# CO-PROVIDER Maintenance & Repair –X.25 Joint Implementation Agreement

# 1 Introduction

## *1.1 Principal Parties*

### 1.1.1 QWEST

QWEST is referred to as the Agent.

### 1.1.2 CO-PROVIDER

CO-PROVIDER is referred to as the Manager.

## *1.2 Purpose of Document*

This Joint Implementation Agreement (JIA) outlines the information to be exchanged as part of the mechanized Electronic Bonding (EB) interface for Trouble Administration and Maintenance between CO-PROVIDER and QWEST. Both parties agree to work in good faith towards a successful implementation. This document is not a contract, but rather a letter of understanding between the two companies. This document not only outlines the responsibilities of both companies, but also details the attributes that will be supported, the business functions that will be allowed, and issues concerning security, support, and fallback at initial deployment.

This JIA is based on the ANSI T1M1.5 227/228 1995 standards for Trouble Administration for the electronic exchange of information between CO-PROVIDER (Manager) and QWEST (Agent) and T1.262-1998 for Service Test Function.

CO-PROVIDER and QWEST will establish change control procedures to modify this document as necessary.

## *1.3 Scope of Document*

The scope of this JIA is the Maintenance and Repair functions supporting POTS (Plain Old Telephone Service) Resale, Unbundled Network Loop Elements and Unbundled Network Switch Elements for residential and business service in QWEST's 14 state territory.

This document describes the following:

- Responsibilities of both companies
- Attributes that will be supported
- Business functions that will be allowed
- Issues concerning security, support, and fallback for the initial implementation
- Managed Object Conformance Statements tables (MOCS)

## *1.4 Summary of Changes*

This section is a summary of changes referenced in Appendix E, JIA Change Control Log, excluding administrative changes.

## *1.5 Implementation of Agreement*

### 1.5.1 Documentation

All agreements between CO-PROVIDER and QWEST denoting changes to the JIA must be documented and approved to provide an accurate record of JIA development.

Meeting minutes should be produced for every face-to-face meeting and formal conference call between the groups. The minutes should include the attendees, agenda, points of discussion, decisions, changes, and formal action items with due dates and responsible parties. The minutes should be distributed to the managers and team leaders of the development groups and the account representatives of both groups. Before the meeting begins, a person should be appointed to take the minutes for the group.

### 1.5.2 Channels of Communication

Principal points of contact for liaison and for distribution and sharing of minutes, issues, inquiries, and responses within the respective teams will be as follows:

| **CO-PROVIDER** | **QWEST** |
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When possible, use of electronic mail is the preferred distribution method to enable speedy and widespread distribution among the respective teams. FAX is the preferred alternative when e-mail communications are not available or if there is an urgent need for distribution that e-mail cannot accommodate. Official requests, inquiries, and responses should be followed by written copy via U. S. Mail.

Besides formal meetings, informal discussion involving respective subject matter experts will occur from time to time as deemed appropriate between the respective parties. Subsequently, relevant decisions will be shared with the principal contacts for distribution within the teams as necessary.

### 1.5.3 Status Reviews

Tracking status of the schedule and major milestones against a jointly agreed upon implementation Gantt chart will be performed outside this JIA document. The respective project managers and principal points of contact will be responsible for updated schedule and timeline status, and meet on a weekly basis for the duration of the testing period or as needed by the teams. Following the testing period, the teams will meet on an as-needed basis. These meetings will communicate progress, identify roadblocks, and propose resolutions on a going-forward basis.

A joint negotiation and approval process will be used to manage changes to schedules as proposed by either party. One party will give sufficient advance notice to the other party to allow adequate time for analysis and recommendations.

## *1.6 Change Control*

Either party can initiate a request to implement new or changed system requirements for future deployment releases in the JIA. Changes to the JIA will be made in accordance with the agreed upon change control procedures described in the following sections.

Evaluation of the changes to the JIA and actions required to implement the changes are the responsibility of the affected party and are not addressed in this procedure.

### 1.6.1 Publications and Documents

#### 1.6.1.1 Issue of Document

After all identified organizations have agreed to and signed off on this document, this JIA will be baselined and all further changes to this document will be made in accordance with the agreed upon change control procedures.

#### 1.6.1.2 Reissue of Document

This entire document will be reissued after the approval of five (5) non-administrative changes to the document, or whenever agreed to by both parties. All of the approved changes will be incorporated into the reissued document and will be identified by revision marks (change "bars" in the document margin).

#### 1.6.1.3 Change Control Coordinators

Each party that approves the JIA will have a Change Control Coordinator assigned. These coordinators are:

CO-PROVIDER Project Manager - OSS
CO-PROVIDER Asst Project Manager
CO-PROVIDER Technical Manager
QWEST Technology Systems Manager
QWEST Project Analyst
QWEST Technical Manager

Any Change Control Coordinator can submit a change to this document. QWEST will designate a Change Control Coordinator as the editor of this document and will be responsible for updating and distributing this document.

#### 1.6.1.4 JIA Change Forms and Logs

Appendix D is the JIA Change Control Form for explaining, in depth, a proposed change and the reason for requesting it.

Appendix E is the JIA Change Control Log for logging proposed changes with log numbers.

Appendix F is the JIA Revision Log for tracking JIA document versions and dates of reissue. The log will allow verification of the latest document version and will be maintained by a designated Change Control Coordinator.

A summary of changes can be found in Section 1.4.

### 1.6.2 New Release Management

After the EB systems have been placed into a formal test procedure between the two parties, any changes to the software should follow a formal change control process. The mechanism for this process will be included in any formal joint test plan or release plan documents. This will consist of all impacts to Electronic Bonding including:

- Gateways
- Applications running on the gateways
- OSS changes that directly affect the interface
- T1M1 standards
- Network changes that directly affect the interface.

The same software release process will be used after initial deployment.

### 1.6.3 Process Description

Proposed changes to this document must follow the process described below. Each party will utilize their own internal change control processes for documenting and evaluating potential impacts from proposed changes (e.g., systems or process modifications). Approval of proposed changes must be agreed to by both parties. The process for working out disagreements or issues with proposed changes is outside the scope of this document.

1. The originator of the proposed change will fill out a JIA Change Control Form (Appendix D).
2. Each party will have a JIA Change Control Form Reviewer. The originator of the proposed change will have the form reviewed internally to ensure that it is correctly and completely filled out. Any discrepancies will be corrected.
3. After internal review, the originator will forward the JIA Change Control Form to their primary Change Control Coordinator, who will forward it to the designated Change Control Coordinator (editor).
4. The editor will log the proposed change into the JIA Change Control Log (Appendix E), and assign a change control log number and origination date for the proposed change. The editor will then distribute copies of the completed form to all Change Control Coordinators,
5. Each party will have a maximum of 15 business days or a mutually agreed upon interval from the origination date to evaluate and respond to the editor with an approved status, disapproved status, or with comments about the change.
6. The editor will update the status of the change in the JIA Change Control Log and notify all Change Control Coordinators of its status. The editor will also update Section 1.4, Summary of Changes.

