
KPMG Consulting

# Qwest Corporation Regional Differences Assessment

**October 5, 2000 - REISSUE**

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# 1 Executive Summary

## *1.1 Introduction*

### *1.1.1 Background*

As a preamble to the third party test of Qwest's Operational Support Systems (OSS), the Regional Oversight Committee (ROC) developed the Test Requirements Document (TRD). Section 6 of the TRD provides an overview of the Qwest OSS architecture used to provide wholesale services to the CLECs and notes any system differences or variations that exist among the states and regions of the Qwest operating territory. Subsections 6.7 and 6.8 of the TRD instruct the Test Administrator (TA) to further investigate these differences and factor their impact, if any, into the development of the test scenarios and test mix.

During the Master Test Plan (MTP) Design Workshop held on July 18-20, 2000, in Salt Lake City, KPMG Consulting (in its role as TA) sought input from the ROC Technical Advisory Group (TAG) regarding this further investigation of Qwest system differences. Based on discussions and feedback received during the MTP Design Workshop, KPMG Consulting developed a regional differences assessment plan proposal that was distributed to the ROC TAG for review and subsequent approval.

### *1.1.2 Objective and Scope*

The Qwest Regional Differences Assessment was conducted to investigate any differences in systems and processes throughout the Qwest territory. KPMG Consulting assumed the following as the null hypothesis of the assessment:

> *The impact of differences in wholesale systems and processes across the Qwest operating region is insufficient to materially impact a substantial fraction of the transactions that the CLECs are likely to generate with Qwest before the end of 2001.*

KPMG Consulting conducted interviews with Qwest and CLEC personnel, analyzed Qwest and CLEC-provided documentation, and performed basic statistical analysis of a few key Qwest service performance indicators to potentially gather sufficient evidence to reject the null hypothesis.

The results are summarized below by domain.

## *High Level Results*

### *1.1.3 General*

This section broadly summarizes the results for each of the functional domains included in the Regional Differences Assessment. The interviews and document reviews conducted by KPMG Consulting focus on identifying regional and state differences. Assessment criteria were developed for this portion of the project by KPMG Consulting, and the information gathered was analyzed in reference to these assessment criteria; however, no actual testing was performed. Qwest practices and transactions will be evaluated as part of the process and transaction tests, and thus were not covered by this assessment.

As stated in Section 1.1.2, KPMG Consulting started with the following null hypothesis:

> *The impact of differences in wholesale systems and processes across the Qwest operating region is insufficient to materially impact a substantial fraction of the transactions that the CLECs are likely to generate with Qwest before the end of 2001.*

The sections below highlight the results of the individual assessments. For assessment criteria, detailed analysis and results, refer to the appropriate sub-section later in this document. Once the test preparation and execution are underway, further differences may be identified. These will be addressed on a case by case base to determine if there needs to be any modification to the test design or test mix.

### *1.1.4 Order Management*

Qwest's CLEC documentation for order and pre-order transactions, and order flow-through eligibility, is consistent across the three regions. The internal documentation Qwest representatives use to support non-flow-through is also consistent across the three regions. Although there are differences evident in flow-through capability across the regions, they are not material enough to warrant rejecting the null hypothesis.

The existence of different Service Order Processor (SOP), Billing, and CSR Retrieval systems creates potential regional inconsistencies in the systems supporting pre-order and order transactions. There are differences in the end-to-end process ISC Help Desk representatives use to handle non-flow-through orders. Additionally, the majority of Qwest organizations administering non-flow-through orders are inconsistent across the three regions.

Minor regional differences have been identified in the pre-order and ordering business rules, the method in which PREMIS manages telephone number reservations, and Interconnect Mediated Access (IMA) edits. In addition, the impact of regional telephone numbers for the facsimile supporting Centrex Resale is undetermined.

### *1.1.5 Provisioning*

Qwest's processes, systems and organizations for Provisioning Infrastructure, Provisioning Coordination and Network Design/Collocation are materially consistent across the three regions.

Qwest's Transaction Provisioning processes vary from region to region.

Qwest's provisioning infrastructure was inconclusive since there are multiple platforms that function independently in some cases.

### *1.1.6 Maintenance and Repair (M&R)*

Qwest's processes, systems, organizations and documentation for M&R Processing, M&R Support Center Review, M&R Infrastructure, M&R Documentation, Capacity Management, and Network Surveillance are materially consistent across the three regions.

For M&R Coordination, Qwest is redesigning the process; consequently, information about those processes is not available. As a result, the assessment criteria for M&R Coordination received ratings of "Inconclusive."

### *1.1.7 Billing*

Qwest's billing systems for the bill production and distribution and Daily Usage Feed (DUF) processes are maintained and operated on a regional basis. Although these systems are different, Qwest has standardized most of its processes across the regions. Thus, most of the differences that have been identified are now at a level where they are not critical to the general billing process. Given that regional differences do exist, the related assessment criteria for these systems returned a result of "No." However, this result does not imply materially impacting regional differences.

Qwest's Customer Record Information Systems (CRIS) and Message Processing Systems are different across each of the three regions. These different systems represent a potential risk of regional inconsistencies in usage processing and bill content and format.

Qwest Usage processes for Resale and UNE and Carrier Bill processes for CRIS and IABS are materially consistent across the three regions. In addition, Qwest's IABS Billing System is materially consistent across the three regions.

### *1.1.8 CLEC Relationship Management and Infrastructure*

Qwest's processes, systems, organizations and documentation for Account Management, Change Management, CLEC Training, Interface Development, and IMA Help Desk are materially consistent across the Qwest footprint.

Because of the potential differences in the regional Resale Centrex Help Desks, KPMG Consulting cannot conclude that the processes and procedures surrounding the ISC Help Desk are consistent or the same across regions. Without further information, the results of this assessment are inconclusive.

### *1.1.9 Statistical Analysis*

Qwest's timeliness of Firm Order Completions (PO-5), Installation Commitments Met (OP-3), and Installation Intervals (OP-4) is not consistent across regions.

Qwest performance on Business, Centrex 21, Centrex, DS0, DS1 and Residential Repairs (MR-6) is not consistent across regions for high density and metropolitan service areas. In low density and 'No dispatched' areas, Qwest performance was inconsistent for ISDN and Centrex Repairs (MR-6) respectively.

Statistical analyses of the Billing metrics (BI-1) could not be performed and therefore, there is no basis to draw a conclusion.

# 2 Results Summary Analysis

## *2.1 Order Management (OM)*

### *2.1.1 Description*

The Order Management (OM) domain is composed of the systems, processes, and other operational elements used to support CLEC pre-ordering and ordering activities. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operating area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest documentation related to pre-ordering and ordering systems and activities and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

### *2.1.2 Methodology*

This section provides a business process description, lists the sources of data used in the assessment and summarizes the assessment methodology.

#### *2.1.2.1 Business Process Description*

CLECs can submit transactions to Qwest that establish or change services via an electronic interface called Interconnect Mediated Access (IMA) and a manual interface, Interconnection Imaging System (IIS). The environments are described in more detail below.

IMA allows CLECs to process the following pre-order transaction queries to Qwest's OSS:

- Customer Service Record Inquiry
- Telephone Number Reservation
- Address Validation
- Facility Check
- Appointment Availability
- Service/Feature Availability
- Validate Connecting Facility Assignment (CFA)
- View Design Layout Record (DLR)

IMA and IIS allow CLECs to process the following ordering transactions with Qwest's OSS:

- Submit Local Service Requests (LSRs)
- Receive Functional Acknowledgements (FA)
- Receive Firm Order Confirmations (FOCs)[1]
- Receive Completion Notices (CNs)
- Receive Rejects, Clarifications and Service Jeopardies

[1] FOCs are not currently returned via IMA-GUI; they are emailed or faxed to the CLEC. FOCs will be returned via IMA-GUI in IMA Version 6.0.

**Interconnect Mediated Access (IMA)**

Pre-order queries and orders can be submitted electronically to Qwest through the IMA, using a Graphical User Interface (GUI) or Electronic Data Interchange (EDI) interface. IMA allows for bi-directional flow of information between Qwest's OSS and CLECs. CLECs can access IMA-GUI via a secure dial-up or dedicated circuit.

IMA-EDI is designed to allow Qwest's Operations Support Systems (OSS) to exchange batch files with CLEC OSSs in a standard machine-to-machine format. Qwest defines the information that is needed to successfully submit pre-order and order transactions in business rules format. This information is encoded to fit the standard EDI transaction set for data transmission. EDI is an industry standard for transactions that defines the format and the data content of each business transaction. Qwest determines how and when each data element is transferred (or mapped) into a Qwest pre-order query or service order. The result is then published in the business rules[2] for use by CLECs.

**Interconnect Imaging System (IIS)**

IIS is designed to allow CLECs to submit Local Service Requests (LSRs) via facsimile in a standard format. Qwest defines the information that is needed to successfully submit each order type. CLECs submit single or multiple LSRs to a Qwest fax server. Once Qwest receives the LSRs they are electronically logged and distributed to the appropriate Interconnect Service Center (ISC) for input into the regional Service Order Processor (SOP) system. Responses (e.g., clarifications, confirmations) are transmitted from Qwest's OSS to the CLECs via the IIS fax servers.

**Pre-ordering Process Flow**

After receipt of a pre-order query from a CLEC, the IMA system validates the pre-order query for format and to ensure the required fields are populated. An invalid transaction will receive a standard error message. A valid transaction will be forwarded to Qwest middleware applications to provide or retrieve the requested data from Qwest's OSS. Certain pre-order queries require the submission of multiple transactions, in sequence, to obtain the desired data (e.g., Appointment Availability and Telephone Number Reservations).

**Ordering Process Flow**

When Qwest receives an Local Service Request (LSR) via IMA, an FA is automatically returned to the CLEC, confirming that the file has been successfully received. As the LSR passes through the Qwest back-end OSS systems, Qwest systems or representatives perform validations to determine if the CLEC's service request is properly formatted, complete, and accurate. In response to an LSR with errors, Qwest transmits an error message.

To successfully process the order, the CLEC must either re-submit the original LSR, correcting any errors, or submit a supplemental service request (Sup) that modifies the original order. The decision to resubmit the original LSR or submit a supplement is dependent on at what stage in the process the error was identified.

Once an LSR passes through the ordering validation process, Qwest service orders are created in one of Qwest's three regional SOP systems. These systems coordinate downstream provisioning activity and monitor the status of the order. The SOP systems trigger IMA to generate a FOC response to the CLEC. This FOC confirms that Qwest has validated the LSR and provides a Due Date (DD) on which Qwest commits to provision the requested service.

[2] See http://www.uswest.com/wholesale/ima/ima_icharts.html

### *2.1.2.2 Data Sources*

The data collection performed in this assessment was based on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest and the CLECs. The interviews and documents are itemized in the tables below.

***Table 2.1.2.2.1: Qwest Interviews for Order Management Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Capacity Management | IMA_Cap_Man.doc | KPMG Consulting |
| Q-2 | Order Transaction Process | Order_Transaction.doc | KPMG Consulting |
| Q-3 | Pre-order Transaction Process | Order_Transaction.doc | KPMG Consulting |
| Q-4 | Products | Products.doc | KPMG Consulting |
| Q-5 | Ordering System and Infrastructure | Order_Sys_Infrastructure.doc | KPMG Consulting |
| Q-6 | Loop Qualification | Loop_Qual.doc | KPMG Consulting |
| Q-7 | Help Desk ISC | Help_Desk_ISC.doc | KPMG Consulting |
| Q-8 | Fax (IIS) Order Process | Fax_Order_Process.doc | KPMG Consulting |
| Q-9 | Flow-through | Flow_Through.doc | KPMG Consulting |
| Q-10 | IMA Help Desk | IMA_Help_Desk.doc | KPMG Consulting |

***Table 2.1.2.2.2: Qwest Data Sources for Order Management Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| E-1 | Qwest Flow-through eligibility (OM-13) | FT_Martrix_Ver 1.1.doc | Qwest |
| E-2 | IMA_User_Guide (OM-22) | IMA_User_Guide.zip | Qwest |
| E-3 | EDI-Implementation Guideline (OM-22) | EDI-Implementation Guideline.zip | Qwest |
| E-4 | IMA User's Guide, Release 5.01 | IMA User's Guide.zip | Qwest |
| E-5 | IMA Learning Guide ~ Class Companion | IMA_Learning.zip | Qwest |
| E-6 | Facility-Based Directory Listings Guide | Fac_Based_DL_Gde.zip | Qwest |
| E-7 | Pre-Order IMA I-Charts 5.0 | Pre-Order IMA I-Charts 5.0.zip | Qwest |
| E-8 | Order IMA I-Charts 5.0 | Order IMA I-Charts 5.0.zip | Qwest |
| I-1 | CLEC pre-order training material (OM-1) | KPMG0907.pdf | Qwest |
| I-2 | Pre-ordering business rules (OM-2) | KPMG0907.pdf | Qwest |
| I-3 | Response to data dictionary request (OM-3) | KPMG0907.pdf | Qwest |
| I-4 | CLEC ordering (manual and electronic) training material (OM-4) | KPMG0907.pdf | Qwest |
| I-5 | Ordering business rules (OM-5) | KPMG0907.pdf | Qwest |

| Document Number | Document | File Name | Source |
|---|---|---|---|
| I-6 | Product Training Guides (OM-6) | KPMG0907.pdf | Qwest |
| I-7 | Service provisioning intervals (OM-7) | KPMG0907.pdf | Qwest |
| I-8 | Pre-ordering error resolution guide (OM-8) | KPMG Set 62 091200.pdf | Qwest |
| I-9 | Ordering error resolution guide (OM-9) | KPMG Set 62 091200.pdf | Qwest |
| I-10 | List of available USOCS (OM-10) | KPMG 62-208 ATT A.XLS<br>UDIT Class of Service and USOCs.xls | Qwest |
| I-11 | Scheduled hours of operation (OM-11) | KPMG Set 62 091200.pdf | Qwest |
| I-12 | Description of EDI batching requirements (OM-12) | KPMG Set 62 091200.pdf | Qwest |
| I-13 | ISC representative manual order training/job aids (OM-14) | KPMG 62-212.msg | Qwest |
| I-14 | ISC organization charts (OM-15) | KPMG 62-213.msg | Qwest |
| I-15 | Response to xDSL training request (OM-16) | KPMG0907.pdf | Qwest |
| I-16 | UNE-P.C Presentation (OM-17) | KPMG 78-253 msg | Qwest |
| I-17 | CENTREX availability matrix (OM-18) | KPMG 78-254.msg | Qwest |
| I-18 | Manual Order Routing Matrix (OM-19) | KPMG_Set_77.msg | Qwest |
| I-19 | IMA Business Requirements for Misc. Edits (OM-20) | KPMG_Set_77.msg | Qwest |
| I-20 | ISC representatives Methods and Procedures and Job Aids (OM-21) | OM21 - KPMG 77-251.msg | Qwest |
| I-21 | Qwest server mainframe overview (OM-23) | Main frame_overview_OM23.xls | Qwest |
| I-22 | IMA Middleware Legacy System overview (OM-24) | KPMG 84-276.msg | Qwest |
| I-23 | Methods and Procedures and Job Aids for the handling of IIS<br>LSRs (OM-25) | KPMG 101-357.msg | Qwest |
| I-24 | Bulk correspondence | OM_Correspondense.zip | Qwest |

***Table 2.1.2.2.3: CLEC Interviews for Order Management Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| C-1 | McLeodUSA 1FB Products (9-7) | McLeodUSA_1FB_Product doc | KPMG Consulting |
| C-2 | McLeodUSA Centrex Resale Products (9-7) | McLeodUSA_Centrex_Resa e_Products.doc | KPMG Consulting |

***Table 2.1.2.2.4: CLEC Data Sources for Order Management Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| CD-1 | 1FB Conversion Problems per State | 1FB Conversion Problems per State.msg | McLeodUSA |

### *2.1.2.3 Assessment Method*

Interviews were conducted in Denver, Colorado with Qwest personnel and included a telephone bridge for offsite participants. Additionally, interviews were conducted with McLeodUSA via conference calls regarding Qwest pre-order and order processes, systems and documentation. Further data was gathered through reviews of information provided by Qwest on its pre-order and order processes, systems and documentation.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews was analyzed in reference to the assessment criteria.

