <i>CEMR User Guide</i> and confirmed adherence to the above process.</p> |
| Carrier-to-Carrier Testing | | | |
| 24.6-2-7 | Qwest has a documented methodology for conducting carrier-to-carrier testing with customers seeking to interconnect. | Satisfied | <p>Qwest has a methodology for conducting the carrier-to-carrier testing with customers seeking to interconnect with MEDIACC EB-TA.</p> <p>The methodology for conducting carrier-to-carrier testing is provided in the <i>Qwest Electronic Bonding Trouble Administration (EBTA) Implementation Process</i>, which is publicly available on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/systems/mediacc-ebta.html.</p> <p>Qwest and CLECs also use the <i>JIA and System Test Plan for Electronic Bonded Trouble Administration</i> documents that describe the development, testing, and deployment process in detail, including conducting carrier-to-carrier testing. Qwest defines specific entrance and exit criteria for the different stages of testing. CLECs are evaluated with a pass or fail result for each sequential phase.</p> <p>KPMG Consulting observed testing and reviewed associated documentation based on the commercial activity of a CLEC.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | CLECs are not required to develop an interface to CEMR. Therefore, CEMR does not require a carrier-to-carrier testing methodology. |
| 24.6-2-8 | A functional test environment is made available to customers for all supported interfaces. | Satisfied | <p>Qwest offers a functional test environment to all CLECs that wish to develop a MEDIACC EB-TA interface.</p> <p>The functional test environment offered by Qwest supports the process that is documented in the JIA and <i>System Test Plan for Electronic Bonded Trouble Administration</i> for a CLEC to develop a MEDIACC EB-TA interface. Qwest provides standard test scenarios for use in the functional test environment. These are reviewed and modified based on the CLEC's specific needs. CLECs can submit test scenarios for designed and non-designed circuits. The responses generated during testing are similar to those that are received in the production environment.</p> <p>KPMG Consulting observed commercial activity of a CLEC using the MEDIACC EB-TA test environment and confirmed that it functioned.</p> <p>CLECs are not required to develop an interface to CEMR. Therefore, CEMR does not require a functional test environment.</p> |
| 24.6-2-9 | Carrier-to-carrier test environments are available and segregated from Qwest production and development environments. | Not Satisfied | <p>Qwest's carrier-to-carrier testing environment used by CLECs to develop their MEDIACC EB-TA interface is not segregated from the MEDIACC EB-TA production environment.</p> <p>The carrier-to-carrier test environment offered by Qwest is comprised of the MEDIACC, WFA, and LMOS systems. Test scenarios submitted for MEDIACC EB-TA testing are first processed by the MEDIACC portion of the test environment. Depending on the circuit type, either designed or non-designed services, scenarios are then processed by the WFA or LMOS system.</p> <p>The MEDIACC portion of the test environment is run on a separate server to which the CLEC must establish a secure connection to conduct carrier-to-carrier testing. In addition, Qwest utilizes a separate server for WFA to process</p> |

| Test Cross Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>designed service test scenarios during the End-to-End testing phase with CLECs. The End-to-End testing phase is described in the <i>System Test Plan for Electronic bonded Trouble Administration</i> document.</p> <p>Non-designed service test scenarios, however, are processed by the LMOS production mainframe. Qwest uses a system flag to prevent test scenarios from being dispatched during the non-designed service testing phase. Non-designed circuits submitted through the LMOS production system are monitored by a Qwest assigned Tester so that test orders are not dispatched, thus potentially impacting Qwest operations and customers.</p> <p>KPMG Consulting raised this issue in Exception 3109, which describes the limitations and potential impacts of testing non-designed services in the LMOS production mainframe during the End-to-End testing phase. KPMG Consulting also identified that Qwest's documentation for the architecture of the EBTA test environment was inadequate.</p> <p>KPMG Consulting investigated the commercial experience of commercial CLECs to assess the impact of the production component on their testing efforts. KPMG Consulting found that, due to the necessary manual intervention of the Qwest Tester, two non-designed services test trouble reports submitted by a CLEC passed through to the Qwest Production Screeners.</p> <p>In its response, Qwest advised that, as no immediate changes were planned for its M&R test environment, KPMG Consulting should close Exception 3109 as closed/unresolved.</p> <p>CLECs are not required to develop an interface to CEMR; therefore, CEMR does not require a carrier-to-carrier testing environment.</p> |