# 2 Business Functions

This section defines agreements, clarifications, or exceptions for business functions, attributes, and processes.

## *2.1 Definition of Functions*

This section defines the business transactions which are agreed will be supported via Electronic Bonding. See Appendix B, Managed Object Conformance Statements for details.

### 2.1.1 Create Trouble Report (Enter Trouble Report)

POTS Resale: The request to create a trouble report originates from the Manager. The Manager issues a PT-CREATE operation to create the trouble report in the Agent's OSS. The Manager is required to supply mandatory attributes as defined in TRFD 1. Once the create request is received, the Agent is required to respond through the Agent Gateway. If the Agent receives the create request and an error condition exists, the Agent will respond with the appropriate CMIP defined error message. The Agent is required to validate circuit ownership before transmitting the create response. The Agent will perform an address verification during the create process and mismatches will be indicated in the OSS. The trouble report will then be routed to the appropriate group for resolution. The Agent will perform a TSP comparison during the create process and mismatches will be indicated in the OSS. The trouble report will then be routed to the appropriate group for resolution. The Trouble Type attribute will determine if an initial MLT test is run (See Appendix I, Data Definitions and Mappings for details).

UNE: AutoTest is determined by circuit type. If the circuit is not a candidate for AutoTest, this function will not be performed.

### 2.1.2 Request Trouble Report Status (GET)

POTS Resale: This transaction is used by the Manager to obtain status information from the Agent about a previously entered trouble report. It can also be used to obtain values for certain other attributes in a trouble report. The Manager issues a PT-GET and the Agent will respond with either the attributes that were provided on the list or, if no attributes were provided, the Agent will return the current values of all instantiated attributes.

All the required data to respond to a customer request, PT-GET, comes from local QWEST gateway data stores. Some of the QWEST gateway data values are derived from host screens.

UNE: Same as POTS Resale.

### 2.1.3 Add Trouble Information (SET)

POTS Resale: A request to add information to an existing trouble report originates from the Manager. The Manager issues a PT-SET only for add/list type attributes. When the Agent receives the request, it updates the information on the trouble report. The LMOS OSS is severely limited on the attributes that it can update. Currently, only the attribute Additional Trouble Info List will be supported.

UNE: Supported according to the UNE MOCS table. See Appendix B, Managed Object Conformance Statements for MOCS table details.

### 2.1.4 Modify Trouble Information (SET)

POTS Resale: A request to modify information on an existing trouble report originates from the Manager. The Manager issues a PT-SET only for modifiable attributes. When the Agent receives the request, it updates the information on the trouble report. The LMOS OSS is severely limited on the attributes that it can modify. Currently, only the attribute Perceived Trouble Severity will be supported.

Commitment time will not be changed when electronically modifying a trouble report (a subsequent trouble report). If a commitment is missed, the OSS needs a new commitment to create the subsequent report. As a result, a Modify transaction will not be accepted in this case. QWEST handles this manually and negotiates a new commitment with the customer. If a commitment is missed and the Manager has requested a SET Modify, a resource limitation/processing error will be returned.

UNE: Supported according to the UNE MOCS table. See Appendix B, Managed Object Conformance Statements for MOCS table details.

### 2.1.5 Status Change Event Notification

POTS Resale: A status change notification (Event Notification) originates from the Agent. The Agent issues an Event Notification when the status of a trouble report changes to notify the Manager of the status change. The Agent can also issue a "no status change" Event Notification to send text messages (remarks) to the Manager. See Appendix I, Data Definitions and Mappings for status details.

UNE: Supported. See Appendix B, Managed Object Conformance Statements for MOCS table details.

### 2.1.6 Close Out

#### 2.1.6.1 POTS Resale Closed Out Event Notification

POTS Resale (LMOS) trouble report closure is a two step process (Cleared and Closed). Cleared information is contained in the first event, and Closed information is contained in the second event.

##### 2.1.6.1.1 POTS Resale Cleared Event

The Agent first sends a normal event containing Cleared state (3), or Cleared Customer Advised (CCA) status (25), the time the trouble ticket was restored (Trouble Report Status Time), and a message (Additional Trouble Status Info). The TR-Change-Denied rules will be applied after the Cleared event notification occurs (CCA).

##### 2.1.6.1.2 POTS Resale Closed Event

The second event is a closed transaction that uses the "cleared awaiting customer verification" data structure, but it is not a verification on closeout transaction. The Agent sends the second transaction to the

Manager when the trouble report is closed, and a response is not needed, expected, or waited for to continue processing. The transaction contains Closed state (4), Closed Out status (27), plus other information such as Trouble Found, Maintenance Service Charge, and Outage Duration in separate attributes. Disposition code and text, and Cause code and text (explaining what QWEST found the trouble to be and what caused the trouble) will be found in Close Out Narrative. The Agent sends the closed transaction as soon as the information is posted in its OSS, so there may be a time interval between the Cleared and Closed events. Once the Closed transaction is sent to the Manager, the object is deleted in the Agent's gateway. If the Manager sends any further transactions on this trouble ticket, the Agent will send a "no such object instance" error.

Note: There may be a time interval between the Cleared event and the Closed event. If the Manager requests status during this interval, the Cleared status information is returned. If the Manager attempts to request a PT-SET (e.g., Cancel) during this interval, the TR-Change-Denied rules will be applied.

Details of the closed transaction attributes are:

| Attribute | Value | Description |
|---|---|---|
| ActivityDuration | ActivityType HH:MM | Zeroes |
| CloseOutNarr | Text | Disposition code and definition, and cause code and definition. |
| MaintServiceCharge | Y/N | Y = based on disposition codes 1230, 1240, 1250, 1260 |
| OutageDuration | HH:MM | restoredTime less receivedTime |
| RestoredTime | GMT | Cleared time |
| TroubleFound | 227 enumerated code value | T1.227 Trouble Found mapped to Disposition Code |
| TroubleReportState | 4 | Closed |
| TroubleReportStatus | 27 | ClosedOut |
| TroubleReportStatusTime | GMT | Closed (CLO) Time |
| AdditionalTroubleStatusInfo | Text | Closed Message "Report is closed in system and no longer electronically bonded" |

### 2.1.6.2 UNE Closeout Process

UNE (WFA) trouble report closure is a three step process. The first event is an Agent-sent Cleared Awaiting Customer Verification Event. The second event is a Manager CloseOut Event Response. The third event is an Agent-sent Closed Event. Closed information is contained in the CloseOut Request event while the second Agent event is a normal Event Notification with closed status.