## *2.1.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.1.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| **1.0 Pre-ordering** | | | |
| 1.1 | The end-to-end processes for pre-order transactions are consistent across all jurisdictions and regions. | No | Based on information provided in interviews and data requests, the majority of the end-to-end processes to access pre-order information is similar, but there are some differences. Minor regional differences were identified based on a review of the pre-order *I-Charts Ver. 5*. There are currently differences in the valid entries for at least one field in three of the eight pre-order queries. These differences include: 1) range of values per region, 2) type of information required by each region.<br>Additional regional difference will emerge in data provided in response to a Customer Service Record (CSR) query. In the scheduled release of IMA 7.0 USOC descriptions will be returned in the Eastern region. |
| 1.2 | The systems deployed for pre-order transactions are consistent across all jurisdictions and regions. | No | Based on information provided in interviews and data requests, the majority of systems deployed in supporting pre-order transactions is similar with the exception of the differences outlined in the *Test Requirements Document (TRD)*.<br>These significant differences include the billing systems |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| | | | used to support CSR retrieval. Each of the three regions has a unique application: BOSS-C, BOSS-E, and CARS.<br>An additional minor regional difference was identified in the method PREMIS uses to manage TN Reservations (Eastern and Central Regions via NPANXX, Western Region via CLLI). |
| 1.3 | The publicly available documentation used by CLECs to complete pre-order transactions is consistent across all jurisdictions and regions. | Yes | Based on information provided in interviews and data requests, CLECs can use information provided in IMA training classes and I-Charts to complete pre-order transactions. As represented by Qwest, this documentation appears to be consistent across all regions and jurisdictions. Specific regional differences are identified in the common documentation. |
| **2.0 Ordering** | | | |
| 2.1 | The end-to-end processes for order transactions are consistent across all jurisdictions and regions. | No | Based on information provided in interviews and data requests, the majority of the end-to-end processes to order wholesale services is similar. However, potential minor regional differences were identified based on a review of the order *I-Charts Ver. 5* and information provided in interviews with Qwest.<br>Minor differences include: 1) business rule differences in the range of valid entries for Hunting Sequence 2) business rule differences in the valid entries due to jurisdictional USOC or product differences, 3) the BAN field in the Eastern Region is not validated by up-front edits for accuracy, and 4) unique fax numbers are used by region for Centrex Resale orders that may indicate some differences in process.[3] |
| 2.2 | The systems deployed for order transactions are consistent across all jurisdictions and regions. | No | Based on information provided in interviews and data requests, the majority of the systems deployed to order wholesale services is similar aside from the differences outlined in the *Test Requirements Document (TRD).*<br>Significant differences include: 1) Billing systems, 2) CSR Retrieval systems, 3) Service Order Processors. |
| 2.3 | The publicly available documentation used by CLECs to complete order transactions is consistent across all jurisdictions and regions. | Yes | Based on information provided in interviews and data requests, CLECs can use information provided in IMA training classes and I-Charts to complete order transactions. As represented by Qwest, this documentation appears to be consistent across all regions and jurisdictions.<br>Specific regional differences are identified in the common documentation. |
| **3.0 Flow-through** | | | |
| 3.1 | The flow-through capabilities of the Qwest systems are consistent across all jurisdictions and regions. | No | Based on a review of *ROC 271 Working PID Version 1.4* and Qwest interviews the majority of Qwest's flow-through capabilities is similar. Differences are primarily related to orders for number changes, suspensions, or restoral of service. |

[3] See http://www.uswest.com/wholesale/productsServices/irrg/CNTRS1-3.html

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 3.2 | The publicly available documentation used by CLECs to determine the flow-through eligibility of transactions is consistent across all jurisdictions and regions. | Yes | Based on a review of *ROC 271 Working PID Version 1.4* interviews, Qwest's publicly available documentation to determine the flow-through eligibility of transactions is consistent across all jurisdictions and regions.<br>Specific regional differences are identified in the common documentation. |
| **4.0 Manual Order Process** | | | |
| 4.1 | The Qwest processes and systems for administering non-flow-through orders submitted manually or electronically are consistent across all jurisdictions and regions. | No | Based on information provided in interviews and data requests, the majority of the Qwest processes and systems for administering non-flow-through orders submitted manually or electronically is similar across all jurisdictions and regions.<br>The majority of the CLEC-facing processes and systems is similar across regions. However, a significant regional difference exist such that LSRs submitted via IIS or IMA that fall out for manual handling are input into different SOP systems to generate the Qwest internal service orders.<br>Unique fax numbers are used by region for Centrex Resale orders, which may indicate some differences in process and/or load balancing. |
| 4.2 | The Qwest organizations administering non-flow-through orders submitted manually or electronically are consistent across all jurisdictions and regions | Inconclusive | Based on information provided in interviews and data requests, the majority of the Qwest organizations administering non-flow-through orders submitted manually or electronically is similar across all jurisdictions and regions.<br>The majority of Qwest ISC is organized by product type with each center typically having a primary and secondary specialty. Some ISCs are further organized by CLEC and process transactions regardless of region or jurisdiction. However, unique fax numbers are used by region for Centrex Resale orders which may indicate some differences in organizational structure. |
| 4.3 | The internal documentation that Qwest representatives use to support non-flow-through orders submitted manually or electronically is consistent across all jurisdictions and regions | Yes | Based on information provided in interviews and data requests, the training material and documentation available to Qwest ISC representatives are consistent across regions and jurisdictions.<br>Specific regional differences are identified within the material to address the ISC representative's need to interact with different regional systems (e.g., Billing and SOP system). |

### *2.1.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.1.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Documentation provided to CLECs to prepare pre-ordering, ordering transactions. | X | | | | | X |
| Documentation provided to CLECs regarding the flow-through eligibility of transactions. | X | | | | | X |
| Pre-order and order business rules. (See Pre-order and order processes evaluation criteria). | X* | | | | | X |
| Qwest's internal ISC documentation to support non-flow-through transactions. | X | | | | | X |
| Systems that support pre-order and order transactions. | | X | | X | | |
| Flow-through capabilities of the Qwest systems. | X* | | | | | X |
| Qwest processes for handling non-flow-through orders. | | X | | | | X |
| Qwest's organizations supporting non-flow-through orders. | | | X | | | X |

*Minor differences identified, but not material enough to reject hypothesis.

## *2.2 Provisioning*

### *2.2.1 Description*

The Provisioning domain is composed of the systems, processes, and other operational elements associated with Qwest's support for provisioning activities for wholesale services and unbundled network elements (UNEs). This assessment was designed to compare the functionality and performance of parallel systems and processes supporting Provisioning across the various state jurisdictions and operating regions in Qwest's territory.

KPMG Consulting reviewed and analyzed documentation provided by Qwest related to provisioning activities, and conducted interviews with key Qwest and CLEC representatives in order obtain the data necessary to conduct the assessment.

### *2.2.2 Methodology*

This section provides a business process description, lists the sources of data used in the assessment and summarizes the assessment methodology.

#### *2.2.2.1 Business Process Description*

**Network Design and Collocation**

A CLEC initiates the network design/collocation process by submitting a collocation application, is available on the Qwest website: http:www.uswest.com/wholesale/guide.html. Three Qwest groups work together to provision these services: the Collocation Project Management Center (CPMC), the Engineering Central Office, and the Technical Selection Group. The CPMC, located in Littleton, Colorado, receives the application and conducts a collocation feasibility study. The study carries an internally mandated 10-day deadline and results in a quote provided directly to the CLEC. The CPMC interfaces with the Engineering Central Office, which manages the installation and construction phase. The build stage lasts between 45-90 days, depending on the contract between Qwest and the CLEC, in all states except Utah. In Utah, the state PSC mandates a 45-day period. The Technical Selection Group maintains a list of approved products and decides if the CLEC's office equipment meets NEBS (Network Equipment Building System) requirements.

**Infrastructure**

DS1/3 loops for customers are ordered by CLECs via a Local Service Request (LSR), unless they are UDIT (Unbundled Digital Interoffice Transport) or EEL (Extended Enhanced Loop), which are then ordered via Access Service Request (ASR). A CLEC orders switched trunks and interoffice facilities via the ASR process throughout the Qwest footprint. The CLEC sends an ASR via TELIS or NDM (Network Data Manager) to EXACT, a system located in Omaha, to process the request. EXACT transmits them to one of three business offices (Des Moines, Salt Lake City, Minneapolis), depending on the CLEC.

The CLEC can also fax requests to one of three Business Offices (Des Moines, Salt Lake City, Minneapolis), dependent upon which customer submits the request. The OSS application software platforms used for provisioning in each of the three regions include:

- FACS (Facility Assignment and Control System)
- LMOS (Loop Management and Operations System)
- WFA (Work Force Administration)
- TIRKS (Trunk Inventory Record Keeping System)
- Facility Check
- PREMIS [4] (Premises Information System) software

FACS is located in Omaha for the East region and in Salt Lake City for the West and Central region. LMOS, WFA and TIRKS are located in Omaha for the East region, Salt Lake City for the Central region, and Bellevue for the West region. Facility Check is located in Omaha, Denver and Salt Lake City with each location serving all regions. The PREMIS system, the TN database, is located in Omaha for the East region and Albuquerque for the West and Central regions. This will continue after PREMIS transitions to the new Customer Number system (CNUM).

**Wholesale Provisioning**

To submit an order, a CLEC generates a service order activation (SOA) through the facilities portion of Qwest's Interconnect Mediated Access system (IMA/FTS) or the ISC (Interconnect Service Center). The order is subsequently processed through one of three Service Order Processor (SOP) systems, depending on which region the CLEC's customer is located: the East region uses SOLAR, the Central uses SOPAD, and the West uses RSOLAR. The three SOPs package data in a consistent manner so that product requests appear similarly across the Qwest footprint. These requests are distributed to Service Order Analysis Centers depending on the product to be provisioned. Requests that require design services go to SOAC-C (Service Order Analysis Center-Controller), POTS (plain old telephone service) requests go to SOAC-A (assigner), and other product requests go to the appropriate systems (e.g., voicemail request goes to VENUS). There are five Design Service Centers (DSCs). The one in Des Moines supports UNE-Loop provisioning activities. This DSC and four other DSCs (located in Minneapolis, Littleton, Salt Lake City, and Seattle), also support resale and UNE-P. They all perform similar functions.

#### *2.2.2.2 Data Sources*

The data collection performed for this assessment relied on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest. The interviews and documents are itemized in the tables below.

[4] PREMIS (Premises Information System), which will be replaced by CNUM (Customer Number), is the telephone number (TN) and address database.

### *Table 2.2.2.2.1: Qwest Interviews for Provisioning Assessment*

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Provisioning Transaction Processing and Coordination | Provisioning Transaction Processing and Coordination.doc | KPMG Consulting |
| Q-2 | Network Design-Collocation | Network Design-Collocation.doc | KPMG Consulting |
| Q-3 | Provisioning Process Parity | Provisioning Process Parity.doc | KPMG Consulting |
| Q-4 | Provisioning Infrastructure | Provisioning Infrastructure.doc | KPMG Consulting |
| Q-5 | Switched Trunks, Interoffice Facilities and ASRs | ASR&IOF&ST.doc | KPMG Consulting |

### *Table 2.2.2.2.2: Qwest Data Sources for Provisioning Assessment*

| Document Number | Document | File Name | Source |
|---|---|---|---|
| E-1 | Interconnection – Unbundled Loop (R27) | hard copy | Qwest |
| E-2 | Interconnection and Collocation for Transport and Switched Unbundled Network Elements and Finished Services (R27) | hard copy | Qwest |
| I-1 | Unbundled Loop for OPE (R8) | hard copy | Qwest |
| I-2 | Unbundled Loop—CCT – MT Job Aid (R21) | hard copy | Qwest |
| I-3 | Unbundled Loop—COT Job Aid (R10) | hard copy | Qwest |
| I-4 | Unbundled Loop—DS I&M Technician Job Aid (R11) | hard copy | Qwest |
| I-5 | Unbundled Loop M&Ps (R7) | hard copy | Qwest |
| I-6 | 72-Hour Pre-Survey (R7) | hard copy | Qwest |
| I-7 | OP-13 Coordinated Cuts on Time (R7) | hard copy | Qwest |
| I-8 | Unbundled Loop—CCT –D Job Aid (R7) | hard copy | Qwest |
| I-9 | Unbundled Switch Elements (R17) | hard copy | Qwest |
| I-10 | Unbundled Dedicated Interoffice Transport-Technical Publication (R17) | hard copy | Qwest |
| I-11 | Unbundled Dark Fiber (R17) | hard copy | Qwest |
| I-12 | Line Sharing – All States Network (R27) | hard copy | Qwest |
| I-13 | Line Sharing for OPE M&Ps (R27) | hard copy | Qwest |
| I-14 | Shared Loop M&Ps (R27) | hard copy | Qwest |
| I-15 | Local Number Portability (R7) | hard copy | Qwest |

| Document Number | Document | File Name | Source |
|---|---|---|---|
| I-16 | LNP Port-In Held Order Process (R7) | hard copy | Qwest |
| I-17 | LNP – All States Network (R7) | hard copy | Qwest |
| I-18 | LRAC Two-Wire Analog Unbundled Loop Process (R11) | hard copy | Qwest |
| I-19 | Two-Wire Analog Unbundled Loop Provisioning & Repair (R11) | hard copy | Qwest |

***Table 2.2.2.2.3: CLEC Interviews for Provisioning Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| C-1 | McLeodUSA Communications | McLeod Provisioning Interview Summary.doc | KPMG Consulting |

There were no CLEC data sources provided for the Provisioning assessment.

### *2.2.2.3 Assessment Method*

Interviews with Qwest personnel were conducted in Denver, Colorado, and included a telephone bridge for offsite participants. An interview was also conducted with McLeodUSA via conference bridge to discuss regional differences in the Qwest provisioning process from a CLEC's perspective. Additional data was gathered through reviews of documentation provided by Qwest on the regional assessment interview topics.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

## *2.2.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

## *Table 2.2.3.1: Assessment Criteria and Results*

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| **1.0 Provisioning Transaction Processing** | | | |
| 1.1 | The end-to-end process for provisioning transactions is consistent across all jurisdictions and regions. | No | Based on interviews, while the provisioning processes vary by product and are processed in three different SOPs, Qwest processes for those products are consistent across the Qwest footprint.<br>The AIN (Advanced Intelligent Network) Lab is responsible for the creation, release and reconciliation of all NPAC subscription records.<br>Hot cut intervals are not consistent across the Qwest footprint.<br>All states now have LNP, but Oregon and Idaho have a limited number of switches that are not LNP capable and must use INP. |
| 1.2 | The systems used for provisioning transactions are consistent across all jurisdictions and regions. | No | As stated in the TRD, Section 6, the three regions use different SOPs. Internal service orders distributed from each SOP are consistent across the three regions according to the product request being processed. Error messages produced by the three SOPs, however, are not consistent.<br>There are several systems used for provisioning: FACS, LMOS, WFA, TIRKS, and Facility Check. Each of these applications function independently in each region.<br>In part of southwestern Washington, Qwest uses WFA-DI instead of WFA-DO to convey orders for DS1/3 High-Capacity Circuits to outside plant field forces. |
| 1.3 | Internal documentation used to complete provisioning transactions is consistent across all jurisdictions and regions. | Yes | Per Qwest interviews and document reviews of material listed in Table 2.2.2.2.2 (Qwest Data Sources for Provisioning Assessment), Qwest documentation is consistent across the Qwest footprint. |
| 1.4 | Documentation publicly available to the CLECs used to complete provisioning transactions is consistent across all jurisdictions and regions. | Yes | Based on interviews and documents publicly available to the CLECs at http://www.uswest.com/wholesale/guide.html, CLEC provisioning documentation is consistent across the Qwest footprint. |
| **2.0 Provisioning Infrastructure** | | | |
| 2.1 | Provisioning system architecture is consistent across all jurisdictions and regions. | Inconclusive | Based on interviews, provisioning varies depending on the product. Additionally, in some cases there are variances within a product. One example is the ordering of switched trunks and interoffice facilities which can be ordered via fax, TELIS or NDM. Another example is the ordering of DS1/3 loops which are ordered with an LSR, unless they are UDIT or EEL, which are ordered using an ASR.<br>The LSS[5] (Listing Service System) software platform for the three regions are identical, but function independently within each region. This will continue after Qwest completes their migration to a new OSS application system called Customer Listing Data Service.<br>The PREMIS software platforms for the three regions |

[5] LSS (Listing Service System), which will be replaced by CLDS (Customer Listing Data Service), is the database used for both directory listing (DL) and directory assistance (DA).