| 24.6-2-10 | On-call customer support for interface testing is provided. | Satisfied | <p>On-call customer support for interface testing is provided.</p> <p>Qwest offers on-call customer support for testing of the MEDIACC EB-TA interface. In addition to regularly scheduled weekly</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | <p>meetings between the CLEC and Qwest, offline discussions involving Qwest subject matter experts can occur on an informal, as needed basis. This process is publicly documented in the <i>Qwest Electronic Bonding Trouble Administration (EBTA) Implementation Process</i> available on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/systems/mediacc-ebta.html.</p> <p>KPMG Consulting observed a CLEC's commercial test activity for MEDIACC EB-TA. During the course of testing, the CLEC utilized project plans, question logs, and meetings to address interface testing issues. The CLEC was provided with Qwest points of contact to address issues on an ad-hoc basis.</p> <p>CLECs are not required to develop an interface to CEMR; therefore, CEMR does not require support for interface testing.</p> |
| 24.6-2-11 | Carriers are provided with documented specifications for active test environments. | Satisfied | <p>Carriers are provided with documented specifications for active test environments. The JIA contains a listing of all the relevant documents that reference specifications based on industry standards to connect and develop a MEDIACC-EBTA interface. CLECs are responsible for obtaining these industry standards, which are made available from ATIS/TCIF.</p> <p>KPMG Consulting reviewed the JIA for both the P-CLEC and a commercial CLEC that uses the M&R test environment. KPMG Consulting confirmed that the documentation provided to the commercial CLEC was consistent with that provided to KPMG Consulting.</p> <p>Qwest provides CLECs with the <i>System Test Plan for Electronic Bonded Trouble Administration</i> document that provides detailed processes and procedures for MEDIACC EB-TA testing.</p> <p>CLECs are not required to develop an interface to CEMR. Therefore, carriers do not require documented specifications for active test environments for CEMR.</p> |
| 24.6-2-12 | Active test environments are managed to version control. Carriers are notified before | Satisfied | Active test environments are managed to version control. Carriers are notified before changes are made to active test |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | changes are made to active test environments. | | <p>environments.</p> <p>Qwest has only one version of MEDIACC EB-TA functioning in the production environment, and consequently, only one version of the MEDIACC EB-TA exists in the testing environment. Any system changes and updates to the MEDIACC EB-TA production or testing environment are tracked in an internal system called DDTS.</p> <p>The CLEC community is notified of the changes made to MEDIACC EB-TA production and test environments via CMP notifications. If a CLEC is involved in the development and implementation of MEDIACC EB-TA, changes are also discussed during the weekly MEDIACC EB-TA test calls scheduled between Qwest and the CLEC.</p> <p>CLECs are not required to develop an interface to CEMR; therefore, CEMR does not require a carrier-to-carrier testing environment.</p> |
| 24.6-2-13 | Procedures are defined to log software "bugs," errors, and omissions in specifications and other issues discovered during carrier-to-carrier testing. | Satisfied | <p>Procedures are defined to log software "bugs," errors, and omissions in specifications and other issues discovered during carrier-to-carrier testing.</p> <p>Qwest works directly with CLECs during MEDIACC EB-TA testing. The collaborative testing with Qwest and CLECs is documented in the JIA and <i>System Test Plan for Electronic Bonded Trouble Administration</i>.</p> <p>Qwest has internal procedures defined and documented for handling MEDIACC EB-TA software issues encountered during carrier-to-carrier testing in the <i>Master Test Plan</i>. Problems detected during MEDIACC EB-TA testing that require a fix from Qwest are tracked as internal CRs in an internal tracking system called DDTS. DDTS is documented in the <i>CLEARDDTS™ Users Guide</i>.</p> <p>KPMG Consulting reviewed this document along with sample CRs extracted from DDTS for MEDIACC EB-TA.</p> <p>CLECs are not required to develop an interface to CEMR; therefore, CEMR does not require a carrier-to-carrier testing environment.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| <i>Production Interface Support</i> | | | |
| 24.6-2-14 | On-call technical support is provided for production versions of interfaces. | Satisfied | <p>Qwest provides on-call technical support to CLECs for production versions of MEDIACC EB-TA.</p> <p>The first point of contact for M&R interface issues is the Qwest WSHD. Contact information for the WSHD is publicly available on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/systems/generalinfo.html.</p> <p>Production issues that cannot be resolved at the Qwest WSHD are escalated to a M&R subject matter expert who serves as a secondary or Tier 2 level of support. The escalation of interface support issues is documented in the <i>Ticket Escalation and Referral Process</i> and the <i>Unplanned Notification Process</i>.</p> <p>KPMG Consulting reviewed WSHD logs documenting occasional MEDIACC EB-TA production support.</p> <p>The CEMR interface has an on-line help feature and provides contact information for the Qwest WSHD.</p> |