#### 2.1.6.2.1 UNE Cleared/Cleared Awaiting Customer Verification Event

A Cleared Event Notification from WFA for UNEs is an OSS request to Close a Trouble Ticket. The same attributes are returned as in the POTS ClosedOut Event, but the State and Status are returned with Cleared and ClearedAwaitingCustVerification values (3/26). The ActivityDuration attribute contains all of the NoAccess periods (total) and the data structures for Dispatch and DelayedMaintenance (which will be zero). The CloseOutNarrative is a text message from the OSS (WFA) technician and does not correlate to any mapped definition. The MaintenanceServiceCharge relates mainly to whether or not Dispatch charges will apply. The OutageDuration is the total elapsed time minus the ActivityDuration total. The TroubleFound code does not correlate to any mapped definition.

Details of the cleared transaction attributes (containing closed information) are:

| Attribute | Value | Description |
|---|---|---|
| ActivityDuration | ActivityType<br>DD:HH:MM | For No Access, accumulated data.<br>For Delayed Maintenance and Dispatch, zeroes. |
| CloseOutNarr | Text | Technician-entered close out summary. |
| MaintServiceCharge | Y/N | Primarily based on dispatch. |
| OutageDuration | DD:HH:MM | Elapsed Time less activityDuration |
| RestoredTime | GMT | Technician-entered cleared time (Technician may back date). |
| TroubleFound | 227 enumerated code value | T1.227 Trouble Found |
| TroubleReportState | 3 | Cleared |
| TroubleReportStatus | 26 | ClearedAwaitingCustomerVerification |
| TroubleReportStatusTime | GMT | ClearedTime |
| AdditionalTroubleStatusInfo | Text | Cleared Message “Cleared Awaiting Customer Verification” |

#### 2.1.6.2.2 Manager Responses to the UNE Cleared Event

The CloseOut Request from WFA requires a Manager Response. Once the CloseOut Event is confirmed by the Manager’s Gateway, a 24 hour timer is started in the QWEST Gateway. If no response is received for the CloseOut Request, then the Trouble Ticket will be closed automatically. A normal CloseOut Response (Set/CloseOut) will Verify, Dispute the Closeout data, or Deny that the trouble has been fixed:

- A Verify response will trigger the QWEST process to automatically close the Trouble Ticket.
- A Dispute response sends an RMA (Request for Manual Assistance message) to the Work Center with the reason (Closeout Narrative or ActivityDuration) and the Trouble Ticket will close in 90 minutes.
- A Deny response will expire the 24 hour timer and put the Trouble Ticket back into open/active status and will generate an RMA.

#### 2.1.6.2.3 UNE Closed Event

A Closed Event Notification will be sent when the Trouble Ticket is Closed in WFA, whether it is due to a Set/Closeout or is Closed manually by the WFA technician. This is a normal Event Notification returning TR State, Status, StatusTime, StatusInfo (4, 27, ClosedTime GMT, Closed message). This is also the Event in the QWEST Gateway that triggers the deletion of the Trouble Ticket object from the QWEST Gateway.

### 2.1.7 Cancel Trouble Report

POTS Resale: A request to cancel a trouble report originates from the Manager. The Manager issues a PT-SET and the Agent is required to respond. This response is an echo back to the Manager of the information the Manager sent. The Agent will screen the trouble report to determine where the trouble report is in the trouble resolution process. The Agent will either send the trouble report to a closeout process if no work is in progress on the trouble report, or the Agent will complete the work in progress on the trouble report in its current trouble state until it can be closed appropriately. In the latter case, billing charges may apply.

UNE: Same as POTS Resale.

### 2.1.8 Request MLT Test (Service Test Function)

POTS Resale: A request for an MLT test originates from the Manager. The Manager issues an M-ACTION. Once the test request is received, the Agent is required to respond through the Agent Gateway. If the Agent receives the test request and an error condition exists, the Agent will respond with the appropriate CMIP defined error message. The Agent is required to validate circuit ownership before transmitting the test request. Qwest has implemented LOOP test only.
UNE: Not available.

## *2.2 Attribute Implementation Definition*

The complete listing of all attributes that have been identified as part of initial deployment, and the method for handling the attributes by QWEST are identified in Appendix A, Attribute Definitions. Exceptions are noted in Appendix B, Managed Object Conformance Statements (MOCS).

Although all the attributes listed in Appendix B have been implemented, in some instances there is limited behavior or no behavior in the QWEST OSS due to OSS limitations.

## *2.3 Initial Implementation Exceptions*

This section defines attribute and process exceptions which will not be supported via Electronic Bonding. Exceptions are due to limitations in the current OSS.

### 2.3.1 Attributes

POTS Resale: The following attributes are not supported or are partially supported upon initial creation of a trouble report via Electronic Bonding:

- activityDuration
- additionalTroubleInfoList
- aLocationAccessHours
- aLocationAccessPerson
- authorizationList
- committmentTimeRequest
- custTroubleTicketNumber
- escalationList
- managedObjectAccessHours
- troubleReportStatusWindow

The only attributes fully supported or partially supported upon modification of a trouble report via Electronic Bonding are:

- additionalTroubleInfoList (partially supported)
- perceivedTroubleSeverity

See Appendix A, Attribute Definitions and Appendix B, Managed Object Conformance Statements for full details.

UNE: The following attributes are not supported or are partially supported upon initial creation of a trouble report via Electronic Bonding:

- calledNumber

### 2.3.2 Manual Processes

The processes listed below are manual processes because the attributes relating to these processes are not supported via Electronic Bonding:

#### 2.3.2.1 Authorization

POTS Resale: POTS troubles do not support authorization requests electronically. The attribute authorizationList will not be implemented at initial deployment with the assumption that authorization to dispatch is granted. Access hour restrictions will require manual processing. See Section 2.3.2.3 Scheduled Dispatch for further details.

UNE: Fully supported.

#### 2.3.2.2 Escalation

POTS Resale: POTS troubles do not support escalation requests electronically. Escalation requests must be made manually and are handled manually through the life of the trouble report.

UNE: Fully supported.

#### 2.3.2.3 Scheduled Dispatch

POTS Resale: Upon initial deployment, all dispatches requiring coordination will be handled manually.

UNE: N/A

#### 2.3.2.4 Modifications to Trouble Reports

POTS Resale: Upon initial deployment, modifications to attributes other than perceivedTroubleSeverity and additionalTroubleInfoList will be handled manually.

UNE: Fully supported. See Appendix B, Managed Object Conformance Statements for MOCS table details.