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| | | | are identical, but the East region functions independently of the West and Central regions. This situation will continue after Qwest completes their migration to a new OSS application system called CNUM. |
| 2.2 | Organizations supporting Provisioning activities are consistent across all jurisdictions and regions. | Yes | One DSC (Design Service Center) in Des Moines, supports UNE-Loop provisioning activities. This DSC and four separate DSCs (located in Minneapolis, Littleton, Salt Lake City, and Seattle) also support resale and UNE-P and perform consistent processes. Workload for non-UNE Loop is assigned to the DSCs primarily according to geography, with certain exceptions.<br>IOF requests are handled in all five DSCs. |
| **3.0 Provisioning Coordination** | | | |
| 3.1 | The end-to-end processes for coordinated provisioning installations are consistent across all jurisdictions and regions. | Yes | One DSC, located in Des Moines, handles all coordinated provisioning installations for UNE-Loop transactions. |
| 3.2 | Testing equipment used for coordinated provisioning installations is consistent across all jurisdictions and regions. | Yes | Per Qwest documentation, specific equipment is used consistently across regions for groups of products:<br>For UNE services on copper wires: the 965 DSP is the latest Qwest footprint-wide issued testing equipment. For dark fiber: the TTC 310 package 1, Wandel & Goltermann MK-4 for the Central Office, and the Siecor field fiber test set for outside fiber technicians. |
| 3.3 | Internal documentation used to complete coordinated provisioning installations is consistent across all jurisdictions and regions. | Yes | Based on interviews and document reviews of material listed in Table 2.2.2.2.2 (Qwest Data Sources for Provisioning Assessment), Qwest internal documentation for coordinated provisioning installations is consistent across the Qwest footprint. |
| 3.4 | Documentation publicly available to the CLECs used to complete coordinated provisioning installations is consistent across all jurisdictions and regions. | Yes | Based on interviews and document reviews of documents available to CLECs at http://www.uswest.com/wholesale/guide.html, Qwest CLEC provisioning documentation for coordinated provisioning installations is consistent across the Qwest footprint. |
| **4.0 Network Design/Collocation** | | | |
| 4.1 | The end-to-end processes for provisioning CLEC network design/collocation requests are consistent across all jurisdictions and regions. | Yes | Per Qwest interviews, each of the three groups involved in network design/collocation process performs their respective activities in consistent manner across the Qwest footprint. The three groups are the CPMC, the Engineering group and the Technical Selection Group. |
| 4.2 | The systems deployed for provisioning CLEC network design/collocation requests are consistent across all jurisdictions and regions. | Yes | Each of the three groups in network design/collocation use a different system. However, these systems are used consistently across the entire Qwest footprint. |
| 4.3 | Internal documentation used to complete provisioning for CLEC network design/ collocation requests is consistent across all jurisdictions and regions. | Yes | Based on interviews and document reviews of material listed in Table 2.2.2.2.2 Qwest Data Sources for Provisioning Assessment, Qwest internal documentation for network design/collocation is consistent across the Qwest footprint. |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 4.4 | Documentation publicly available to the CLECs used to complete provisioning for CLEC network design/ collocation requests is consistent across all jurisdictions and regions. | Yes | Based on interviews and document reviews of documents available to CLECs at http://www.uswest.com/wholesale/guide.html, Qwest CLEC network design/collocation documentation is consistent across the Qwest footprint. |

### *2.2.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.2.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Provisioning Transaction Processing | | X | | X | | |
| Provisioning Infrastructure Organization | X | | | X | | |
| Provisioning Coordination | X | | | | | X |
| Network Design/Collocation | X | | | | | X |
| Provisioning Infrastructure Architecture | | | X | X | | |

## *2.3 Maintenance and Repair*

### *2.3.1 Description*

The Maintenance and Repair (M&R) domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for Unbundled Network Element (UNE) and Resale maintenance and repair activities. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to maintenance and repair activities and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

### *2.3.2 Methodology*

This section provides a business process description, lists the sources of data used in the assessment and summarizes the assessment methodology.

#### *2.3.2.1 Business Process Description*

The input of trouble tickets is an automated process for CLECs in the Qwest footprint. There are two interfaces for CLECs to create their own trouble tickets. The first interface is the Interconnect Mediated Access (IMA) which is a GUI (Graphical User Interface) based application. CLECs also have the option to build a gateway to the EB-TA (Electronic Bonding Trouble Administration) interface. Both of these trouble reporting systems are portals to MEDIACC (Mediated Access System), the engine that generates the trouble tickets in LMOS (Loop Maintenance Operating System) and WFA/C (Work Force Administration/Control). LMOS is used for non-designed loops, while WFA/C processes problems with designed loops.

When CLECs require direct contact with Qwest personnel, they can call a toll free number for the Account Maintenance Service Center (AMSC). This center services all of Qwest's 13 states. The AMSC staff uses the Repair Call Expert (RCE) system to assist with the creation of non-designed loop trouble tickets. Once created, the tickets are automatically sent to the LMOS front end. A parallel interface, known as Control, helps generate designed loop trouble tickets that are sent to the WFA/C front end. Qwest's Repair Call Handling Center (RCHC) accepts a small number of calls from CLECs regarding Resale 1FR/1FB troubles only The vast majority of CLEC wholesale trouble calls are made into the AMSC.

All M&R internal and external documentation is web-based. Qwest has two internal systems that are used to produce documentation (InfoBuddy and Canyon6) and one system for document notification and delivery (Multi-Channel Communicator). The Wholesale Service Delivery Process Toolkit (Process Toolkit), part of InfoBuddy provides templates and guidelines for publication of all documents for non-designed services. Canyon6 is the equivalent system for design services. The MCC is the system that informs Qwest personnel of changes to the documentation and ensures that the necessary updates are made electronically. Semi-annual reviews of Qwest repair and maintenance centers, known as Center Certifications, are performed to ensure that the methods and procedures practiced adhere to those set forth in the documents.

The repair ticket flow from the CLEC to the Qwest legacy systems is depicted in the following chart.

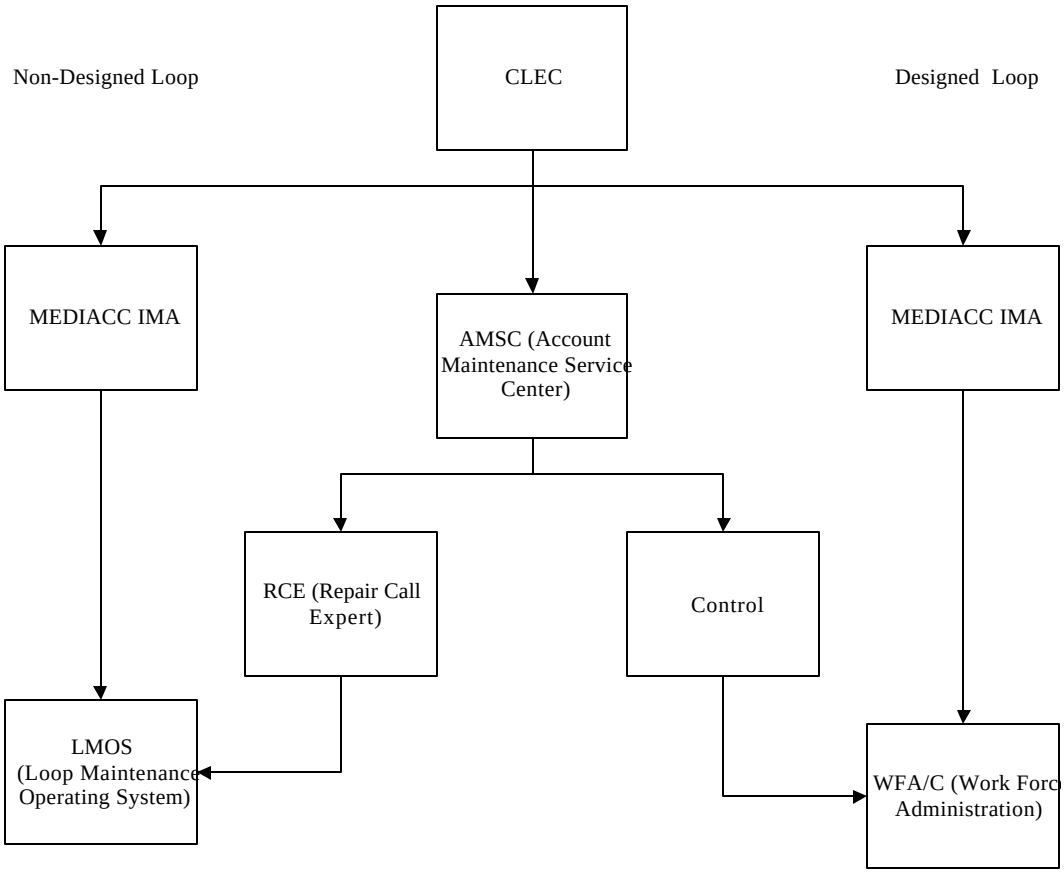


**Chart 2.3.2.1.1. Qwest Legacy System Process Flow**

### *2.3.2.2 Data Sources*

The data collection performed for this assessment relied on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest. The interviews and documents are itemized in the tables below.

***Table 2.3.2.2.1: Qwest Interviews for Maintenance and Repair Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Qwest M&R Capacity Management Interview Summary | Final M&R Capacity Management Interview Summary.doc | KPMG Consulting |
| Q-2 | Qwest M&R Coordination Interview Summary | Final M&R Coordination Interview Summary.doc | KPMG Consulting |
| Q-3 | Qwest M&R Documentation Interview Summary | Final M&R Documentation Interview Summary.doc | KPMG Consulting |
| Q-4 | Qwest M&R Network Surveillance Interview Summary | Final M&R Network Surveillance Interview Summary.doc | KPMG Consulting |
| Q-5 | Qwest M&R Processing Interview Summary | Final M&R Processing Interview Summary.doc | KPMG Consulting |
| Q-6 | Qwest M&R Support Center Review Interview Summary | Final M&R Support Center Interview Summary.doc | KPMG Consulting |
| Q-7 | Qwest M&R Infrastructure Interview Summary | Final Provisioning and M&R Infrastructure Interview Summary.doc | KPMG Consulting |

***Table 2.3.2.2.2.: Qwest Data Sources for Maintenance and Repair Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| I-1 | Repair Ticket Flow | hard copy | Qwest |
| I-2 | Joint Meet Process Description/ Flow | hard copy | Qwest |
| I-3 | Maintenance & Repair: External Documentation Available for use by CLECs | hard copy | Qwest |
| I-4 | Unbundled Loop Maintenance Flow | hard copy | Qwest |
| I-5 | Multi Channel Communicator Problem or Error | hard copy | Qwest |
| E-1 | IMA User's Guide | hard copy | Qwest |

***Table 2.3.2.2.3: CLEC Interviews for Maintenance and Repair Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| C-1 | Qwest McLeod Interview Summary | Qwest McLeod Interview Summary.doc | KPMG Consulting |

There were no CLEC data sources provided for the M&R assessment.

### *2.3.2.3 Assessment Method*

Interviews with Qwest personnel were conducted in Denver, Colorado and included a conference bridge for offsite participants. In addition, KPMG Consulting conducted an interview with McLeodUSA. The goal of this interview was to gather information on Qwest's M&R networks, systems, and methods to determine if they were consistent throughout the operating footprint. Additional data was gathered through reviews of documentation provided by Qwest on M&R Capacity Management, M&R

Coordination, M&R Documentation, M&R Network Surveillance, M&R Processing, M&R Support Center Review, and M&R Infrastructure.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.3.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.3.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| **1.0 Maintenance and Repair Processing** | | | |
| 1.1 | The end-to-end CLEC trouble ticket process is consistent across all jurisdictions and regions. | Yes | Interviews with Qwest personnel and document reviews revealed that trouble tickets are processed in a consistent manner across the Qwest footprint. This includes collection of trouble reports from CLECs via IMA or EB-TA, and the creation and processing of trouble tickets within Qwest (via LMOS for non-designed and or WFA/C for designed loops). |
| 1.2 | The systems deployed for supporting CLEC M&R processes are consistent across all jurisdictions and regions. | Yes | Although CLECs have a choice between IMA and EB-TA for entering trouble tickets, each of these systems is consistent throughout the Qwest footprint. |
| 1.3 | Internal documentation used to complete CLEC M&R processes is consistent across all jurisdictions and regions. | Yes | Per Qwest interviews, Qwest described the standard processes and systems for creating and distributing documentation across the Qwest footprint (InfoBuddy, Canyon6 and MCC).<br>These systems are used for all internal documentation, including their internal web. |
| 1.4 | Documentation publicly available to CLECs for M&R processes is consistent across all jurisdictions and regions. | Yes | Based on interviews, document reviews, and documentation for CLECs regarding the use of the wholesale trouble reporting systems is consistent across the Qwest footprint. CLECs access Qwest Wholesale Markets web site (www.uswest.com/wholesale/guide.html) on policies, procedures, systems, and emergency procedures. Additional data on training, use, and access to these systems can be found on a checklist provided to all CLECs. This website covers the entire Qwest footprint. |
| **2.0 Maintenance and Repair Support Center Review** | | | |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 2.1 | M&R CLEC Help Desk resource management is consistent across all jurisdictions and regions. | No | M&R Help Desk resource management is not administered consis tently throughout the Qwest footprint. The Account Maintenance Service Center (AMSC) located in Denver is the primary support center available to CLECs throughout the 13 Qwest states. The Repair Call Help Center (RCHC) accepts a small volume of calls from CLECs for Resale 1FR and 1FB services only. The RCHC role is being transitioned to the AMSC in a phased approach, but no target date for completion was given. |
| 2.2 | M&R CLEC Help Desk processes are consistent across all jurisdictions and regions. | Yes | During interviews with Qwest personnel, Qwest representatives identified that Repair Service Technicians are trained to handle both wholesale and resale customer troubles. CLEC calls are delivered to the first available repair service technician for processing. |
| 2.3 | Internal Method and Procedure documentation used by M&R Help Desk personnel is consistent across all jurisdictions and regions. | Yes | Qwest representatives stated during interviews that their internal documentation is web-based and can be found in InfoBuddy. InfoBuddy contains templates and requirements found in the Wholesale Service Delivery Process Toolkit (Process Toolkit). Canyon6 is the parallel system for design services documentation. The Multi-Channel Communicator (MCC) is used to inform personnel of changes to the documentation and ensure that the necessary updates are made electronically. One centralized staff group controls document content and electronic posting and updates. |
| 2.4 | Documentation publicly available to CLECs interfacing with M&R Help Desks is consistent across all jurisdictions and regions. | Yes | Qwest representatives stated during interviews that their external documentation is web-based. Information on training or the use of systems is available electronically through a W holesale Markets web-site (www.uswest.com/wholesale/guide.html). This site also contains information on policies, products, systems, and emergencies. In addition, there is a checklist provided to all new CLECs with consistent information. The Account Managers are responsible for training the CLECs on the use of IMA and MEDIACC, as well as providing contact information for the AMSC and doing some root cause analysis on troubles. |
| **3.0 Maintenance and Repair Infrastructure** | | | |
| 3.1 | M&R system architecture is consistent across all jurisdictions and regions. | Yes | Review of Qwest documentation and interviews with Qwest personnel revealed that there are two interfaces for CLECs to create their own trouble tickets. These are the Interconnect Mediated Access (IMA) and the EB-TA (Electronic Bonding Trouble Administration). MEDIACC (Mediated Access System) is the engine that generates tickets through LMOS (Loop Maintenance Operating System) and WFA/C (Work Force Administration/Control). |
| 3.2 | Organizations supporting M&R activities are consistent across all jurisdictions and regions. | No | The AMSC in Denver is the primary center in the Qwest region for CLEC wholesale or resale trouble resolution. Qwest indicated through the interview process that the RCHC also handles a small volume of calls for 1FR/1FB Resale. The RCHC's involvement with the trouble administration reporting for 1FR/1FB Resale in not handled consistently across the footprint. Qwest is currently transitioning these responsibilities to the AMSC, but no completion date was given. |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| | | | Qwest also has five Design Service Centers (DSCs) that handle design services within the footprint. All of these centers are subject to consistent methods and procedures, which can be found in Canyon6. |
| **4.0** | **Maintenance and Repair Documentation** | | |
| 4.1 | M&R document development, publication and distribution of materials made publicly available to CLECs is consistent across all jurisdictions and regions. | Yes | Each specialization group creates their own documentation based on templates and guidelines found in the Wholesale Service Delivery Process Toolkit (Process Toolkit), in InfoBuddy, or the Canyon6 toolkit, for design services. Information on policies, products, systems and emergencies is available to CLECs on the Qwest Wholesale Markets (www.uswest.com/wholesale/guide.html) website. |
| 4.2 | M&R document development, publication and distribution of materials for Qwest internal documents is consistent across all jurisdictions and regions. | Yes | The Process Toolkit in InfoBuddy ensures uniformity of documentation through publication rules and templates. The MCC electronically notifies the appropriate personnel of changes and updates the information found on Qwest's web site. There is only one web site for the entire region. |
| **5.0** | **Capacity Management** | | |
| 5.1 | The end-to-end process for M&R work center capacity management is consistent across all jurisdictions and regions. | Yes | The M&R work center end-to-end capacity management process is administered consistently throughout Qwest's footprint by both the AMSC and RCHC centers. |
| 5.2 | The systems deployed for supporting M&R work center capacity management are consistent across all jurisdictions and regions. | Yes | The tools used to ensure proper use of resources within the AMSC and RCHC are the Management Information System (MIS), for queue-management and notification of a call backlog, and an Automatic Call Distributor (ACD) for call answering. |
| 5.3 | Internal documentation used to complete M&R work center capacity management processes is consistent across all jurisdictions and regions. | Yes | Internal documentation utilized by both the AMSC and RCHC to complete M&R work center capacity management is consistent throughout Qwest's footprint. |
| **6.0** | **Network Surveillance** | | |
| 6.0 | The end-to-end process for M&R work center network surveillance is consistent across all jurisdictions and regions. | Yes | Qwest depends on its five Design Service Centers (DSCs) to conduct network surveillance. The five DSCs also adhere to consistent internal Method and Procedure documents found in Canyon6. All personnel in the DSCs attend consistent new employee training courses. |
| 6.1 | The systems deployed for supporting M&R work center network surveillance is consistent across all jurisdictions and regions. | Yes | Qwest representatives identified during interviews that there is a single application to provide surveillance of the designed transport products: Network Manager Assistant (NMA). |
| 6.3 | Internal documentation used to complete M&R work center network surveillance is consistent across all jurisdictions and regions | Yes | There is only one set of web-based documents across the Qwest footprint. Internal documentation can be found in InfoBuddy, which also provides the documentation templates. The MCC electronically updates the documentation to insure that it is consistent across the operating region. |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 6.4 | M&R work center disaster planning is consistent across all jurisdictions and regions. | Yes | There is only one disaster plan for the entire Qwest footprint. It can be found on Qwest's Disaster Preparedness & National Security Home Page (http://saw31/NROC/DR/) and the center can be reached via a single toll-free number (1-800-204-6540). |
| **7.0 M&R Coordination** | | | |
| 7.1 | The end-to-end process for M&R wholesale coordinated/joint meetings (vendor meet) is consistent across all jurisdictions and regions. | Inconclusive | During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed loops) are being gathered to create a standard set of processes for interaction with CLECs. |
| 7.2 | The systems deployed for supporting M&R wholesale coordinated/joint meetings (vendor meet) are consistent across all jurisdictions and regions. | Inconclusive | During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed) are being redesigned. Therefore, no standard systems are defined. |
| 7.3 | Internal documentation used to address procedures for wholesale coordinated/joint meetings (vendor meet) are consistent across all jurisdictions and regions. | Inconclusive | During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed) are being redesigned, so no standard set of Qwest internal documentation exists. |
| 7.4 | Documentation publicly available to CLECs detailing procedures for wholesale coordinated/joint meetings (vendor meets) is consistent across all jurisdictions and regions. | Inconclusive | During interviews, Qwest representatives stated that the methods and procedures for coordinated/joint meets (for both designed and non-designed) are being redesigned, so no standard set of Qwest wide documentation exists. |