| 24.6-2-15 | Procedures are defined to track software "bugs," errors, and omissions in specifications and other issues discovered during production use of interfaces. | Satisfied | <p>Qwest has procedures defined to track software "bugs," errors, and omissions in specifications, as well as other issues discovered during production use of MEDIACC EB-TA and CEMR.</p> <p>If CLECs encounter an issue with the MEDIACC EB-TA or CEMR interfaces, they are required to contact the Qwest WSHD. A trouble ticket is created in the PCRM at the Qwest WSHD containing information such as responsibility, escalation, and status. Use of PCRM is documented in the <i>Information Technologies (IT) Wholesale Systems Help Desk Standard Operating Procedures (SOP)</i>.</p> <p>If the WSHD is unable to resolve the issue, the trouble ticket will be escalated to another level of Production Support. If the issue reported to the WSHD requires a fix from Qwest, an internal CR is created in the DDTS to address and track resolution of the issue. The CLEARDDTS™ User Guide describes the use and application of DDTS.</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | KPMG Consulting reviewed PCRM logs, and sample CRs extracted from DDTS for MEDIACC EB-TA and CEMR to confirm adherence to defined processes and procedures. |
| 24.6-2-16 | Business rules and software change tracking tools exist, are updated, and are shared with customers. | Satisfied | <p>Business rules and software change tracking tools exist, are updated, and are shared with customers.</p> <p>Qwest uses an internal proprietary tracking tool that captures any changes applied to business rules and software. Any changes to the MEDIACC EB-TA and CEMR interfaces that are CLEC-impacting are shared with the CLECs through CMP meetings and notifications. Qwest has an archive of CLEC notifications posted on the Qwest Wholesale Markets Web site at http://www.qwest.com/wholesale/systems/cemrandrce.html. In addition, CLECs conducting MEDIACC EB-TA testing receive information about business rules and software changes at the weekly test calls.</p> <p>KPMG Consulting and the P-CLEC received Qwest CMP notifications for changes to business rules and software changes to the MEDIACC EB-TA and CEMR systems.</p> |
| Release Management | | | |
| 24.6-2-17 | Internal software acceptance testing is defined and documented. | Satisfied | <p>Qwest has an internal software acceptance test process for both MEDIACC EB-TA and CEMR that is defined and documented in the <i>Master Test Plan</i>.</p> <p>The Client Acceptance Test plan, an internal Qwest document, defines all of the internal test activities performed prior to production release. Any issues encountered during Client Acceptance Testing are tracked with an internal CR in DDTS. Qwest also performs Unit, Integration, and System Testing with test results documented in the same system. Entrance and exit criteria must be met before testing can proceed to the subsequent phases and before each interface can be migrated to the production environment.</p> <p>KPMG Consulting received and reviewed the documentation. KPMG Consulting also reviewed sample results of Unit,</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | Integration, and System tests performed by Qwest for releases of MEDIACC EB-TA and CEMR. |
| 24.6-2-18 | Methods and procedures are defined for ensuring that changes found during all phases of testing are incorporated into instances of software code. | Satisfied | <p>Qwest has methods and procedures for ensuring that changes found during all phases of testing are incorporated into MEDIACC EB-TA and CEMR interface software.</p> <p>Changes found during the internal testing require that an internal CR be created in DDTS. Test results are tracked and documented in DDTS through the various phases of testing. These internal methods and procedures are defined and documented in the <i>Master Test Plan</i>. The methods and procedures used for internal testing of CEMR are the same as those used for MEDIACC EB-TA.</p> <p>CLECs that encounter any issues during their testing of MEDIACC EB-TA will document these issues in an Issue Log. Qwest then reviews the Issue Log and consults internal M&R SMEs. If the issues require modification to the MEDIACC EB-TA interface, Qwest creates an internal CR in DDTS. If this change impacts more than one CLEC, the CMP process is used to manage the change.</p> <p>KPMG Consulting received and reviewed sample results of internal CRs from DDTS, and observed changes to MEDIACC EB-TA and CEMR applied through the CMP.</p> |
| 24.6-2-19 | Processes direct that new releases undergo testing prior to migration to a test environment. | Satisfied | <p>Qwest has internal processes in place that direct that a new release undergo testing prior to migration into the MEDIACC EB-TA test environment.</p> <p>These processes are defined and documented in the <i>Master Test Plan</i> for major and minor releases. Entrance and exit criteria are applied to the following stages of development: Unit Testing, Integration Testing, Installation/Transition Testing, System Testing, Documentation Testing, and Regression Testing.</p> <p>KPMG Consulting received and reviewed sample results of Unit, Integration, and System tests performed by Qwest on MEDIACC EB-TA.</p> <p>CLECs are not required to develop an</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | interface to CEMR; therefore, CEMR does not require migration to a carrier-to-carrier testing environment. |