## *2.4 Critical Attributes for Flow-Through*

The following table lists the critical attributes for the business processes. It will be used to determine if the trouble report received achieves current flow-through:

| Attribute | Why Critical | Valid Data |
|---|---|---|
| additional Trouble Info List | QWEST requests a description of the problem and any additional information further defining the trouble to aid trouble resolution (current process). QWEST needs information explaining environmental or physical conditions, or special circumstances that may affect resolution of the trouble.<br><br>POTS Resale:<br>In the case of a life threatening situation in Idaho, CO-PROVIDER must send information describing the situation.<br><br>In the case of a hunt group trouble, CO-PROVIDER must describe the problem.<br><br>UNE:<br>Fully supported. | Valid text giving a good description of the problem (in addition to the trouble type) and any important additional information that CO-PROVIDER has gathered during their trouble isolation with the end-user of the service. For example, dangerous animal in yard, see neighbor next door, or hearing impaired customer.<br><br>POTS Resale:<br>For a life threatening situation in Idaho, describe the situation, for example, line down in street, open pit in yard, or medical emergency.<br><br>For series or multi-line hunting, add text describing the type of trouble and any important additional information.<br><br>For wrong PIC, list both the current (wrong) PIC and what the correct PIC is. CO-PROVIDER must identify both PICs.<br><br>Only the first 47 characters are guaranteed to be displayed in LMOS.<br><br>UNE:<br>255 characters per transaction. |
| a Location Access Address | POTS Resale and UNE:<br>QWEST verifies the premises address (current process) to ensure correct dispatches. If CO-PROVIDER does not send this information, incorrect dispatches and charges may result. | POTS Resale and UNE:<br>Valid end-user premises street address. |
| a Location Access Hours | POTS Resale:<br>Currently, QWEST is not able to process this information in LMOS. However, QWEST expects CO-PROVIDER to send valid data in case this can be used in the future.<br><br>UNE:<br>Fully supported. NoAccess rules | POTS Resale:<br>Standard week mask syntax.<br><br>UNE:<br>Standard week mask syntax. |

| Attribute | Why Critical | Valid Data |
|---|---|---|
| | will apply. | |
| a Location Access Person | POTS Resale:<br>Currently, QWEST is not able to process this information in LMOS because the manager Contact Person is used instead. However, QWEST expects CO-PROVIDER to send valid data in case this can be used in the future.<br><br>UNE:<br>Fully supported. | POTS Resale:<br>Valid individual or center name and valid phone number.<br><br>UNE:<br>Valid individual or center name and valid phone number. |
| called Number | POTS Resale:<br>QWEST verifies the number being called if this is relevant to the trouble being reported. If CO-PROVIDER does not send valid data, QWEST cannot respond appropriately and it may impact trouble resolution.<br><br>UNE:<br>N/A | POTS Resale:<br>Valid phone number.<br><br>UNE:<br>N/A |
| Managed Object Instance | POTS Resale:<br>QWEST expects the line in trouble to be identified correctly to aid trouble resolution (current process).<br><br>UNE:<br>QWEST expects the circuit in trouble to be identified correctly to aid trouble resolution (current process). | POTS Resale:<br>TN, for example, 3031234567<br>or<br>TN plus TER, for example 3031234567TER12345<br><br>UNE:<br>See Appendix L, Managed Object Instance Formats for valid unbundled loop and unbundled switch circuit formats. |
| manager Contact Person | POTS Resale and UNE:<br>QWEST needs contact name and phone number to prevent further service delays when a telephone call must be made to CO-PROVIDER. If CO-PROVIDER does not send valid data, QWEST cannot respond appropriately and it may impact outage duration. | POTS Resale and UNE:<br>Valid individual or center name and valid phone number. Not VRU info. |
| Perceived Trouble Severity | POTS Resale:<br>QWEST requests information about the trouble severity to select commitment time (current process). If CO-PROVIDER does not send valid data, QWEST defaults the commitment time based on trouble Type. | POTS Resale:<br>Standard values |

| Attribute | Why Critical | Valid Data |
|---|---|---|
| | UNE:<br>See Appendix B, Managed Object Conformance Statements for MOCS table details. | UNE:<br>Standard values |
| Preferred Priority | POTS Resale:<br>QWEST receives "life threatening" value for Idaho lines and denotes this in the LMOS Narrative to identify to the flow-through process that immediate attention should be given to this trouble ticket. If CO-PROVIDER does not send this value, QWEST cannot respond appropriately.<br><br>UNE:<br>See Appendix B, Managed Object Conformance Statements for MOCS table details. | POTS Resale:<br>Standard values<br><br>UNE:<br>Standard values |
| repeat Report | POTS Resale:<br>QWEST verifies recent service order activity (current process). QWEST receives "recent installation" or "repeat and recent installation" value and denotes this in the LMOS Narrative for the flow-through process. If there has been recent activity and CO-PROVIDER does not send one of these values, QWEST cannot ensure correct dispatches.<br><br>In the case of a chronic report, CO-PROVIDER sends "chronic" value. QWEST denotes this in the LMOS Narrative for the flow-through process.<br><br>UNE:<br>N/A | POTS Resale:<br>For recent service order activity, "recent installation" (1) or "both installation and repeat" (3) value.<br><br>For chronic reports, "chronic" (4) value.<br><br>UNE:<br>N/A |
| Trouble Clearance Person | POTS Resale and UNE:<br>QWEST needs clearance name and phone number to identify who within CO-PROVIDER has requested cancellation of a trouble ticket (current process). | POTS Resale and UNE:<br>Valid individual or center name and valid phone number. |
| Trouble Type | POTS Resale and UNE:<br>QWEST uses trouble Type to derive values necessary to determine line in use, routing, and flow-through. If CO-PROVIDER sends a trouble Type that is | POTS Resale and UNE:<br>Standard values per the non-applicable (invalid) trouble type lists. See Appendix I, Data Definitions and Mappings for details. |

| Attribute | Why Critical | Valid Data |
|---|---|---|
| | inappropriate for the type of service, the create transaction will fail. | POTS Resale:<br>For series or multi-line hunting when exact TN or TER in trouble is known, use the specific trouble type for the situation, if it can be identified. If the type of trouble cannot be identified, use 1118 for Hunting Not Working.<br><br>For series or multi-line hunting when exact TN or TER in trouble is not known, always use 1118 for Hunting Not Working. |
| tsp Priority | POTS Resale:<br>QWEST uses the tsp maintenance value in the LMOS Line Record to identify to the flow-through process that immediate attention should be given to this trouble ticket. CO-PROVIDER must provide the tsp maintenance value, if applicable, so QWEST can verify the Line Record and ensure proper routing and immediate trouble resolution.<br><br>UNE:<br>Not critical. Mismatches will be logged in WFA/C. | POTS Resale and UNE:<br>Valid tsp maintenance value. |

## *2.5 Error Conditions*

POTS Resale and UNE: The following ANSI standard T1.227 error messages will be part of the initial deployment:

- 7.3.1 Trouble Report Already Exists - If a trouble report is already open in the QWEST OSS, the error Trouble Report Already Exists will be returned.
- 7.3.2 Fall Back Reporting - A trouble report will not be created and an error message will be returned indicating the fall back error, using the ECIC approved list*. See Appendix C, Fallback Error Conditions for further details.
- 7.3.4 Trouble Report Must Be Present Attributes Missing - This error message will be returned to the manager by the agent when the manager fails to provide all required attributes identified as mandatory.
- 7.3.6 Trouble Report Change Denied - This error message is sent to the manager when the manager attempts to change a trouble report which is not in an appropriate state to accept the change, for example, when the trouble report is in the cleared state.