### *2.3.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.3.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Maintenance and Repair Processing | X | | | X | | |
| Maintenance and Repair Support Center Review | X | | | | | X |
| Maintenance and Repair Infrastructure* | X | | | X | | |
| Maintenance and Repair Documentation* | X | | | | | X |
| Capacity Management | X | | | | | X |
| Network Surveillance | X | | | | | X |
| M&R Coordination | | | X | | | X |

*Due to the small volume of CLEC calls addressed by the RCHC, and the fact that Qwest has plans to move the CLEC workload to the AMSC, KMPG Consulting did not reject the null hypothesis.

## *2.4 Billing*

### *2.4.1 Description*

The Billing domain is comprised of the systems, processes and other operational elements associated with Qwest's support for Wholesale billing. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC provided documentation related to billing activities and conducted interviews with key Qwest and participating CLEC representatives in order to obtain the data necessary to conduct the assessment.

### *2.4.2 Methodology*

This section provides a business process description, lists the sources of data used in the assessment, and summarizes the assessment methodology.

#### *2.4.2.1 Business Process Description*

One of the remaining legacies of the original merger that created US WEST is the continuing use of three Customer Record Information Systems (CRIS). These billing systems, which are used for billing retail, resale, and in the Qwest territory, most of the UNE products, are maintained and operated separately in the Western, Central and Eastern regions.

The Integrated Access Billing System (IABS) is another billing system used in the billing of Access products. It was developed after the merger and is standard across all states.

**CRIS Billing Systems**

The CRIS systems receive the Service Order information from Service Order Processing Systems (SOPs). Once this information is available, the Universal Service Order Codes (USOCs) are rated and the customer account is updated. An updated Customer Service Record (CSR) is issued and made available to the CLEC. This CSR summarizes all services, equipments and features requested by an end-user.

The usage events are first collected at the switch in Automatic Message Accounting (AMA) format and sent to the Message Processing Systems. The messages are identified, formatted, rated, and stored by Billing Telephone Number (BTN) until the bill period ends.

Daily Usage Feeds (DUFs) are produced out of the Message Processing System and sent to the CLEC daily as requested.

Bill calculations are performed in the CRIS systems, including monthly recurring charges, usage charges, pro-rations, taxes, balance carry-forwards, and payment applications, then forwarded on to formatting by media type (such as paper or CDROM).

**IABS Billing System**

The IABS system is used to bill specific interconnect, collocation, unbundled products and resale frame relay products. Service order processing, unlike the CRIS process, is initiated with an Access Service Request (ASR). In CRIS, the service order process is initiated with a Local Service Request (LSR).

The IABS system receives service order information daily. This information is used to update the customer account and to ensure usage is accurately guided. The CSR is updated in a Billing CSR and the USOCs are rated on the bill date.

Usage events are collected through the CRIS systems using a similar process, then forwarded to the IABS system for editing, formatting, and storage until the bill period ends.

On the bill date, IABS performs the bill calculations which include calculating charges, taxes (or tax exemptions), adjustments, payments, and credits. The file, along with the Billing CSR, is formatted and sent to the CLEC in the requested medium.

### *2.4.2.2 Data Sources*

The data collection performed for this assessment relied on interviews with Qwest and participating CLEC representatives and reviews of documents supplied by Qwest and the CLECs. The interviews and documents are itemized in the tables below.

***Table 2.4.2.2.1: Qwest Interviews for Billing Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Carrier Bill Processing | 8-22 Carrier Bill Interview Summary_Final.doc<br>8-22 Carrier Bill Interview Summary comments.doc | KPMG Consulting |
| Q-2 | Daily Usage Feed (DUF) | 8-22 DUF Interview Summary_Final.doc<br>8-22 DUF Interview Summary comments.doc | KPMG Consulting |

***Table 2.4.2.2.2: Qwest Data Sources for Billing Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| E-1 | Carrier Bill Processing Business Rules | e-mail | Qwest |
| E-2 | Usage Processing Business Rules | e-mail | Qwest |
| E-3 | Qwest internal training material for billing (including DUF) | CD-ROM | Qwest |
| E-4 | CLEC Training Material for Billing (including DUF) | CLEC Billing and Usage Guide<br>http://www.uswest.com/wholesale/productServices/irrg/TABL1-0.html | Qwest |

| Document Number | Document | File Name | Source |
|---|---|---|---|
| E-5 | Qwest Internal Procedures for Usage Processing, carrier Bill Processing, Billing Change Management, and systems and Infrastructure | Summary Bill Trouble Shooting Procedures CRIS/IABS Wholesale<br>Summary Billing validation (Resale) – Wholesale<br>Usage Production Support Process – Wholesale<br>(hard copy) | Qwest |
| E-6 | Examples of bills from different states/regions | two Adobe portable documents | Qwest |
| E-7 | Examples of DUF files from different states/regions | hard copy | Qwest |
| E-8 | EMI Specification versions used by different states/regions | e-mail attachment | Qwest |
| E-9 | Business rules for automated recycling of usage due to errors | e-mail attachment | Qwest |
| E-10 | Business rules for aging records | Central MCR c990908-06 | Qwest |
| E-11 | Usage return process rules | Co-Carrier Usage Return | Qwest |
| E-12 | Examples of completion notices from the three regions | http://uswest.com:80/wholesale/productsServices/irrg/billUage.html | Qwest |

***Table 2.4.2.2.3: CLEC Interviews for Billing Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| C-1 | McLeodUSA Interview | 9-08 McLeodUSA Billing Interview Summary_Final.doc | KPMG Consulting |
| C-2 | WorldCom difference assessment e-mail | RE: CLEC Interview Topics (E-mail) | WorldCom |

***Table 2.4.2.2.4: CLEC Data Sources for Billing Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| CD-1 | Examples of CSRs from the three regions | hard copy | McLeod USA |
| CD-2 | Examples of invoices from the three regions | hard copy | McLeod USA |

### *2.4.2.3 Assessment Method*

Qwest Interviews were conducted in Denver, Colorado and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on usage processing, carrier bill processing, billing change management, and systems and infrastructure. Further data was gathered through reviews of documentation provided by Qwest. In addition, an interview was conducted with McLeodUSA via a conference bridge. The purpose of this interview was to obtain information on a CLEC's perceptions of the differences that might exist in the billing systems and processes between

Qwest's three regions. Further data was gathered through reviews of documentation provided by the CLEC.

In addition, WorldCom participated in the assessment through a written report.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.4.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.4.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| **1.0 Usage Processing (Resale and UNE-P)** | | | |
| 1.1 | The DUF production and distribution Process is consistent across regions. | No | According to the information provided during the DUF Interview as well as the process descriptions available in the CLEC Billing and Usage Documentation, usage events are produced by each switch, collected by the message processing systems (one per region), rated then formatted in each CRIS system (one per region). Therefore, even though the process is similar across regions, the actual production of DUF may vary from region to region because of the different systems used. |
| 1.2 | The message processing systems are consistent across regions. | No | According to the information provided during the DUF Interview, there are three distinct message processing systems in each region. AMDOCS (PP42) is the standard message processing "front-end" deployed in each region. The systems are maintained by three different groups. |
| 1.3 | Exchange Message Interface (EMI) specifications and Qwest variations are consistent across regions. | No | According to the information provided during the DUF Interview, EMI translation is done in each region, and the processes are maintained separately.<br>EMI standards are consistent across the Western and Central regions but not in the Eastern Region. The example that was given during the DUF interview is the following: all five states in the Eastern Region send two records for operator handled local measured calls and Directory Assistance (100132 and 100131 records sent) due to the tariffs. The other regions only send one. |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1.4 | DUF-specific business rules are consistent across regions. | Yes | Rated and unrated rules are consistent throughout all regions: there is no user specificity involved.<br>As mentioned during the DUF interview, usage ownership issues are materially similar across all three regions.<br>DUF transmissions are similar across all regions. Qwest believes that no usage files are sent unless there was usage on that day. KPMG Consulting was not able to verify this information during the timeframe of the assessment. |
| 1.5 | Similar Qwest organizations are involved in the process across regions | Yes | According to the DUF Interview, similar organizations with central management are involved in the DUF process.<br>Usage return process rules are consistent across the three regions. The DUF file must be returned via NDM in the EMI format with an EMI return reason code. Billed usage disputes are also handled in writing via e-mail or fax. Usage returns and disputes are similar across regions. |
| 1.6 | The operator services switch variations are consistent across regions. | Inconclusive | According to the information provided during the DUF Interview, both Traffic Operator Position System (TOPS) and Operator Service Position System (OSPS) operator switches are used across all regions. Qwest believes the DUFs for operator-handled calls are consistent between the two switches. KPMG Consulting was not able to verify this information during the timeframe of the assessment, and therefore it was not possible to draw a conclusion. |
| **2.0 Carrier Bill Processing** | | | |
| 2.1 | The bill production business rules are consistent across regions. | Inconclusive | Based on both Qwest and CLEC interviews, bill calculations are consistent across the Qwest territory. On the other hand, discounts (both rates and discountable charges) are state-specific, and bill formats will vary from one region to another (possibly by state).<br>As a result it was not possible for KPMG Consulting to draw a conclusion as to the consistency of bill production business rules across regions. |
| 2.2 | The process for establishing rates is consistent across each state. | No | Local regulatory requirements create differences between states and/or regions.<br>In addition, based on the information provided during the Bill Validation interview, rates for resale services are established through tariffs.<br>For UNE products, some states have published tariffs, while most require interconnection agreements. |
| 2.3 | Resale and UNE bills provide consistent content across regions. | No | Rates are state specific and driven by individual tariffs and/or interconnection agreements. In addition, business rules on rate applications are jurisdictionally driven.<br>While according to the Bill Validation Interview, the three CRIS systems have been standardized to fit company-wide requirements, systems specifications and rate table maintenance may vary from region to region. |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 2.4 | The bill production process is consistent across regions. | No | Based on information provided during the interviews, IABS is a consistent system across all regions and therefore, the IABS bill production process is consistent across regions.<br>The three CRIS systems follow similar business rules and the process steps are standard across the Qwest territory. On the other hand, the three CRIS systems' initial programs were different as they pertained to three different companies. These differences are the basis for potential regional inconsistencies. |
| 2.5 | Training materials (internal and CLEC) are consistent across regions. | Yes | Interviews support that the company is organized by product line, media and systems rather than by regions.<br>As a result, training materials are similar across regions. Potential regional differences are highlighted in the course of training. |
| **3.0 Billing Change Management (for DUF, CRIS, IABS)** | | | |
| 3.1 | The process for introducing a new product is consistent across regions. | Inconclusive | According to the Qwest Interviews, time constraints and state-specific requirements impact the process and can differ across regions. Qwest believes procedures for introducing a new product are materially similar across the three regions, however, KPMG consulting was not able to draw a conclusion as to the consistency of the process to introduce a new product across regions. |
| 3.2 | The process for updating rates and tariffs is consistent across region. | No | According to the Qwest interviews, tariff updates are made through table releases, unless hard-coding is required.<br>Although the process is similar across the three regions, the rates are updated in three different CRIS systems, which may induce regional differences. In addition to this systems difference, state disparities also introduce a level of inconsistencies as some states have tariffs while others require interconnection agreements. |
| 3.3 | The switch translation process is consistent across regions. | Yes | According to the information provided during the DUF Interview, the switch translation process (using AMDOCS(PP42) as a 'front-end') is similar across the three regions. |
| 3.4 | The management tools used to monitor the change management process are consistent across regions. | Inconclusive | According to the Qwest interviews, most tools are system driven, and therefore vary by region.<br>For those that impact the structure of the Billing Domain, the organizations are centralized around products rather than geographical criteria and therefore procedures are similar across the regions.<br>Based on the above, KPMG Consulting was not able to draw a conclusion as to the consistency of the management tools across the regions. |
| **4.0 Systems and Infrastructure (for Resale and UNE)** | | | |
| 4.1 | The inputs and outputs of each system (CRIS, IABS, DUF) are consistent across regions. | No | Inputs and Outputs for CRIS, IABS and DUF are materially similar to the extent of the exceptions noted above. However, these exceptions provide a degree of inconsistency across regions. |

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 4.2 | The "exit point" of the DUF from the Qwest system is consistent across regions. | Yes | CLEC ownership is determined for each record. CLEC-owned usage records are converted from an internal format to EMI and distributed on the DUF. According to the DUF Interview, this process is consistent across all three regions. |
| 4.3 | The CRIS systems upgrades and their functional impacts are consistent across regions. | Inconclusive | According to the Qwest interviews, the Company's policy is to release usage process upgrades and production fixes across the footprint on consistent day. If this is not possible, then all states in consistent region have consistent release day.<br>Both the CRIS systems and the Message Processing Systems are different between regions. The releases and upgrades, which are system specific, are tailored to each system and therefore may vary from one region to the next, although the functionalities implemented will be similar. |
| 4.4 | The Bill Processing centers (systems and operational processes) are consistent across regions. | Yes | According to the information provided during the Qwest interviews, all three regions have consistent type of centers.<br>Bill production is organized by media type, and bills for all regions are produced in one location.<br>Customer Care is organized by customer accounts, for example, each CLEC has only one contact, regardless of its presence across multiple regions.<br>Payment centers are organized by State, but can be centralized in order to meet the CLEC's payment process needs. |
| 4.5 | The products and media options are consistent across regions. | Inconclusive | It was not possible to draw a conclusion based on the interviews nor the documentation provided during the assessment process.<br>DUF files are sent to the CLEC via NDM, FTP, Web access, tape, or cartridge. This is similar across the three regions.<br>On the other hand, the network facilities and regulatory requirements have created State differences in some of the products offered through the Qwest territory. |

### *2.4.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.4.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Usage Processes (Resale and UNE) (1) | X | | | | | X |
| Carrier Bill Processes (CRIS and IABS) (1) | X | | | | | X |
| CRIS Billing Systems | | X | | X | | |
| IABS Billing Systems | X | | | X | | |
| Usage Processing Systems (2) | | X | | X | | |

1 – Qwest's CRIS billing systems, which include both the bill production and distribution process and the Daily Usage Feed (DUF) process, are maintained and operated on a regional basis. These regional differences are the source of the inconsistencies and inconclusive statements identified through the analysis performed by KPMG Consulting.