| 24.6-2-20 | Defects and required changes are identified and tracked during pre-production testing. | Satisfied | <p>Defects and required changes for Qwest internal MEDIACC EB-TA and CEMR testing are identified and tracked during pre-production testing.</p> <p>Qwest follows a phased approach with several levels of testing. When defects are encountered, they are tracked and monitored using an internal CR in DDTS. This process is described in the <i>Master Test Plan</i>.</p> <p>Defects encountered during CLEC testing of MEDIACC EB-TA are documented via an Issues Log. Qwest then reviews the Issue Log and consults internal M&R SMEs. If the issues require modification to the MEDIACC EB-TA interface, Qwest creates an internal CR in DDTS. If changes impact more than one CLEC, the CMP process is used to manage the change. The results of testing are captured in the <i>End-to-End Functional Test Scenarios</i> document.</p> <p>KPMG Consulting received and reviewed copies of the completed Issues Log from the P-CLEC. It also monitored commercial activity for a CLEC testing the MEDIACC EB-TA interface. In addition, KPMG Consulting reviewed internal CRs from the DDTS for MEDIACC EB-TA and CEMR.</p> |
| Capacity Management | | | |
| 24.6-2-21 | Measures are defined and tools exist to monitor system resource utilization levels. | Satisfied | <p>Qwest has defined measures and tools to monitor system resource utilization levels for the MEDIACC EB-TA and CEMR production environments.</p> <p>The Qwest Capacity Planning System uses the System Activity Reporter (SAR) data that is collected on a daily basis. This data is stored in an Oracle repository, and archived into the Statistical Analysis Software (SAS). Qwest uses various types of tools to monitor utilization levels including:</p> <ul style="list-style-type: none"> • Alarming Application Programming Interface (API); • Monitoring Tools; • Logging Tools; |

| Test Cross Reference | Evaluation Criteria | Result | Comments |
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| | | | <ul style="list-style-type: none"> • Commercial Off The Shelf Tools (COTS); • Configuration Tools; and • Alarm Attribute Tools. <p>The <i>Service Layer Description</i> document describes the functions to monitor disk space utilization and system performance for the M&R interfaces. The document defines use of each of the tools above.</p> <p>KPMG Consulting observed commercial activity for a CLEC using the MEDIAC EB-TA interface, and the P-CLEC's use of CEMR interface and experienced no capacity issues.</p> |
| 24.6-2-22 | There are defined conditions that trigger the addition of resources. | Satisfied | <p>Qwest has defined conditions that trigger the addition of resources for MEDIACC EB-TA and CEMR.</p> <p>Hard disk utilization of the file systems used for these interfaces has defined thresholds to activate a file compression process or to archive data. Conditions to trigger additional resources are built into the alarming tools used for monitoring capacity utilization.</p> <p>Processes and procedures are defined to monitor and add resources to prevent failures in the Maintenance and Repair systems and infrastructure. The Application Implementation Production (AIP) group performs these daily monitoring activities, which are defined and documented in the <i>Current Requirements and Functions, Monitoring [Multiple Methods]</i>.</p> <p>Based on an interview with the Qwest System Administrator for MEDIACC EB-TA and CEMR, once the hard disk utilization threshold is reached, the AIP group is automatically notified via an internal page. The AIP personnel are trained and follow procedures to address the issues. The AIP will respond by compressing older log files or by migrating them to an archive.</p> |
| 24.6-2-23 | Procedures are in place to adjust for changes in demand of services once the need for these changes is detected. | Satisfied | <p>Qwest has procedures in place to adjust for changes in demand of services once the need for these changes is detected.</p> <p>The AIP support teams monitor network throughput, production capacity issues, and</p> |

| Test Cross-Reference | Evaluation Criteria | Result | Comments |
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| | | | daily operations for MEDIACC EB-TA and CEMR interfaces. The AIP notifies another planning group, the Capacity Planning System (CPS) organization about the need for additional capacity. The CPS organization collects data and trending information to determine the business need to re-host, upgrade, or replace the infrastructure associated with MEDIACC EB-TA and CEMR. This is documented in the <i>Current Requirements and Functions, Monitoring [Multiple Methods]</i> document. |
| 24.6-2-24 | Contingencies are defined to mitigate the impact of unexpected changes in business and transaction volume on OSS interfaces. | Satisfied | <p>Contingencies are defined to mitigate the impact of unexpected changes in business and transaction volume on OSS interfaces.</p> <p>Based on a Qwest interview with the System Administrator, a hard disk utilization metric is set at 85% of total disk space for the CEMR and MEDIACC EB-TA file system structures that tend to experience growth. Once the alarming threshold has been reached, Qwest creates a paging notification, which alerts Qwest personnel on a 7 x 24 hour basis that disk usage is too high.</p> <p>The JIA describes recovery procedures for Qwest and CLECs in the event that transaction errors occur. The four types of errors that can occur are:</p> <ul style="list-style-type: none"> • Off nominal status; • Degraded status; • Failed status; and • Electronic recovery (i.e., refers to MEDIACC Disaster Recovery Plan). <p>Processes and procedures are the same for the CEMR interface as for MEDIACC EB-TA.</p> |