* Changes to fall back reporting must be agreed to by all Managers before implementation by the Agent. QWEST, as the Agent, will determine the changeover date for fall back error updates.

UNE only:

- 7.3.5 Cannot Verify or Deny At This Time – This error will be returned if a SET CloseOut is submitted by the Manager and the trouble report is not in a Cleared Awaiting Customer Verification status.

Some error conditions that have been identified as part of initial deployment for POTS Resale or for UNEs are identified in Appendix C, Fallback Error Conditions. All other error conditions that are defined in the standards can be accepted.

The following CMIP Transaction Errors will be part of the initial deployment for POTS Resale and for UNEs:

- No Such Object Instance - The value of the superior object instance is not recognized (-104).
- Resource Limitation - Processing failure (-103).
- Access Denied - This is an association error due to invalid Account or Network (-101).
- Invalid Parameter/Invalid Value - Invalid or incomplete data required for transaction (-102). This error will be returned for invalid trouble types.
- Missing Attribute - This error is returned due to dependencies (-106).

The following CMIP Transaction Errors will be part of the initial deployment for POTS Resale Service Test Function:

- MistypedTestCategoryInformation – An invalid test type was specified in the request (260).
- NoSuchMort – The phone number sent in on the request can't be found in the service provider's database (263).
- Access Denied - This is an association error due to invalid Account or Network (-101).
- MORTNotAvailable – The MLT test system is not available (261).
- TroubleRepairInProgress – A test request was issued for a phone number that has an open trouble ticket or a pending test request (283).

# 3 Communication Protocol

## *3.1 Protocol Profile*

Qwest utilizes the OSI reference model consisting of the X.25 transmission protocol for layers one through three, and for layers three through seven the agent application (SMASE) is accessed via the Vertel CMIP/OSI stack (version 1.0).
Co-Provider has and will continue to participate in the Electronic Communication Implementation Committee (ECIC) and will support proposals made by the committee. CMIP over X.25 is supported.

The following list characterizes communication between CO-PROVIDER and the agents.

- Dedicated T1 Circuits between Manager and Agent.
- Interconnection of X.25 networks is supported
- Gateway to Gateway communications are over a seven layer OSI stack.
- Connections using TCP/IP will conform to Internet RFC 1006 “ISO Transport Service on top of the TCP”.
- The objects exchanged between gateways are defined in ANSI T1M1.5 T1.227-1995.
- The services supported between gateways are defined in ANSI T1M1.5 T1.228-1995.

Time between the gateways must be maintained within plus or minus two minutes using the National Institute for Standards and Technology (NIST) clock in Boulder, Colorado to support the security policies.

## *3.2 Access Topology*

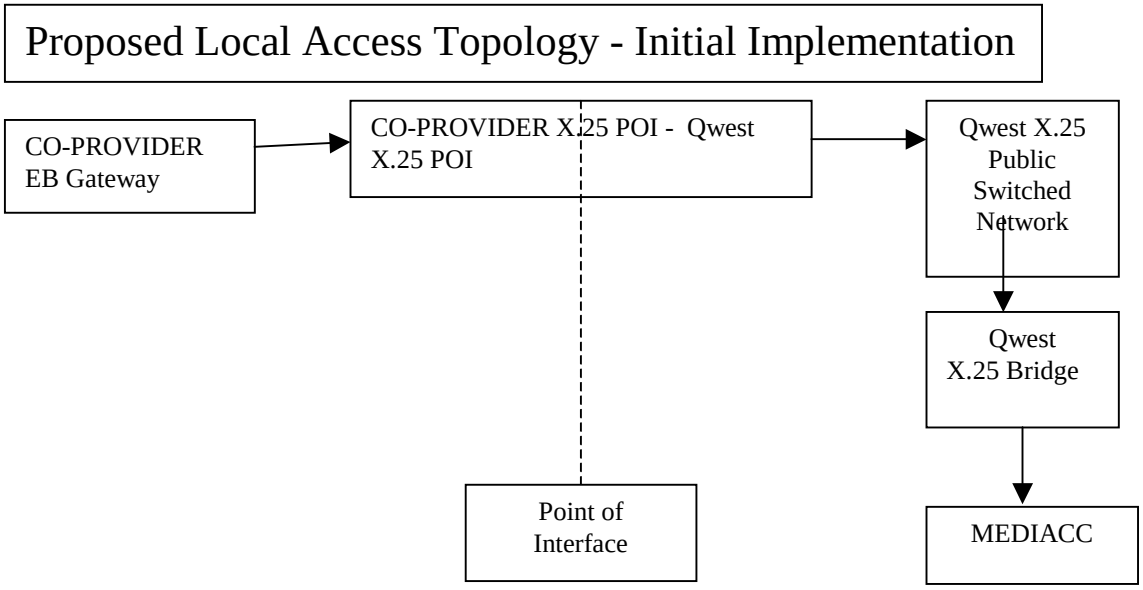


Figure 1 Connections Between CO-PROVIDER Local and Qwest

Logical connectivity is offered as illustrated in Figure 1 Connections between CO-PROVIDER Local and Qwest. Descriptions of the components and configurations are referenced throughout the remaining sections of this document.

## *3.3 CMIP/OSI Implementation Definition*

### 3.3.1 Access

The Qwest gateway and associated services can only be accessed through an X.25 packet switching network. Such access is established via Qwest's DIGIPAC X.25 packet switch service, which requires a Closed User Group (CUG) for security

CO-PROVIDER connects to Qwest via the X.25 switched network which is managed by DIGIPAC. DIGIPAC resolves all translation, routing, and security issues. Connectivity is achieved through a dedicated line terminating at the CO-PROVIDER POI in the Qwest Data Center in Omaha, NE.

In the case of recovery from a failed status, see Electronic Recovery in Section 6, Recovery Procedures.

### 3.3.2 Security

Detailed specifications for making the necessary connections with DIGIPAC are provided in the following document:
Qwest DIGIPAC Service Interface Specifications for Public Packet Switching Network, Qwest, Technical Publication 77359.