Although these systems are different, Qwest has been streamlining and standardizing most of its processes across the regions, and most of the state or regional differences that have been identified are now at a level where they are not critical to the general billing process. As a result, most of the processes identified above, although they are not consistent across regions, are considered materially similar across the footprint and the impact of the differences is insufficient to materially impact the running of the test. As a result, they are not material to warrant rejecting the null hypothesis.

2 – Usage Processing System is a part of the CRIS systems, but is identified here for purposes of matching with the MTP sections and criteria sections above.

## *2.5 CLEC Relationship Management and Infrastructure*

This section includes the following subtopics:

- Interface Development
- Account Management
- Change Management
- CLEC Training
- ISC Help Desk
- IMA Help Desk

### *2.5.1 Interface Development*

#### *2.5.1.1 Description*

The Interface Development domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for developing, publicizing, conducting, managing, and monitoring interface development or interface development support for CLECs. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to interface development and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

#### *2.5.1.2 Methodology*

This section provides a business process description, lists the sources of data used in the assessment, and summarizes the assessment methodology.

##### *2.5.1.2.1 Business Process Description*

Competitive Local Exchange Carriers (CLECs) may access Qwest's systems for Order, Pre-Order, Maintenance & Repair, and other services using the Qwest Intermediated Access (IMA) system. This system includes Electronic Data Interchange (EDI) interface and a Web Graphical User Interface (GUI). Maintenance & Repair can also be accessed through IMA or an Electronic Bonding Interface (EB-TA) developed by the CLEC. CLECs that intend to build an interface with Qwest are instructed to initiate their efforts through their Qwest Account Manager.

For EDI, a new entrant testing process is required of each CLEC who wishes to connect to Qwest via IMA-EDI for the first time. As part of this process, the CLEC develops and builds its interface based on Qwest's specifications. The new entrant CLEC will interface to the production environment in a testing mode.

When a CLEC wants to access the Qwest Web GUI, Qwest's initial preparation steps include providing access to training and documentation, as well as providing necessary security hardware and passwords.

CLECs can also access the Maintenance and Trouble Administration functions through an Electronic Bonding Interface (EB-TA). EB-TA requires a CLEC interface process similar to the one for EDI including consistent steps.

#### *2.5.1.2.2 Data Sources*

The data collection performed for this assessment relied on interviews with Qwest and CLEC representatives and reviews of documents supplied by Qwest and the CLECs. The interviews and documents are itemized in the tables below.

***Table 2.5.1.2.2.1: Qwest Interviews for Interface Development Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Interview Questions for Regional Assessment Test – Interface | Interface Dev RDA.doc | KPMG Consulting |
| Q-2 | Interview Summary for Interface EB-TA for Qwest | Interview Summary Qwest – EB-TA.doc | KPMG Consulting |
| Q-3 | Interview Summary for Interface EDI for Qwest | Interview Summary Qwest – EDI. Doc | KPMG Consulting |
| Q-4 | Interview Summary for Interface GUI for Qwest | Interview Summary Qwest – GUI.doc | KPMG Consulting |
| Q-5 | Interview Summary for Interface GUI Middleware | Interview Summary Qwest – Middleware.doc | KPMG Consulting |
| Q-6 | Interview Summary for Interface MEDIACC for Qwest | Interview Summary Qwest – MEDIACC.doc | KPMG Consulting |

***Table 2.5.1.2.2.2: Qwest Data Sources for Interface Development Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| E-1 | Comments on Interview Summary for Interface EXACT | EXACT Interface Summary Qwest comments.doc | Qwest |
| E-2 | Comments on Interview Summary for Interface MEDIACC | MEDIACC Interview Summary Qwest comments.doc | Qwest |
| E-3 | Comments on Interview Summary for Interface EDI | EDI Interview Summary Qwest comments.doc | Qwest |
| E-4 | Comments on EDI Interview Summary Qwest | EB-TA Interview Summary Qwest comments.doc | Qwest |
| E-5 | Comments on GUI Interview Summary Qwest | GUI Training Qwest comments.doc | Qwest |
| I-1 | Qwest House of Operation for Interface Testing | KPMG 62-209 | Qwest |
| I-2 | IMA Organizational Chart | Interconnect COE Organizational Chart.ppe | Qwest |
| I-3 | IMA Middleware Legacy System Overview | Systems Diagram1.doc | Qwest |
| I-4 | CLEC Facing Forecasting Documentation | KPMG 62-197 and 0900 Form Directions.xls | Qwest |

There were no CLEC interviews or data sources provided for the Interface Development assessment.

#### *2.5.1.2.3 Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's interface development systems and processes. In addition, a CLEC interview was conducted via a conference bridge to gain a CLEC's perspective on perceived regional differences in Qwest's interface development systems and processes. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KMPG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.5.1.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.5.1.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1 | Qwest has a software/interface development methodology that addresses requirements and specifications definition, design, development, testing, and implementation, which is consistent across all Qwest Regions. | Yes | CLECs connect through the IMA interface for Pre-Order, Order, and Provisioning. A single methodology is used to connect to IMA, regardless of a CLECs location or areas served.<br>CLECs can use the IMA-GUI to connect to the Qwest Trouble Administration (TA) system or a CLEC can build its own Electronic Bonding interface to MEDIACC. |
| 2 | Interface specifications, which define applicable business rules, data formats and definitions, and transmission protocols are made available to customers and are similar across the Qwest footprint. | Yes | IMA access information and Business Rules (I-Charts), is not region specific and is available on the Qwest website. Data formats and transmission protocols are made available through the account establishment team after a CLEC has selected an interface method. |
| 3 | Responsibilities and procedures for developing and updating interface specification document(s) are defined and shared consistently across the Qwest footprint. | Yes | IMA information is not region specific. All information is updated by the internal Qwest IMA team. |

### *2.5.1.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table2.5.1.4: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Interface Development Process | X | | | | | X |

### *2.5.2 Account Management*

#### *2.5.2.1 Description*

The Account Establishment and Management domain is comprised of the systems, processes, and other operational elements associated with Qwest's support for establishing and managing account relationships with CLECs who order Unbundled Network Elements (UNE) and Combinations and Resale services. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to account establishment and management and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

#### *2.5.2.2 Methodology*

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

##### *2.5.2.2.1 Business Process Description*

The Qwest Account Management teams serve as the primary points of contact within Qwest for wholesale customers. Their responsibilities include introducing new CLECs to Qwest products and services, distributing appropriate documentation and contact lists, communicating routine notifications to customers, scheduling and leading network planning meetings, and interfacing with other Qwest units.

##### *2.5.2.2.2 Data Sources*

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

***Table 2.5.2.2.2.1: Qwest Interviews for Account Management Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Interview Summary for Qwest | Interview Summary Qwest – Account Management.doc | KPMG Consulting |

***Table 2.5.2.2.2.2: Qwest Data Sources for Account Management Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| E-1 | Loss & Completion Report Samples and Report Delivery Options | KPMG 52-103 Sup 1 Att D.doc | Qwest |
| E-2 | NDM Connectivity and Application DSNs | KPMG 52-103 Sup 1 Att E.doc | Qwest |
| E-3 | Letter from Qwest to Trading Partner | KPMG 52-103 Sup 1 Att A.doc | Qwest |
| E-4 | New Customer Questionnaire | Version 12 questionnaire.doc | Qwest |

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| I-1 | Usage Feed Record Matrix | KPMG 52-103 Sup 1 Att B.doc | KPMG Consulting |
| I-2 | Co-Carrier Usage Return | KPMG 52-103 Sup 1 Att C.doc | Qwest |
| I-3 | Email regarding CLEC and Qwest disputes | Qwest/CLEC TUG-O-WAR – round 1 | Qwest |
| I-4 | Account Establishment Job Descriptions | Version 12 questionnaire.doc | Qwest |

***Table 2.5.2.2.3: CLEC Interviews for Account Management Assessment***

| Document Number | Document | Document Name | Source |
|---|---|---|---|
| C-1 | Interview Summary for McLeod | Interview Summary McLeod – Acct.Mgmt..doc | KPMG |

There were no CLEC data sources provided for the Account Management assessment.

#### *2.5.2.2.3 Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's account establishment and management systems, processes, and procedures. In addition, a CLEC interview was conducted via a conference bridge to gain a CLEC's perspective on perceived regional differences in Qwest's account establishment and management systems, processes, and procedures. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KMPG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.5.2.3 Results*

This section identifies the assessment criteria and results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.5.2.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1 | Account establishment and management responsibilities and activities are consistent across the entire Qwest footprint. | Yes | CLECs can access the "Interconnect Resale and Resource Guide" (IRRG) through the Qwest website. This guide provides A checklist of all steps the CLEC needs to Take to establish a relationship with Qwest. There are no differences in the account establishment process across the Qwest footprint.<br>Account Management teams are divided into two type types of personnel: Account Managers who are responsible for maintaining every aspect of the CLEC relationship, and Service Managers who provide technical support to Account Managers. In the central region, Account Managers play both roles.<br>In addition, some Account Managers specialize in specific products and are subject matter experts in that area.<br>According to the Qwest personnel interviewed, account managers are regionally based. The information they provide is applicable across the Qwest footprint. Each Account Manager provides consistent type and standard of information to CLECs. |
| 2 | Procedures for receiving, managing and resolving customer inquiries are consistent across the entire Qwest footprint. | Yes | Per the interview, account managers are regionally based, but the processes and information they provide is applicable footprint wide. |

### *2.5.2.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.5.2.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Account Management Process | X | | | | | X |

### *2.5.3 Change Management*

#### *2.5.3.1 Description*

Qwest's Co-Provider Industry Change Management Process (CICMP) is comprised of the systems, processes, and other operational elements associated with Qwest's support for managing changes to and change requests for OSS interfaces and business processes utilized by CLECs. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to change management and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

#### *2.5.3.2 Methodology*

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

##### *2.5.3.2.1 Business Process Description*

The change management process provides the framework by which interested parties can communicate their desired changes, and through which Qwest is able to communicate subsequent alterations to its systems and processes. Change management policies assign changes into categories or types. The change management process governs all aspects of the CLEC/Qwest relationship. All changes to documentation, interfaces, business rules, and other functions are subject to time frames, tracking, logging and coding managed via the change management process.

##### *2.5.3.2.2 Data Sources*

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

***Table 2.5.3.2.2.1: Qwest Interviews for Change Management Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Interview Questions for Regional Assessment Test-Change Management | Change Mgt RDA.doc | KPMG Consulting |
| Q-2 | Interview Summary for Qwest | Interview Summary Qwest – Change Mgmt(bulleted).doc | KPMG Consulting |

*Table 2.5.3.2.2.2: Qwest Data Sources for Change Management Assessment*

| Document Number | Document | File Name | Source |
|---|---|---|---|
| E-1 | Comments on Interview Summary for Change Management | Change Management Qwest comments.doc | Qwest |
| E-2 | Qwest/ROC Letters | Qwest/ROC Letters enclosed | Qwest |
| E-3 | Re: Feedback from CLEC Forum Regarding CICMP | AUGItr.doc | Qwest |
| E-4 | Change Management Escalation Process | hard copy | Qwest |
| E-5 | Change Management Process Documented | hard copy | Qwest |
| E-6 | How to Create a Change Request Document | hard copy | Qwest |
| E-7 | Change Request Form | hard copy | Qwest |
| E-8 | CR Form Instructions | hard copy | Qwest |
| E-9 | CLEC Change Request Log | hard copy | Qwest |
| E-10 | Team Meeting Documentation | hard copy | Qwest |
| E-11 | Release Notification Documentation | hard copy | Qwest |
| E-12 | Release Notification Form | hard copy | Qwest |
| E-13 | Release Notification Form Instructions | hard copy | Qwest |
| E-14 | Release Notifications Log | hard copy | Qwest |
| I-1 | Re: CLEC Industry Change Management Process | ROCItr.doc | Qwest |
| I-1 | Comments from Qwest on Change Management Interview Summary | FW: interview comments – Change Management | Qwest |

*Table 2.5.3.2.2.3: CLEC Interviews for Change Management Assessment*

| Document Number | Document | File Name | Source |
|---|---|---|---|
| C-1 | Interview Summary for McLeod | Interview Summary McLeod – Change Mgmt. doc | KPMG Consulting |

There were no CLEC data sources provided for the Change Management assessment.

### *2.5.3.2.3 Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on the Qwest CICMP. In addition, a CLEC interview was conducted via a conference bridge to gain a CLEC's perspective on perceived regional differences in Qwest's CICMP. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.5.3.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.5.3.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1 | Change management process responsibilities and activities are consistent across the Qwest footprint. | Yes | The Change Management responsibilities and activities are defined in documents available on the Qwest wholesale web site. |
| 2 | The change management process is in place and is consistent across the Qwest footprint. | Yes | Per the interview, the Change Management process has been in place since September 1999. Qwest has internal process documentation. |
| 3 | Change management process has a framework to evaluate, categorize, and prioritize proposed changes and is consistent across the Qwest footprint | Yes | Qwest's framework provides information to CLECs via documentation available on the Qwest web site. |

### *2.5.3.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.5.3.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| Change Management Process | X | | | | | X |

### *2.5.4 CLEC Training*

#### *2.5.4.1 Description*

Qwest's CLEC Training domain is comprised of the systems, processes and other operational elements associated with Qwest's support for developing, publicizing, conducting, managing and monitoring CLEC training. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related to CLEC training and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

#### *2.5.4.2 Methodology*

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

##### *2.5.4.2.1 Business Process Description*

The CLEC training program offers training courses in various products and services available to CLECs. CLECs can request on-site and customized training of Qwest. Qwest's CLEC training function is responsible for providing information across the Qwest footprint.

##### *2.5.4.2.2 Data Sources*

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

***Table 2.5.4.2.2.1: Qwest Interviews for CLEC Training Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Interview Summary for Qwest | Interview Summary Qwest – Account Management.doc | KPMG Consulting |

***Table 2.5.4.2.2.2: Qwest Data Sources for CLEC Training Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| E-1 | List of Qwest's Students involved with CLEC Training | Student Spreadsheet.xls | Qwest |
| E-2 | Comments on Interview Summary for CLEC Training | CLEC Training Qwest comments.doc | Qwest |
| E-3 | IMA Training Documentation | hard copy | Qwest |

There were no CLEC interviews or data sources provided for the CLEC Training assessment.

#### *2.5.4.2.3 Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's CLEC Training systems, processes and procedures. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.5.4.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.5.4.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1 | Training process responsibilities and activities are consistent across the Qwest footprint. | Yes | Several different groups (IMA training, Wholesale services, and training consultants) provide training at Qwest, depending on the type of training requested.<br>Qwest also provides multiple forms of training; web-based, computerized training, instructor lead courses, and individual training.<br>Training may be different based on product and system (IMA-EDI or IMA-GUI). Training methods employed are consistent across the Qwest footprint. |
| 2 | Scope and objectives of training process are documented and are consistent across the entire Qwest footprint. | Yes | Training is broken out by product and system. Per the interviews, there are no differences in training methods by region. |
| 3 | Published information about training opportunities is consistent across the entire Qwest footprint. | Yes | Instructor lead training schedules are available on the Qwest website. In addition, there are web-based and downloadable training courses available on the website. |

### *2.5.4.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.5.4.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| CLEC Training Process | X | | | | | X |

### *2.5.5 ISC Help Desk*

#### *2.5.5.1 Description*

Qwest's Interconnection Service Center (ISC) Help Desk is available to CLECs with OSS questions, escalations, problems and issues related to pre-ordering, ordering and provisioning. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting conducted interviews with key Qwest representatives in order to obtain the data necessary to conduct the assessment.

#### *2.5.5.2 Methodology*

This section provides a business description, lists the sources of data used in the assessment, and summarizes the assessment methodology.

##### *2.5.5.2.1 Business Process Description*

The Qwest ISC Help Desk records and responds to CLEC questions or problems regarding pre-order, provisioning, and ordering transactions through the CLEC's interface with Qwest. The Qwest ISC Help Desk is the primary point of contact for CLECs experiencing transaction difficulties. Each call generates a unique trouble ticket number in a database. The date the call was received, the time the ticket was opened, along with relevant customer information and description of the problem and its resolution, are logged.

##### *2.5.5.2.2 Data Sources*

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews and documents are itemized in the tables below.

***Table 2.5.5.2.2.1: Qwest Interviews for ISC Help Desk Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Interview Summary for Help Desk ISC for Qwest | Interview Summary Qwest – Help Desk ISC.doc | KPMG Consulting |

There were no Qwest data sources or CLEC interviews or data sources provided for the ISC Help Desk assessment.

##### *2.5.5.2.3 Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's ISC Help Desk systems, processes and procedures.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.5.5.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.5.5.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1 | ISC responsibilities and activities are documented and consistent across entire Qwest footprint. | Inconclusive | Because of potential differences in the Regional Resale Centrex Help Desks, KPMG can not conclude that the processes and procedures that surround the ISC help desk are consistent or the same across regions. Until further information gathering can be done the results of this assessment are inconclusive. |
| 2 | The process includes consistent procedures for status tracking and management reporting that is consistent across the entire Qwest footprint | Inconclusive | Because of potential differences in the Regional Resale Centrex Help Desks, KPMG can not conclude that the processes and procedures that surround the ISC help desk are consistent or the same across regions. Until further information gathering can be done the results of this assessment are inconclusive. |

### *2.5.5.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.5.5.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| ISC Help Desk Process | | | X | | | X |

### *2.5.6 IMA Help Desk*

#### *2.5.6.1 Description*

Qwest's Intermediated Access (IMA) System Administration Help Desk is available to CLECs with questions or problems regarding connectivity and administration of their interface with Qwest. The purpose of the assessment was to review functionality and performance in order to provide a basis for comparing this operational area to parallel systems and processes in other jurisdictions and regions in Qwest's territory.

KPMG Consulting reviewed and analyzed Qwest and CLEC-provided documentation related t the IMA Help Desk and conducted interviews with key Qwest and CLEC representatives in order to obtain the data necessary to conduct the assessment.

#### *2.5.6.2 Methodology*

This section provides a business description, lists the sources of data used in the assessment and summarizes the assessment methodology.

##### *2.5.6.2.1 Business Process Description*

The Qwest IMA Help Desk records and responds to CLEC questions or problems regarding connectivity and administration of their interface with Qwest. The Qwest IMA Help Desk is the primary point of contact for CLEC's experiencing system access difficulties. Each call generates a unique trouble ticket number in a database. The date the call was received, time the ticket was opened, relevant customer information, description of the problem and its resolution are logged.

##### *2.5.6.2.2 Data Sources*

The data collection performed for this assessment relied on interviews and reviews of documents supplied by Qwest at the assessment manager's request. The interviews are itemized in the tables below.

***Table 2.5.6.2.2.1: Qwest Interviews for IMA Help Desk Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| Q-1 | Interview Summary for Help Desk IMA for Qwest | Interview Summary Qwest – Help Desk IMA.doc | KPMG Consulting |

***Table 2.5.6.2.2.2: Qwest Data Sources for IMA Help Desk Assessment***

| Document Number | Document Name | File Name | Source |
|---|---|---|---|
| E-1 | Comments on Interview Summary for Help Desk IMA | Help Desk IMA Qwest comments.doc | KPMG Consulting |
| E-2 | Comments from Qwest on IMA Help Desk Interview Summary | FW: interview comments – Help Desk IMA | KPMG Consulting |

There were no CLEC interviews or data sources provided for the RMI IMA Help Desk assessment.

#### *2.5.6.2.3 Assessment Method*

Interviews were conducted with Qwest personnel in Denver, Colorado, and included a conference bridge for offsite participants. The purpose of these interviews was to obtain information on Qwest's IMA Help Desk systems, processes, and procedures. Further data was gathered through reviews of documentation provided by Qwest.

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. The data collected from the interviews and documentation reviews were analyzed in reference to the assessment criteria.

### *2.5.6.3 Results*

This section identifies the assessment criteria and the results. Each assessment criterion is given one of the three following results:

- Yes - Based on interviews conducted and the documentation reviewed, there is no evidence that the systems, practices and procedures are not consistent across states and regions.
- No - Based on interviews conducted and the documentation reviewed, there are differences in systems, practices and procedures across states and regions.
- Inconclusive - Based on the interviews conducted and the documentation reviewed, there was insufficient evidence to conclude whether or not there are differences in systems, practices, and procedures across states and regions.

***Table 2.5.6.3.1: Assessment Criteria and Results***

| Assessment Number | Assessment Criteria | Result | Comments |
|---|---|---|---|
| 1 | IMA Help Desk responsibilities and activities are consistent across the Qwest Footprint. | Yes | The IMA help desk is responsible for answering questions and resolving problems concerning connectivity to Qwest IMA network and systems The defined responsibilities of the IMA Help Desk were provided during the course of the interviews.<br>The IMA help desk is located in Denver, Colorado and is responsible for the entire Qwest footprint. |
| 2 | The processes and procedures for status tracking and management reporting are consistent across the Qwest Footprint | Yes | The IMA call center has software which tracks when all calls are received, wait times, call end times and other information. This information is used by management for capacity planning and quality assurance.<br>A separate system is used by help desk personnel to collect and track detailed information about specific problems called in by CLECs. |

### *2.5.6.4 Results Summary*

Results are functionally grouped in the table below with an indication of whether or not they match the TRD. Each functional group may relate to multiple assessment criteria.

***Table 2.5.6.4.1: Results Summary Table***

| | *Hypothesis* | | | *TRD, Section 6* | | |
|---|---|---|---|---|---|---|
| | **Failed to Reject** | **Reject** | **Inconclusive** | **Matches** | **Does Not Match** | **Not Addressed** |
| IMA Help Desk Process | X | | | | | X |

## 2.6 Statistical Analysis

### 2.6.1 Background

KPMG Consulting evaluated the following activities for the purpose of identifying regional and state-within-region variation of CLEC performance:

- Pre-Ordering and Ordering confirmations (PO-5),
- Provisioning installations ( OP-3 and OP-4),
- Maintenance and Repair tickets (MR-6), and
- Billing invoices (BI-1).

The evaluation employed statistical analyses using standard methods and controlling for differences in metric performance resulting from month to month variation.[6] In the results below, we considered differences among regions and states within region statistically significant if the results indicated performance differences with at least 95% confidence.[7] We used standard statistical tests, described in the Assessment Methods section, to determine these differences.

### 2.6.2 Methodology

The test methodology used to conduct the Regional Difference Assessment for performance metrics was to obtain performance data from Qwest for the months of January through April 2000 and to perform standard statistical analysis as outlined in each of the following sections.

#### 2.6.2.1 Data Sources

The data collection preformed for this assessment relied on metric performance data supplied by Qwest at our request. These included the following:

***Table 2.6.2.1.1: Data Sources for Metrics Assessment***

| Document Number | Document | File Name | Source |
|---|---|---|---|
| I-1 | U S WEST Performance Results: Colorado | Colorado_271_Exhibit.pdf | Qwest |
| I-2 | U S WEST Performance Results: South Dakota | SD_271_Exhibit.pdf | Qwest |
| I-3 | U S WEST Performance Results: Oregon | OR_271_Exhibit.pdf | Qwest |
| I-4 | U S WEST Performance Results: New Mexico | NM_271_Exhibit.pdf | Qwest |
| I-5 | U S WEST Performance Results: Nebraska | NE_271_Exhibit.pdf | Qwest |
| I-6 | U S WEST Performance Results: North Dakota | ND_271_Exhibit.pdf | Qwest |
| I-7 | U S WEST Performance Results: Montana | MO_271_Exhibit.pdf | Qwest |

[6] Standard methods of logistic regression were used for the statistical analysis of the PO-5 metric.

[7] This criterion corresponds to a standard statistical hypothesis test at the 0.05 level of significance ($\alpha$=0.05).

| Document Number | Document | File Name | Source |
|---|---|---|---|
| I-8 | U S WEST Performance Results: Minnesota | MN_271_Exhibit.pdf | Qwest |
| I-9 | U S WEST Performance Results: Idaho | ID_271_Exhibit.pdf | Qwest |
| I-10 | U S WEST Performance Results: Iowa | IA_271_Exhibit.pdf | Qwest |
| I-11 | U S WEST Performance Results: Utah | UT_271_Exhibit.pdf | Qwest |
| I-12 | U S WEST Performance Results: Washington | WA_271_Exhibit.pdf | Qwest |
| I-13 | U S WEST Performance Results: Wyoming | WY_271_Exhibit.pdf | Qwest |

#### *2.6.2.2 Assessment Methods*

Assessment criteria were established by KPMG Consulting to provide a framework and basis for the assessment. All evaluations were based on statistical methods when the data provided by Qwest provided sufficient information to do so. However, because transaction level data was not provided with the data, not all assumptions of the tests could be verified. Specifically, we were unable to verify that factors not contained in the Qwest data could have caused the regional variation of some performance metrics. Also, we could not examine the distribution of the data to verify that it met the assumptions of the tests. Lastly, accuracy of the tests relied on the correctness of the calculations performed by Qwest, which we could not verify.

#### *2.6.2.3 Pre-Ordering and Ordering*

KPMG Consulting investigated regional and state-within-region performance variation of Firm Order Confirmations (FOCs) On Time (percent) based on CLEC PO-5 state metric performance data provided by Qwest. A standard method of statistical analyses, logistic regression, was applied to the percentage data using common statistical packages to ascertain hypothesis test results. The following two separate hypotheses were considered for this test:

- Timeliness of FOCs is consistent across Qwest regions.
- Within Qwest regions, timeliness of FOCs is consistent across Qwest states.

The statistical tests were designed to allow for no more than a 5% error rate when declaring a statistically significant difference.[8] The month-to-month variations in PO-5 performance were controlled for before the statistical tests.[9] One state, New Mexico, was not included in the analyses because no FOCs were processed during the study period.

#### *2.6.2.4 Provisioning*

KPMG Consulting investigated regional and state-within-region CLEC performance variation of Installation Commitments Met (percent) and Installation Intervals (average) based on CLEC OP-3 and OP-4 state metric performance data provided by Qwest. Standard methods of statistical analyses, logistic

[8] All hypothesis test were designed to have a 0.05 probability of a Type I error ($\alpha$=0.05).

[9] Standard methods of logistic regression were used to control for the possibly confounding effect of month.

regression and ANOVA, were applied to the metrics. For each type of installation metric and density, the following two separate hypotheses were considered for this test:

- Installation commitments met and installation intervals are consistent across Qwest regions.
- Within Qwest regions, installation commitments met and installation intervals are consistent across Qwest states.

The month-to-month variations in OP-3 performance were controlled for before the statistical tests.[10] Analyses of the OP-4 family of metrics could not be controlled for the varying effect of month due to the high level of aggregation present in the data provided by Qwest.[11] Some hypotheses tests were not performed due to a lack of provisions in the particular strata or the level of aggregation present in the data provided by Qwest.

#### *2.6.2.5 Maintenance and Repair*

KPMG Consulting investigated regional and state-within-region CLEC performance variation of repairs based on MR-6 state metric performance data provided by Qwest. Standard methods of statistical analyses, ANOVA, were applied to the metrics data. For each type of installation metric and density, the following two separate hypotheses were considered for this test:

- Mean time to restore is consistent across Qwest regions.
- Within Qwest regions, mean time to restore is consistent across Qwest states.

The statistical tests were designed to allow for no more than a 5% error rate when declaring a statistically significant difference[12]. Analyses of the Maintenance and Repair metrics could not be controlled for the varying effect of month due to the high level of aggregation present in the data provided by Qwest.[13] Some hypotheses tests were not performed due to a lack of repairs in the particular strata.

#### *2.6.2.6 Billing*

KPMG Consulting was not able to conduct a statistical evaluation of Qwest performance variation regarding the provisioning of Recorded Usage Records (average days) to CLECs because of the high level of aggregation in the BI-1 data provided by Qwest.

[10] Standard methods of logistic regression were used to control for the possibly confounding effect of month.

[11] State metric data provided by Qwest for the Metric PMA did not contain transaction level data.

[12] All hypothesis test were designed to have a 0.05 probability of a Type I error ($\alpha$=0.05).

[13] State metric data provided by Qwest for the Metric PMA did not contain transaction level data.

### *2.6.3 Results Summary*

For the statistical analysis section, the default of 'yes,' 'no,' and 'inconclusive' have been modified to the following:

- Yes - Based on the metric performance data received from Qwest, there is no evidence that the metrics are not the same across states and regions.
- No - Based on the metric performance data received from Qwest, there are differences in the metrics across states and regions.
- Inconclusive - The metric performance data received from Qwest was insufficient to conduct a statistical test of whether or not there are differences in the metrics across states and regions.

#### *2.6.3.1 Pre-Ordering and Ordering Regional and State Analyses Evaluation Criteria and Results*

**PO-5 Regional and State Results**

KPMG Consulting evaluated the PO-5 family of metrics for regional performance differences and state performance differences within regions. The average percent FOCs to CLECs on time for the three Qwest regions is presented in the following table.

***Table 2.6.4.1.1: Regional Difference for PO-5***

| Description | Average (%) | | | Number of Confirmations to CLECs | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Firm Order Confirmations On Time | 71 | 80 | 69 | 400 | 250 | 261 |

Tests for the significance of these observed regional differences and state-within-region differences are presented in the following table. A small p-value indicates that there was evidence of a performance difference that could not be accounted for by random variation in the data. The conclusion from both hypotheses tests is that aggregate timeliness of FOCs was not consistent across regions and or between states within regions since both p-values were less than 0.05. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

***Table 2.6.4.1.2: PO-5 Regional Analyses***

| Checklist | Description | Number of CLEC Confirmations | Is there a statistically significant difference among regions? (p-value,df[14]) | Within regions, is there a statistically significant difference among states? (p-value,df[15]) |
|---|---|---|---|---|
| 2 | Firm Order Confirmations – LIS | 911 | Yes<br>(p < 0.001, df=2) | Yes<br>(P = 0.004, df=8) |

### *2.6.3.2 Pre-Ordering and Ordering Evaluation Results*

KPMG Consulting statistical tests rejected the hypothesized assumption of equality across regions of aggregate timeliness of FOCs, as measured by PO-5, based on analysis of PO-5 performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes or whether they are due to variations in order mix or other systematic differences among the regions.

KPMG Consulting statistical tests rejected the hypothesized assumption of equality across states within regions of aggregate timeliness of FOCs, as measured by PO-5, based upon performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes or whether they are due to variations in order mix or other systematic differences among the states.

### *2.6.3.3 Provisioning Regional and State Analyses Evaluation Criteria and Results*

**OP-3 Regional and State Analyses**

KPMG Consulting evaluated the OP-3 family of metrics for regional performance differences and state performance differences with regions. The average percent of Installation Commitments Met to CLECs are presented in the following table.

***Table 2.6.4.3.1: Regional Difference for OP-3***

| Description | Average (%) | | | Number of CLEC Installations | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Checklist 4 – Non-Loaded (2-Wire) Installation | | | | | | |
| High Density | 85 | 75 | 83 | 2268 | 1244 | 2040 |
| Low Density | 83 | 91 | 84 | 292 | 237 | 263 |
| Checklist 4 – Unbundled Loop – Non-Loaded (4-Wire) Installation | | | | | | |
| High Density | 69 | NA | 93 | 45 | 0 | 58 |
| Low Density | 100 | 83 | NA | 2 | 6 | 0 |

[14] Degrees of freedom (df) reflect the number of regions available for comparison. In certain cases, one of the regions did not have any data, and so that region could not be used in the analysis. The number of regions with testable data equals the degrees of freedom plus 1. Thus, when all 3 regions were tested, the degrees of freedom were 2.