### 3.3.3 Connectivity

CO-PROVIDER is responsible for all charges incurred in the transmission of communications packets to the Point of Interface (POI) with the Qwest X.25 Public Switch Network Qwest is responsible for all charges incurred in the transmission of data from that location to the Qwest GATEWAY system. The POI is the specific location where connectivity is obtained to DIGIPAC network.

## *3.4 Transport Layer*

The TP4 transmission class is the only support level that will be supported for X.25. Does not apply to TCP/IP.

## *3.5 Manager/Agent Entity*

Each Manager or Agent that requires a unique destination due to business function, load, version control, or security, shall identify itself by a unique Entity Id. Each Entity Id shall have a unique X.25 network address (NSAP) or IP Address or, if on the same host, shall have unique SAPs (TSAP, SSAP, PSAP)

### 3.5.1 Manager Entity

Each Manager Entity requires a unique OSI destination to assure the correct routing of all Requests and Event Notifications. If multiple Managers are running on the same Server and use the same Network address (NSAP) or IP address, then the upper layer Selectors/SAPs shall be sufficiently unique to route to the correct Manager. If each Manager runs on its own Server, then the Network address shall be unique. All Account Ids under each Manager shall contain only alpha-numerics, e.g. no special characters such as dashes ("-").

### 3.5.2 Agent Entity

Each Agent Entity requires a unique OSI destination to assure the correct routing of all Requests and Event Notifications. If multiple Agents are running on the same Server and use the same Network address (NSAP), then the upper layer Selectors/SAPs shall be sufficiently unique to route to the correct Agent. If each Agent runs on its own Server, then the Network address shall be unique.

# 4 Security

## *4.1 QWEST/CO-PROVIDER Responsibilities*

Each company is responsible for ensuring that only authorized users have access to the host systems and gateways to the other company. Refer to T1.254-1997.

## *4.2 Association Mechanism*

CO-PROVIDER shall use two independent Manager Entities, one for CO-PROVIDER Carrier Access Services and one for CO-PROVIDER Local Resale. Each Manager Entity shall have OSI Selectors/SAPs sufficiently unique to allow for independent Associations for each Manager and independent CMIP Request and Event Notification routing. Each Manager Entity will use a set of 1000 Encrypted Keys which shall be provided by the Agent.

Each CO-PROVIDER Manager Entity shall have the ability to Abort or Release association without disrupting the business processes of the other Manager. The QWEST Agent shall allow each CO-PROVIDER Manager Entity to conduct business processes independently of the other Manager.

Access control encryption will be performed using DES CBC.

All association requests will require the current valid key and be within a 2 minute window.

## *4.3 Login/Key Assignment Process*

QWEST will be the generator of the keys for Trouble Administration. The keys must be odd parity, 8 character ASCII keys. Keys will be sent either on floppy disc via cerified mail or by ftp to/from secure sites.

The peer-to-peer entity authentication process requires the use of an encryption key. The encryption keys shall be unique for each Manager Entity Id.

There will be two sets of keys provided by QWEST with 1000 keys in a set. Both sets of keys that are generated shall be numbered, and thus identified, from 1 to 1000. Keys shall be referenced by their key identifier (sequence number). Subsequent key sets shall be numbered consecutively in increasing order as a continuation of numbering of the previous list. Every key shall have a unique keyIdentifier.

A backup list of 1000 keys shall be kept on hand by both CO-PROVIDER and QWEST for use when the primary list has been exhausted or compromised. After 70 percent (700 keys) of a set has been used, or after one year has transpired, which ever comes first, QWEST shall generate and provide CO-PROVIDER with a new list of 1000 keys.

It is the responsibility of the manager to request the change of the current key on a regular basis. The ECIC Security Requirement suggests that a key will not be used for a period exceeding four days. QWEST standards state that a given key shall not be used for a period to exceed 30 days.

The accessControl notation, as specified by ECIC, supports electronic key changes. The change request is made by the manager to expire the current key and increment by one to the next key. When the current key is changed, the old key shall be considered expired.

# 5 Performance

## 5.1 Response Time

The Response Time is measured from the time that the QWEST Gateway receives a transaction request from the CO-PROVIDER Gateway at the QWEST Gateway to the time that the transaction leaves the QWEST Gateway. 95% of Manager requests will be completed within 2 minutes.

Due to the problem of a surging load, QWEST requests that CO-PROVIDER maintain a tuneable timer in the CO-PROVIDER gateway to prevent unnecessary timing out of trouble report transactions. Initially, QWEST requests that this tuneable timer be set no lower than three minutes.

## 5.2 Reliability

Reliability is the percent of successful accurate messages transmitted. Due to OSS limitations, the QWEST target will only be 98%. Failed transactions include any messages that were unsuccessful or inaccurate due to hardware, software, or communication link failures. Not included are valid T1M1.5 errors, e.g., 7.3.1 TTR Already Exists, 7.3.2 Fallback Reporting, or methods and procedures type errors, e.g., TR Change Denied, Cannot Verify or Deny. Typical "f" values would be incurred for time-outs, and invalid invokeID. Formula for end to end reliability measurement:

R = 1 - (f/a) where

f = the number of failures (i.e. the number of failed transactions)
a = the number of attempts

## 5.3 Availability

The communications networks will be operational 24 hours per day, seven days a week. The individual QWEST Gateway, QWEST OSS, CO-PROVIDER Gateway, CO-PROVIDER OSS maintenance downtimes will be specified below:

**CO-PROVIDER Gateway**:
CO-PROVIDER will give QWEST adequate notice, that is, 48 hours notice when downtime is scheduled and how long the downtime will be.

**CO-PROVIDER OSS**:
CO-PROVIDER will give QWEST adequate notice, that is, 48 hours notice when downtime is scheduled and how long the downtime will be.

**QWEST Gateway**:
All regions (Central, Eastern, Western):
23:00 Saturday through 05:00 Sunday - Local Time in all Regions

**LMOS:**
Central Region - AZ, CO, ID, MT, NM, UT, WY (Mountain Time)
00:15 to 01:15 (daily maintenance window)

Eastern Region - IA, NE, MN, ND, SD (Central Time)

00:15 to 01:15 (daily maintenance window)

Western Region - OR, WA (Pacific Time)
00:15 to 01:15 (daily maintenance window)

**WFA/C:**

Central Region - AZ, CO, ID, MT, NM, UT, WY (Mountain Time)
03:00 to 04:00 Monday through Saturday
22:00 Saturday through 06:00 Sunday

Eastern Region - IA, NE, MN, ND, SD (Central Time)
03:00 to 04:00 Monday through Saturday
22:00 Saturday through 06:00 Sunday

Western Region - OR, WA (Pacific Time)
03:00 to 04:00 Monday through Saturday
22:00 Saturday through 06:00 Sunday

## *5.4 Throughput*

The QWEST EB Agent will accept a maximum of 20 outstanding Manager requests, and the requests are multi-tasked. QWEST is required to respond to these requests within 2 minutes. There is one QWEST Agent process running in the Gateway. All Manager requests are routed through the one Agent. Therefore, the maximum number of open requests must be 12 or less if the 2 minute window is adhered to.

## *5.5 Performance Reports*

The object of Performance Reporting will be to track the Electronic Bonding reconciled data, i.e., Clean Ticket Rate (CTR) and Successful Referral Rate (SRR). CO-PROVIDER and QWEST jointly agree to meet every two weeks in a Production Support meeting to discuss performance and other production issues.

Clean Ticket Rate - The rate of trouble tickets which lost Electronic Bonding due to processing errors and could not recover during the life of that ticket compared to the total tickets worked on during the weekly period.

Successful Referral Rate - The rate of successful referrals compared to attempted referrals including all errors except for fallback errors and resource limitation during scheduled downtime.

# 6 Recovery Procedures

## *6.1 Off-Nominal Status*

### 6.1.1 QWEST Process

Off-Nominal Status is an error state in which the software/hardware is capable of recovery on its own. Transaction errors may occur, but no intervention is required. The QWEST EB Single Point of Contact/Service Center will not contact CO-PROVIDER.

### 6.1.2 CO-PROVIDER Process

Co-Provider will treat this error state on an instance at a time basis. If an activity returns an error response or no response, Co-Provider will attempt to resend the transaction. If the subsequent transaction also returns an error response, Co-Provider will handle the activity manually. If an error response indicates a correctable activity, Co-Provider will provide the correction and resend. If a correction to the error is uncertain, Co-Provider will contact the Qwest EB Single Point of Contact/Service Center for clarification of the error response.

## *6.2 Degraded Status*

### 6.2.1 QWEST Process

Degraded Status is an error state in which some intervention is required to recover. The most common examples would be the loss of a link to an OSS Region (e.g., Eastern LMOS), an executable is in a suspended state that can only recover by stopping and restarting, or reestablishing the link with a different Manager requires stopping and restarting the Agent. The steps that must be taken will determine if CO-PROVIDER or any other Manager needs to be contacted. Expected time for complete recovery is less than 60 minutes. In the case of OSS link loss, if the outage exceeds 60 minutes, CO-PROVIDER will be contacted by the QWEST EB Single Point of Contact/Service Center but continuation of activities in other regions is expected.

### 6.2.2 CO-PROVIDER Process

Co-Provider will treat this error state on an instance at a time basis. If an activity returns an error response or no response, Co-Provider will attempt to resend the transaction. If the subsequent transaction also returns an error response, Co-Provider will handle the activity manually. If the rate of the error response exceeds 5**%** or persist for more than 60 minutes, Co-Provider will contact the Qwest EB Single Point of Contact/Service Center for clarification of the error response.

## *6.3 Failed Status*

### 6.3.1 QWEST Process

Failed Status is a condition where it is determined that the link to all Managers and OSS must be broken to prevent data corruption or serious EB TA process failures. These errors would include network failure to the OSS, erratic TCP/IP performance, database server failure, substantial hardware failure, or major Data Center outage. If association is lost for more than 60 minutes, the QWEST EB Single Point of Contact/Service Center will contact CO-PROVIDER with an estimated time to recovery when available.

### 6.3.2 CO-PROVIDER Process

A Failed Status condition is indicated by the loss of the association with QWEST. CO-PROVIDER personnel will investigate losses of association that occur outside of QWEST maintenance downtimes. If the association cannot be resumed by CO-PROVIDER personnel, the QWEST Single Point of Contact will be contacted.

## *6.4 Electronic Recovery*

### 6.4.1 QWEST Process

It is to the advantage of both the Managers and Agents to maintain the electronic data flow for the life of an EB ticket. Minor errors (Off-Nominal Status) should be overcome, and data flow should continue as before without the need for any manual intervention or manual communication between the Managers and Agents. Each EB ticket shall remain electronically bonded.

If disassociation occurs, all Work Center RMA (Request for Manual Assistance) screens receive a “Link Down” message for every Manager that disassociates. A QWEST Work Center technician may use manual Methods and Procedures until the association is reestablished.

During Failed Status or if the link to an OSS is lost, the OSS queues the Event Notifications until the QWEST EB Gateway reestablishes the OSS link and processes the OSS messages (this will not be done until association with all Managers is reestablished). If CO-PROVIDER does not request reassociation within 30 minutes of recovery, CO-PROVIDER will be contacted. If CO-PROVIDER aborts, Event Notifications may be lost.

Recovery from a Failed Status may result in the loss of a circuit or an EB server. Recovery from this may require changing the IP address and possibly require a new NSAP.

Failed Status could result in the permanent loss of data flow on existing EB tickets. Once association is reestablished, communication between Managers and Agents may be needed to assess the need for manual intervention to fully recover to a Nominal Status.

### 6.4.2 Manual to Electronic Recovery

POTS Resale: If a trouble report is created manually, it remains manual for the life of the trouble report until a mechanism to convert the report to an electronic report is available.

UNE: If trouble is detected on QWEST equipment, or if a Manager calls in a trouble report (usually due to a Gateway disruption), a Work Center Technician may manually enter a trouble ticket into the appropriate OSS region.

If a Manager submits a request to open a trouble ticket on QWEST equipment that has had a trouble ticket opened manually, the QWEST Gateway (MEDIACC) will convert the trouble ticket to Electronic Bonded status (manual to electronic conversion).

The response returned on the Create request is a TR_Already_Exists error, but the trouble ticket is built up in the QWEST Gateway and it is expected that the normal Work Center EB processes will be followed from that point on (authorization/closeout requests and responses, text messages, Status Changes, Set Modify, etc.). The Manager can submit a GET Request to obtain the most current data.

### 6.4.3 Co-Provider Process

When a link is re-established, Co-Provider should utilize a supplemental process. Co-Provider should send a GET status transaction on all bonded trouble reports. Any no such object error response from Qwest would be treated as a closed trouble report and close out details would have to be pursued manually. When a failed link is established, all UNE trouble reports created manually will be resubmitted to Qwest electronically for late bonding. If response is a trouble report already exists, Co-Provider will submit a GET request to obtain the most current data.

## *6.5 EB Single Point Of Contact*

In order to manage technical contact between QWEST and CO-PROVIDER, an EB single point of contact is needed. For QWEST, the EB single point of contact resides in the Salt Lake City Service Center and can be reached at _____. For Co-Provider, the EB single point of contact resides in _____. Please ask the Co-Provider representative for the “duty” supervisor or “on call” supervisor.