[15] Degrees of freedom (df) reflect the number of states available for comparison. In some cases, certain states had no available data, and thus those states could not be used in the analysis. The number of states tested is equal to the degrees of freedom plus the degrees of freedom for the regional test, plus 1. Thus, for this test, 11 states were tested.

| Description | Average (%) | | | Number of CLEC Installations | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Checklist 4 – Unbundled Loop – Analog Installation | | | | | | |
| High Density | 92 | 87 | 94 | 3189 | 7498 | 5267 |
| Low Density | 85 | 85 | 99 | 272 | 3426 | 89 |
| Checklist 14 – Resale – Business Installation | | | | | | |
| Not Dispatched | 94 | 96 | 95 | 2092 | 4520 | 796 |
| Outside MSAs | 88 | 85 | 92 | 42 | 502 | 59 |
| Within MSAs | 76 | 85 | 79 | 391 | 584 | 247 |
| Checklist 14 – Resale – Centrex Installation | | | | | | |
| Not Dispatched | 98 | 99 | 100 | 4071 | 10724 | 1973 |
| Outside MSAs | 89 | 87 | 86 | 70 | 774 | 132 |
| Within MSAs | 81 | 86 | 100 | 727 | 2013 | 879 |
| Checklist 14 – Resale – Centrex 21 Installation | | | | | | |
| Not Dispatched | 1.00 | 0.98 | 0.99 | 410 | 955 | 136 |
| Outside MSAs | 1.00 | 0.95 | 1.00 | 4 | 62 | 1 |
| Within MSAs | 0.81 | 0.86 | 1.00 | 48 | 130 | 56 |
| Checklist 4 – Unbundled Loop – DS1 Capable Installation | | | | | | |
| High Density | NA | 57 | 94 | 0 | 7 | 127 |
| Low Density | NA | 75 | NA | 0 | 4 | 0 |
| Checklist 7 – E911/911 trunk Installation | | | | | | |
| High Density | 6 | 40 | 54 | 17 | 10 | 46 |
| Low Density | NA | 67 | 64 | 0 | 12 | 11 |
| Checklist 4 – Unbundled Loop – ISDN Capable Installation | | | | | | |
| High Density | 70 | 54 | 60 | 550 | 581 | 613 |
| Low Density | 78 | 100 | 56 | 76 | 12 | 59 |
| Checklist 4 – Unbundled Loop – ADSL Qualified Installation | | | | | | |
| High Density | NA | 100 | 89 | 0 | 5 | 98 |
| Low Density | NA | 100 | 100 | 0 | 1 | 4 |
| Checklist 1 – Local Interconnection – LIS Installation | | | | | | |
| High Density | 73 | 80 | 58 | 204 | 98 | 139 |
| Low Density | 78 | 84 | 87 | 59 | 62 | 15 |
| Checklist 14 – Resale – ADSL Installation | | | | | | |
| Not Dispatched | NA | NA | 100 | 0 | 0 | 1 |
| Outside MSAs | NA | NA | NA | 0 | 0 | 0 |
| Within MSAs | NA | NA | 100 | 0 | 0 | 1 |
| Checklist 14 – Resale – Basic ISDN Installation | | | | | | |
| Not Dispatched | 100 | 100 | NA | 1 | 1 | 0 |
| Outside MSAs | NA | 100 | 100 | 0 | 1 | 1 |
| Within MSAs | 100 | NA | 100 | 1 | 0 | 1 |
| Checklist 14 – Resale – DS0 Installation | | | | | | |
| High Density | 91 | 96 | 100 | 22 | 28 | 5 |
| Low Density | 83 | 83 | 83 | 18 | 102 | 18 |
| Checklist 14 – Resale – DS1 Installation | | | | | | |
| High Density | NA | 100 | 50 | 0 | 4 | 2 |

| Description | Average (%) | | | Number of CLEC Installations | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Low Density | 0 | 86 | 100 | 1 | 7 | 11 |
| Checklist 14 – Resale – Installation for DS3 and Higher | | | | | | |
| High Density | NA | NA | NA | 0 | 0 | 0 |
| Low Density | NA | NA | NA | 0 | 0 | 0 |
| Checklist 14 - Resale – PBX Installation | | | | | | |
| Not Dispatched | 97 | 98 | 100 | 37 | 257 | 32 |
| Outside MSAs | NA | 82 | 0 | 0 | 11 | 2 |
| Within MSAs | 75 | 85 | 86 | 4 | 13 | 14 |
| Checklist 14 - Resale – Primary ISDN Installation | | | | | | |
| High Density | NA | 2 | NA | 0 | 2 | 0 |
| Low Density | NA | 2 | 1 | 0 | 2 | 1 |
| Checklist 14 – Residence Installation | | | | | | |
| Not Dispatched | 95 | 98 | 95 | 9720 | 7160 | 5245 |
| Outside MSAs | 84 | 84 | 82 | 183 | 443 | 119 |
| Within MSAs | 84 | 88 | 83 | 1339 | 684 | 738 |
| Checklist 5 – UDIT Installation | | | | | | |
| High Density | 81 | 80 | 75 | 31 | 15 | 28 |
| Low Density | 95 | 100 | 100 | 20 | 2 | 4 |

Tests for the significance of these observed regional and state-within-region differences are presented in the following table. A small p-value indicates that there was evidence of a performance difference that could not be accounted for by random variation in the data. A shaded box indicates strata for which hypothesis test could not be performed due to lack of sufficient installations to perform valid statistical tests. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

***Table 2.6.4.3.2: OP-3 Regional Analyses***

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[16]) | Within regions, is there a statistically significant difference among states? (p-value,df[17]) |
|---|---|---|---|---|
| 4 | Non-Loaded (2-Wire) Installation – High Density | 5552 | Yes ($p < 0.001$,df=2) | Yes ($p = < 0.001$,df=4) |
| 4 | Non-Loaded (2-Wire) Installation – Low Density | 792 | Yes ($p = 0.025$,df=2) | No ($p = 0.087$,df=6) |
| 4 | Unbundled Loop – Non-Loaded (4-Wire) Installation – High Density | 103 | Yes ($p = 0.005$,df=1) | |

[16] Degrees of freedom (df) reflect the number of comparisons made among the regions. Metrics that were present in three regions were tested with two degrees of freedom.

[17] Degrees of freedom (df) reflect the number of comparisons made among states. Metrics that were present in all states were tested with ten degrees of freedom.

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[16]) | Within regions, is there a statistically significant difference among states? (p-value,df[17]) |
|---|---|---|---|---|
| 4 | Unbundled Loop – Non-Loaded (4-Wire) Installation – Low Density | 8 | | |
| 4 | Unbundled Loop – Analog Installation – High Density | 15594 | Yes ($p < 0.001$,df=2) | Yes ($p < 0.001$,df=5) |
| 4 | Unbundled Loop – Analog Installation – Low Density | 3787 | Yes ($p < 0.001$,df=2) | Yes ($p < 0.001$,df=7) |
| 14 | Resale – Business Installation – Not Dispatched | 7408 | Yes ($p < 0.001$,df=2) | No ($p = 0.075$,df=9) |
| 14 | Resale - Business Installation – Outside MSAs | 603 | No ($p < 0.368$,df=2) | No ($p = 0.095$,df=8) |
| 14 | Resale – Business Installation – Within MSAs | 1222 | Yes ($p = 0.001$,df=2) | Yes ($p < 0.001$,df=8) |
| 14 | Resale – Centrex 21 Installation – Not Dispatched | 1501 | No ($p = 0.265$,df=2) | No ($p = 0.252$,df=2) |
| 14 | Resale – Centrex 21 Installation – Outside MSAs | 67 | | |
| 14 | Resale – Centrex 21 Installation – Within MSAs | 234 | Yes ($p < 0.001$,df=1) | No ($p = 0.415$,df=3) |
| 14 | Resale – Centrex Installation – Not Dispatched | 16768 | Yes ($p < 0.001$,df=2) | Yes ($p = 0.001$,df=5) |
| 14 | Resale – Centrex Installation – Outside MSAs | 976 | No ($p = 0.821$,df=2) | No ($p = 0.130$,df=3) |
| 14 | Resale - Centrex Installation – Within MSAs | 3619 | Yes ($p < 0.001$,df=2) | No ($p = 0.878$,df=5) |
| 4 | Unbundled Loop – DS1 Capable Installation – High Density | 134 | | |
| 4 | Unbundled Loop – DS1 Capable Installation – Low Density | 4 | | |
| 7 | E911/911 trunk Installation – High Density | 73 | No ($p = 0.252$,df=2) | |
| 7 | E911/911 trunk Installation – Low Density | 23 | | |
| 4 | Unbundled Loop – ISDN Capable Installation – High Density | 1744 | Yes ($p < 0.001$,df=2) | No ($p = 0.280$,df=5) |
| 4 | Unbundled Loop – ISDN Capable Installation – Low Density | 147 | Yes ($p < 0.001$,df=1) | No ($p = 0.623$,df=3) |
| 4 | Unbundled Loop – ADSL Qualified Installation – High Density | 103 | | |
| 4 | Unbundled Loop – ADSL Qualified Installation – Low Density | 5 | | |
| 1 | Local Interconnection – LIS Installation – High Density | 441 | Yes ($p = 0.001$,df=2) | Yes ($p = 0.008$,df=3) |

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[16]) | Within regions, is there a statistically significant difference among states? (p-value,df[17]) |
|---|---|---|---|---|
| 1 | Local Interconnection – LIS Installation – Low Density | 136 | No (p = 0.552,df=2) | Yes (p < 0.001,df=3) |
| 14 | Resale – ADSL Installation–Not Dispatched | 1 | | |
| 14 | Resale – ADSL Installation – Outside MSAs | 0 | | |
| 14 | Resale – ADSL Installation – Within MSAs | 1 | | |
| 14 | Resale – Basic ISDN Installation – Not Dispatched | 2 | | |
| 14 | Resale – Basic ISDN Installation – Outside MSAs | 2 | | |
| 14 | Resale – Basic ISDN Installation – Within MSAs | 2 | | |
| 14 | Resale – DS0 Installation – High Density | 55 | | |
| 14 | Resale – DS0 Installation – Low Density | 138 | No (p=0.995,df=2) | Yes (p = 0.001,df=2) |
| 14 | Resale – DS1 Installation – High Density | 6 | | |
| 14 | Resale – DS1 Installation – Low Density | 19 | | |
| 14 | Resale – Installation for DS3 and Higher – High Density | 0 | | |
| 14 | Resale – Installation for DS3 and Higher – Low Density | 0 | | |
| 14 | Resale – PBX Installation – Not Dispatched | 326 | No (p = 0.187,df=1) | |
| 14 | Resale – PBX Installation – Outside MSAs | 13 | | |
| 14 | Resale – PBX Installation – Within MSAs | 31 | | |
| 14 | Resale – Primary ISDN Installation – High Density | 2 | | |
| 14 | Resale – Primary ISDN Installation – Low Density | 3 | | |
| 14 | Residence Installation – Not Dispatched | 22125 | Yes (p < 0.001,df=2) | Yes (p < 0.001,df=9) |
| 14 | Residence Installation – Outside MSAs | 745 | No (p = 0.735,df=2) | No (p = 0.189,df=8) |
| 14 | Residence Installation – Within MSAs | 2761 | No (p = 0.275,df=2) | Yes (p < 0.001,df=8) |
| 5 | UDIT Installation – High Density | 74 | | |

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[16]) | Within regions, is there a statistically significant difference among states? (p-value,df[17]) |
|---|---|---|---|---|
| 5 | UDIT Installation – Low Density | 26 | | |

**OP-4 Regional and State Analyses**

KPMG Consulting evaluated the OP-4 family of metrics for regional performance differences and state performance differences with regions. The average Installation Interval to CLECs for the three Qwest regions is presented in the following table.

***Table 2.6.4.3.3: Regional Difference for OP-4***

| Description | Average (Days) | | | Number of CLEC Installations | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Checklist 4 – (2-Wire) Installation | | | | | | |
| High Density | 8.31 | 9.56 | 10.33 | 1253 | 480 | 668 |
| Low Density | 9.47 | 7.06 | 7.95 | 219 | 131 | 203 |
| Checklist 4 – (4-Wire) Installation | | | | | | |
| High Density | 5.74 | NA | 5.44 | 43 | 0 | 54 |
| Low Density | 5.00 | 10.50 | NA | 1 | 4 | 0 |
| Checklist 4 – Analog Installation | | | | | | |
| High Density | 8.40 | 7.88 | 6.86 | 1192 | 2801 | 2686 |
| Low Density | 9.49 | 8.45 | 5.78 | 164 | 1592 | 65 |
| Checklist 14 – Business Installation | | | | | | |
| Not Dispatched | 3.10 | 2.99 | 2.29 | 2092 | 4520 | 796 |
| Outside MSAs | 6.35 | 5.43 | 3.55 | 42 | 502 | 59 |
| Within MSAs | 7.93 | 6.55 | 6.56 | 391 | 584 | 247 |
| Checklist 14 – Centrex 21 Installation | | | | | | |
| Not Dispatched | 2.26 | 3.56 | 1.72 | 410 | 955 | 136 |
| Outside MSAs | 5.00 | 5.28 | 4.00 | 4 | 62 | 1 |
| Within MSAs | 4.79 | 6.39 | 2.92 | 48 | 130 | 56 |
| Checklist 14 – Centrex Installation | | | | | | |
| Not Dispatched | 3.93 | 4.83 | 1.21 | 4071 | 10724 | 1973 |

| Description | Average (Days) | | | Number of CLEC Installations | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Outside MSAs | 8.48 | 7.38 | 2.73 | 70 | 774 | 132 |
| Within MSAs | 6.38 | 6.38 | 2.59 | 727 | 2013 | 879 |
| Checklist 4 – DS1 Capable Installation | | | | | | |
| High Density | NA | 19.6 | 25.24 | 0 | 5 | 91 |
| Low Density | NA | 7.66 | NA | 0 | 3 | 0 |
| Checklist 7 – E911/911 Trunk Installation | | | | | | |
| High Density | 40.12 | 11.80 | 48.19 | 17 | 10 | 46 |
| Low Density | NA | 21.75 | 61.45 | 0 | 12 | 11 |
| Checklist 4 – ISDN Capable Installation | | | | | | |
| High Density | 12.75 | 18.71 | 19.21 | 290 | 202 | 281 |
| Low Density | 9.70 | 7.25 | 17.21 | 51 | 4 | 38 |
| Checklist 4 – Unbundled Loop – ADSL Qualified Installation | | | | | | |
| High Density | NA | 5.00 | 5.48 | 0 | 5 | 56 |
| Low Density | NA | 5.00 | 6.66 | 0 | 1 | 3 |
| Checklist 1 – LIS Installation | | | | | | |
| High Density | 18.29 | 20.67 | 22.31 | 204 | 98 | 139 |
| Low Density | 17.74 | 16.46 | 17.66 | 59 | 62 | 15 |
| Checklist 14 – Resale - ADSL Installation | | | | | | |
| Not Dispatched | NA | NA | 1.00 | 0 | 0 | 1 |
| Outside MSAs | NA | NA | NA | 0 | 0 | 0 |
| Within MSAs | NA | NA | 10 | 0 | 0 | 1 |
| Checklist 14 – Resale – Basic ISDN Installation | | | | | | |
| Not Dispatched | 4.00 | 1.81 | NA | 1 | 11 | 0 |
| Outside MSAs | NA | 13.00 | 3 | 0 | 1 | 1 |
| Within MSAs | 14.00 | NA | 4 | 1 | 0 | 1 |
| Checklist 14 – Resale – DS0 Installation | | | | | | |

| Description | Average (Days) | | | Number of CLEC Installations | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| High Density | 5.85 | 5.60 | 2.00 | 21 | 28 | 5 |
| Low Density | 14.58 | 13.85 | 10.94 | 17 | 100 | 18 |
| Checklist 14 – Resale – DS1 Installation | | | | | | |
| High Density | NA | 14.5 | 10.50 | 0 | 4 | 2 |
| Low Density | 82.00 | 7.71 | 3.00 | 1 | 7 | 11 |
| Checklist 14 – Resale – PBX Installation | | | | | | |
| Not Dispatched | 6.13 | 3.33 | 1.71 | 37 | 257 | 32 |
| Outside MSAs | NA | 4.18 | 7.50 | 0 | 11 | 2 |
| Within MSAs | 6.25 | 6.30 | 7.42 | 4 | 13 | 14 |
| Checklist 14 – Resale – Primary ISDN Installation | | | | | | |
| High Density | NA | 5.00 | NA | 0 | 2 | 0 |
| Low Density | NA | 4.50 | 36.00 | 0 | 2 | 1 |
| Checklist 14 – Residence Installation | | | | | | |
| Not Dispatched | 2.19 | 2.19 | 1.97 | 9720 | 7160 | 5245 |
| Outside MSAs | 5.32 | 5.05 | 2.92 | 183 | 443 | 119 |
| Within MSAs | 5.52 | 4.64 | 3.71 | 1339 | 684 | 738 |
| Checklist 5 – UDIT Installation | | | | | | |
| High Density | 12.38 | 16.33 | 7.28 | 31 | 15 | 28 |
| Low Density | 8.44 | 6.00 | 8.50 | 20 | 2 | 4 |

Tests for the significance of these observed regional performance differences and state-within-region differences are presented in the following table. A small p-value indicates that there was evidence of a difference that could not be accounted for by random variation in the data. A shaded box indicates strata for which hypothesis test could not be performed due to the level of aggregation present in the data provided by Qwest. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

## *Table 2.6.4.3.4: OP-4 Regional Analyses*

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[18]) | Within regions, is there a statistically significant difference among states? (p-value,df[19]) |
|---|---|---|---|---|
| 4 | (2-Wire) Installation – High Density | 2401 | | |
| 4 | (2-Wire) Installation – Low Density | 553 | | |
| 4 | (4-Wire) Installation – High Density | 97 | | |
| 4 | (4-Wire) Installation – Low Density | 5 | | |
| 4 | Unbundled Loop – Analog Installation – High Density | 6679 | | |
| 4 | Unbundled Loop – Analog Installation – Low Density | 1821 | | |
| 14 | Resale – Business Installation – Not Dispatched | 7408 | Yes ($p < 0.001$, 2) | |
| 14 | Resale – Business Installation – Outside MSAs | 603 | Yes ($p = 0.045$, 2) | |
| 14 | Resale – Business Installation – Within MSAs | 1222 | No ($p = 0.101$, 2) | |
| 14 | Centrex 21 Installation – Not Dispatched | 1501 | No ($p = 0.999$, 2) | |
| 14 | Centrex 21 Installation – Outside MSAs | 67 | No ($p = 0.73$, 2) | |
| 14 | Centrex 21 Installation – Within MSAs | 234 | No ($p = 1.000$, 2) | |
| 14 | Centrex Installation – Not Dispatched | 16768 | Yes ($p < 0.001$, 2) | |
| 14 | Centrex Installation – Outside MSAs | 976 | Yes ($p < 0.001$, 2) | |
| 14 | Centrex Installation – Within MSAs | 3619 | Yes ($p < 0.001$, 2) | |
| 4 | DS1 Capable Installation – High Density | 96 | | |
| 4 | DS1 Capable Installation - LowDensity | 3 | No ( $p = 0.998$, 2) | |

[18] Degrees of freedom (df) reflect the number of comparisons made among the regions. Metrics that were present in three regions were tested with two degrees of freedom.

[19] Degrees of freedom (df) reflect the number of comparisons made among states. Metrics that were present in all states were tested with ten degrees of freedom.

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[18]) | Within regions, is there a statistically significant difference among states? (p-value,df[19]) |
|---|---|---|---|---|
| 7 | E911/911 Trunk Installation – High Density | 73 | Yes (p < 0.001, 2) | |
| 7 | E911/911 Trunk Installation –Low Density | 23 | | |
| 4 | ISDN Capable Installation – High Density | 773 | Yes (p = 0.001, 2) | |
| 4 | ISDN Capable Installation – Low Density | 93 | Yes (p = 0.029, 2) | |
| 4 | Unbundled Loop – ADSL Qualified Installation – High Density | 61 | | |
| 4 | Unbundled Loop – ADSL Qualified Installation – Low Density | 4 | | |
| 1 | LIS Installation – High Density | 441 | Yes (p = 0.005, 2) | |
| 1 | LIS Installation – Low Density | 136 | No ( p = 1.000, 2) | |
| 14 | Resale – ADSL Installation – Not Dispatched | 1 | | |
| 14 | Resale – ADSL Installation – Outside MSAs | 0 | | |
| 14 | Resale – ADSL Installation – Within MSAs | 1 | | |
| 14 | Resale – Basic ISDN Installation – Not Dispatched | 12 | | |
| 14 | Resale – Basic ISDN Installation – Outside MSAs | 2 | | |
| 14 | Resale – Basic ISDN Installation – Within MSAs | 2 | | |
| 14 | Resale – DS0 Installation – High Density | 54 | No (p = 0.0764, 2) | |
| 14 | Resale – DS0 Installation – Low Density | 135 | No (p = 0.999, 2) | |
| 14 | Resale – DS1 Installation – High Density | 6 | | |
| 14 | Resale – DS1 Installation – Low Density | 19 | No (p = 0.998, 2) | |
| 14 | Resale – PBX Installation – Not Dispatched | 326 | Yes (p < 0.001, 2) | |
| 14 | Resale – PBX Installation – Outside MSAs | 13 | | |
| 14 | Resale – PBX Installation – Within MSAs | 31 | No (p 0.880, 2) | |

| Checklist | Description | Number of CLEC Installations | Is there a statistically significant difference among regions? (p-value,df[18]) | Within regions, is there a statistically significant difference among states? (p-value,df[19]) |
|---|---|---|---|---|
| 14 | Resale – Primary ISDN Installation – High Density | 2 | | |
| 14 | Resale – Primary ISDN Installation – Low Density | 3 | | |
| 14 | Residence Installation – Not Dispatched | 22125 | Yes ($p < 0.001$, 2) | |
| 14 | Residence Installation – Outside MSAs | 745 | Yes ($p = 0.003$, 2) | |
| 14 | Residence Installation – Within MSAs | 2761 | No ($p = 0.994$, 2) | |
| 5 | UDIT Installation – High Density | 74 | No ($p = 0.061$, 2) | |
| 5 | UDIT Installation – Low Density | 26 | No ($p = 0.905$, 2) | |

### *2.6.3.4 Provisioning Regional and State Evaluation Results*

KPMG Consulting statistical tests rejected the hypothesized assumption of consistency across regions for 13 out of the 43 metrics tested in the OP-3 family of metrics, and 12 out of 45 metrics tested in the OP-4 family of metrics, based on analysis of metric performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes, or whether they are due to variations in transaction mix or other systematic differences among the regions.

KPMG Consulting statistical tests rejected the hypothesized assumption of consistency within Qwest regions for 10 out of the 43 metrics tested in the OP-3 family of metrics based on analysis of metric performance data from January through April 2000. It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes, or whether they are due to variations in transaction mix or other systematic differences among the regions.

For the OP-4 family of metrics, KPMG Consulting was not able to perform statistical tests of the hypothesized assumption of consistency within Qwest regions due to the level of aggregation present in the data provided by Qwest.

### *2.6.3.5 Maintenance and Repair State Analyses Evaluation Criteria and Results*

**MR-6 Regional and State Analyses**

KPMG Consulting evaluated the MR-6 family of metrics for regional performance differences and state performance differences with regions. Results of the analyses are presented in the following table.

## *Table 2.6.4.5.1: Regional Difference for MR-6*

| Description | Average (Hours:Minutes) | | | Number of CLEC Repairs | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| Checklist 1 – Analog Repair | | | | | | |
| High Density | 9:45 | 12:09 | 10:45 | 669 | 615 | 529 |
| Low Density | 10:39 | 10:46 | 7:31 | 41 | 462 | 5 |
| Checklist 4 – ISDN Capable Repair | | | | | | |
| High Density | 16:02 | 26:19 | 17:11 | 544 | 256 | 271 |
| Low Density | 8:25 | 5:04 | 11:55 | 50 | 12 | 45 |
| Checklist 7 – E911/911 Trunk Repair | | | | | | |
| High Density | 2:43 | 2:41 | 4:44 | 20 | 11 | 5 |
| Low Density | 1:54 | 0:51 | 3:20 | 27 | 30 | 22 |
| Checklist 1 – LIS Repair | | | | | | |
| High Density | 4:41 | 3:60 | 7:07 | 198 | 87 | 191 |
| High and Low Density | 5:50 | 4:04 | 7:04 | 259 | 115 | 204 |
| Low Density | 9:34 | 4:18 | 6:17 | 61 | 28 | 13 |
| Checklist 14 – Resale – Business Repair | | | | | | |
| Not Dispatched | 7:26 | 8:20 | 10:13 | 1019 | 1034 | 479 |
| Outside MSAs | 24:39 | 20:39 | 22:33 | 340 | 535 | 229 |
| Within MSAs | 29:55 | 26:22 | 22:46 | 970 | 730 | 554 |
| Checklist 14 – Resale – Centrex 21 Repair | | | | | | |
| Not Dispatched | 8:29 | 9:07 | 12:10 | 396 | 408 | 96 |
| Outside MSAs | 20:19 | 26:51 | 23:29 | 266 | 123 | 102 |
| Within MSAs | 23:02 | 24:58 | 21:59 | 603 | 433 | 94 |
| Checklist 14 - Resale – Centrex Repair | | | | | | |
| Not Dispatched | 11:48 | 13:16 | 19:03 | 1173 | 2512 | 902 |
| Outside MSAs | 23:55 | 27:20 | 29:41 | 286 | 1473 | 86 |
| Within MSAs | 24:09 | 28:35 | 25:33 | 1465 | 3501 | 1048 |
| Checklist 14 – Resale – DS0 Repair | | | | | | |

| Description | Average (Hours:Minutes) | | | Number of CLEC Repairs | | |
|---|---|---|---|---|---|---|
| | Central | East | West | Central | East | West |
| High Density | 4:25 | 3:21 | 2:26 | 1198 | 1211 | 987 |
| Low Density | 3:28 | 3:38 | 3:18 | 944 | 1003 | 528 |
| Checklist 14 - Resale – DS1 Capable Repair | | | | | | |
| High Density | 2:51 | 1:50 | 4:35 | 508 | 283 | 415 |
| Low Density | 3:08 | 2:34 | 3:47 | 383 | 243 | 340 |
| Checklist 14 - Resale – PBX Repair | | | | | | |
| Not Dispatched | 10:54 | 7:28 | 5:47 | 142 | 117 | 113 |
| Outside MSAs | 25:44 | 29:31 | 30:04 | 22 | 27 | 1 |
| Within MSAs | 25:52 | 29:38 | 27:52 | 80 | 55 | 18 |
| Checklist 14 - Resale – Repair for DS3 and Higher | | | | | | |
| High Density | 2:42 | 2:05 | 2:26 | 124 | 49 | 59 |
| Low Density | 4:10 | 2:13 | 2:07 | 49 | 16 | 8 |
| Checklist 14 - Resale – Residence Repair | | | | | | |
| Not Dispatched | 6:41 | 5:21 | 6:20 | 885 | 943 | 466 |
| Outside MSAs | 17:49 | 21:11 | 21:27 | 1088 | 677 | 56 |
| Within MSAs | 20:57 | 25:03 | 19:55 | 4235 | 998 | 461 |

Tests for the significance of these observed regional performance differences and state-within-region performance differences are presented in the following table. A small p-value indicates that there was evidence of a difference that could not be accounted for by random variation in the data. A shaded box indicates strata for which hypothesis test could not be performed due to the level of aggregation present in the data provided by Qwest. Since transaction level data was not provided to KPMG Consulting, it was not possible to determine whether these differences are attributable to differences in systems and processes across the regions and states or whether they result from variations in the mix of transactions or other systematic differences among the regions and states.

***Table 2.6.4.5.2: MR-6 Regional Analyses***

| Checklist | Description | Number of CLEC Repairs | Is there a statistically significant difference among regions? (p-value,df[20]) | Within Regions, Is there a statistically significant difference among States? (p-value,df[21]) |
|---|---|---|---|---|
| 4 | Unbundled Loop – Analog Repair – High Density | 1813 | | |
| 4 | Unbundled Loop – Analog Repair – Low Density | 508 | | |
| 4 | ISDN Capable Repair – High Density | 1071 | No (p = 0.325, 2) | |
| 4 | ISDN Capable Repair – Low Density | 107 | Yes (p = 0.040, 2) | |
| 7 | E911/911 Trunk Repair – High Density | 36 | | |
| 7 | E911/911 Trunk Repair – Low Density | 79 | | |
| 1 | LIS Repair - High Density | 476 | No (p = 0.093, 2) | |
| 1 | LIS Repair – High and Low Density | 578 | No (p = 0.182, 2) | |
| 1 | LIS Repair – Low Density | 102 | No ( p = 0.379, 2) | |
| 14 | Resale – Business Repair – Not Dispatched | 2532 | No (p = 0.054, 2) | |
| 14 | Resale – Business Repair – Outside MSAs | 1104 | No (p = 0.134, 2) | |
| 14 | Resale – Business Repair – Within MSAs | 2254 | Yes (p < 0.001, 2) | |

[20] Degrees of freedom (df) reflect the number of comparisons made among the regions. Metrics that were present in three regions were tested with two degrees of freedom.

[21] Degrees of freedom (df) reflect the number of comparisons made among states. Metrics that were present in all states were tested with ten degrees of freedom.

| Checklist | Description | Number of CLEC Repairs | Is there a statistically significant difference among regions? (p-value,df[20]) | Within Regions, Is there a statistically significant difference among States? (p-value,df[21]) |
|---|---|---|---|---|
| 14 | Centrex 21 Repair – Not Dispatched | 900 | No (p = 0.823, 2) | |
| 14 | Centrex 21 Repair – Outside MSAs | 491 | No (p = 0.184, 2) | |
| 14 | Centrex 21 Repair – Within MSAs | 1130 | Yes (p = 0.025, 2) | |
| 14 | Centrex Repair – Not Dispatched | 4587 | Yes (p < 0.001, 2) | |
| 14 | Centrex Repair – Outside MSAs | 1845 | No (p = 0.105, 2) | |
| 14 | Centrex Repair – Within MSAs | 6014 | Yes (p < 0.001, 2) | |
| 14 | DS0 Repair – High Density | 3396 | Yes (p < 0.001, 2) | |
| 14 | DS0 Repair – Low Density | 2475 | No (p = 0.744, 2) | |
| 4 | DS1 Capable Repair – High Density | 1206 | Yes (p < 0.001, 2) | |
| 4 | DS1 Capable Repair – Low Density | 966 | No ( p = 0.315, 2) | |
| 14 | Resale – PBX Repair – Not Dispatched | 372 | No (p = 0.555, 2) | |
| 14 | Resale – PBX Repair – Outside MSAs | 50 | No (p = 0.291, 2) | |
| 14 | Resale – PBX Repair – Within MSAs | 153 | No (p = 0.331, 2) | |
| 14 | Resale – Repair for DS3 and Higher – High Density | 232 | No (p = 0.101, 2) | |
| 14 | Resale – Repair for DS3 and Higher – Low Density | 73 | | |
| 14 | Residence Repair –Not Dispatched | 2294 | No (p = 0.148, 2) | |
| 14 | Residence Repair – Outside MSAs | 1821 | No (p = 0.922, 2) | |
| 14 | Residence Repair – Within MSAs | 5694 | Yes (p < 0.001, 2) | |

### *2.6.3.6 Maintenance and Repair State Evaluation Results*

KPMG Consulting statistical tests of metric performance data from January through April 2000 rejected the hypothesized assumption of consistency across regions for the following metrics tested in the MR-6 family of metrics:

Within MSAs and high density areas, repairs for

Business

- Centrex 21
- Centrex
- DS0
- DS1

Residential services

- For low density areas – ISDN
- For not dispatched areas – Centrex

It is not possible to determine based on this analysis alone whether the differences observed are due to differences in Qwest systems and processes, or whether they are due to variations in transaction mix or other systematic differences among the regions.

KPMG Consulting statistical tests of metric performance data from January through April 2000 failed to reject the hypothesized assumption of consistency across regions for the other types of metrics tested in the MR-6 family of metrics.

Statistical analyses of state differences within Qwest regions could not be performed for the MR-6 family of metrics due to the level of aggregation present in the data provided by Qwest for the period from January through April 2000.

### *2.6.3.7 Billing State Analyses Evaluation Criteria and Results*

**BI-1 Regional and State Analyses**

KPMG Consulting was unable to evaluate the BI-1 metric for regional performance differences and state performance differences within regions using standard statistical methods. The level of aggregation present in the data provided by Qwest lacked the information necessary to carry out the tests.

### *2.6.3.8 Billing Regional and State Evaluation Results*

Not applicable.

### *2.6.4 Results*

These results are shown in the table below with an indication of whether or not they match the TRD.

***Table 2.6.5.1: Statistical Analysis Summary***

| | *Hypothesis* | | |
|---|---|---|---|
| | **Failed to reject** | **Reject** | **Inconclusive** |
| Aggregate timeliness of FOCs as measured by PO-5 is the same across Qwest regions. | | X | |
| Within Qwest regions, aggregate timeliness of FOCs as measured by PO-5 is the same across Qwest states. | | X | |
| Installation commitments met and installation intervals are the same across Qwest regions. | | X | |
| Within Qwest regions, installation commitments met and installation intervals are the same across Qwest states. | | X | |
| Timeliness of repairs as measured by MR-6 is the same across regions. | | X | |
| Within Qwest regions, timeliness of repairs as measured by MR-6 is the same across states. | | | X |
| Mean time to provide recorded usage Records is the same across regions. | | | X |
| Within Qwest regions, mean time to provide recorded usage records is the same across Qwest states. | | | X |