# 7 Testing

## *7.1 Overview*

This JIA authorizes a joint Test Plan Development Team to be formed to work the details of the specific test cases for each test phase and to construct the joint Test Schedule. This JIA requires that a mutually agreed to Test Plan containing Test Cases and Scenarios be documented prior to the commencement of any testing of a specific test phase by the two parties. Additionally, each test phase, such as Stack-to-Stack testing, is to be accompanied with a formal set of Entrance and Exit Criteria. The time frame for the creation of the Test Plan is identified in the JIA Schedule section. Service Test Function testing shall be based on ECIC Trouble Administration Test Cases for ANSI T1.262-1998 Testing Standard Application.

The different types of testing that need to be performed are specified below:

## *7.2 Stack-to-Stack Testing*

Stack to Stack testing is only required if a new server is introduced, if new TCP/IP circuitry is provisioned, or if a new Data Center is introduced for the EB Gateway. If an upgrade to an operating system plus the turn-up of CO-PROVIDER Local occurs concurrently, a Stack-to-Stack test will be required. The Stack level to test is TCP/IP or X.25 packet data at the Network Level. Both sides must conduct Connect and Server requests by the use of Network Utility Software, the use of Manager/Agent Application Software to establish an Association may be requested by either party.

## *7.3 Conformance Testing*

Conformance testing is an internal testing requirement and should be conducted according to the *ECIC Trouble Administration Testing Specification*.

## *7.4 Interoperability Testing*

Interoperability testing consists of:

1. Gateway to Gateway
2. End-to-End
3. Network Validation Testing (NVT)
4. Operational Readiness Testing (ORT)

### 7.4.1 Gateway-to-Gateway Testing

The Gateway-to-Gateway interoperability testing verifies that the two OSI gateways can communicate the TA application successfully. The test plans that cover the Gateway-to-Gateway testing scenarios will be jointly developed between CO-PROVIDER and QWEST. The use of simulators or test platforms behind the associated interface is permitted.

Gateway-to-Gateway testing is the validation of the basic business functions: Association (including Security), Create, Get, Set (Add-Modify), Set Cancel, Set Closeout, and Event Notifications.

### 7.4.2 End-to-End Testing

The End-to-End interoperability testing verifies that the TA application information can be successfully exchanged between CO-PROVIDER and QWEST. The End-to-End interoperability testing involves the laboratory versions of the CO-PROVIDER OSS and the QWEST OSS communicating through the CO-PROVIDER Gateway and the QWEST Gateway. The test plans that cover the End-to-End testing scenarios will be jointly developed between CO-PROVIDER and QWEST. End-to-End exit criteria will include the completion of a Load and Soak test. The use of simulators is not permitted. Test platforms that are copies of Production systems may be used.

### 7.4.3 Network Validation Testing

The Network Validation Testing (NVT) verifies that there is connectivity in the Production Environment between the CO-PROVIDER OSS - QWEST OSS (CO-PROVIDER OSS - CO-PROVIDER Gateway, CO-PROVIDER Gateway - QWEST Gateway, QWEST Gateway - QWEST OSS). Communications can be verified by bringing up the association and performing sanity testing. Participants in Sunny Day testing may include Software Testers and Work Center personnel. Verification of EB functionality can be done by creating a test ticket to verify referral (create), status, and closure to the ticket. NVT exit criteria can be used as a Quality Gate for entrance into Operational Readiness Testing (ORT). The test plans that cover NVT will be jointly developed between CO-PROVIDER and QWEST.

### 7.4.4 Operational Readiness Testing (ORT)

The Operational Readiness Test (ORT) verifies EB functionality in the Production Environment between CO-PROVIDER and a QWEST Work Center. Sunny Day scenarios will include End-to-End validation of commonplace transactions between CO-PROVIDER personnel and QWEST technicians. For example, these scenarios will utilize the Referral (create), Modify, Event Notification, and Closeout functions. ORT exit criteria can be used as a Quality Gate for entrance into production. The test plans that cover ORT will be jointly developed between CO-PROVIDER and QWEST.

## *7.5 Phased Deployment/Controlled Introduction (CI)*

The Phased Deployment/CI is a controlled production environment to trial the Maintenance and Repair process on real trouble reports. The purpose of the Phased Deployment/CI is to validate the following in a controlled production environment:

- User Requirements
- End-to-End Functionality
- Work Center Methods and Procedures
- Operations Procedures
- Process Validation
- Business Case Metrics
- Data Quality
- Measures of Success
- Production Support Procedures
- System Security Requirements

The criteria for the Phased Deployment/CI will be covered in a jointly developed Phased Deployment/CI plan.

# 8 Schedule

## *8.1 Joint Development Schedule*

Maintenance and Repair gateway functionality will be delivered in accordance with a mutually agreeable schedule that will be defined in this section. This mutually agreeable schedule will be determined within sixty (60) days of the signing of this document by both parties.

If both companies jointly agree, as a test phase is successfully completed according to the exit criteria, the next planned test phase may begin as soon as possible. A minimum of five weeks for Phased Deployment/CI is recommended.

Cut over to production will be scheduled around QWEST minimal change periods. For 2000 the minimal change periods are: May 20 - June 4 and August 26 - September 10
QWEST/CO-PROVIDER Joint Implementation Schedule of Activities:

| Task Name | Beginning Date | End Date |
|---|---|---|
| *Planning* | | |
| Build Test Plans and Test Cases | TBD | TBD |
| • Build Test Plan | TBD | TBD |
| • Build Test Cases | TBD | TBD |
| | | |
| *Lab-to-Lab* | | |
| Stack-to-Stack Testing | TBD | TBD |
| Event Routing Testing | TBD | TBD |
| Gateway-to-Gateway Testing | TBD | TBD |
| End-to-End Testing including Long Distance Regression Testing | TBD | TBD |
| • POTS Resale Testing | TBD | TBD |
| • POTS Resale Business Scenario Testing | TBD | TBD |
| • POTS Resale Soak Testing | TBD | TBD |
| • Unbundled Loop Testing | TBD | TBD |
| • Unbundled Switch Testing – part 1 | TBD | TBD |
| • Unbundled Switch Testing – part 2 | TBD | TBD |
| | | |
| *Production Environment* | | |
| NVT/ORT | TBD | TBD |
| | | |
| Service Test Function Test Cases | TBD | TBD |
| | | |

* The timeframe for NVT/ORT testing and building a test plan and test cases from the CO-PROVIDER Test Cases document for this testing must be jointly negotiated outside this JIA document.

# 9 Other

## *9.1 T1.227 Implementation Levels*

### 9.1.1 Name Binding

QWEST currently has Name Binding in production at the T1.227 - 1992 Standard.

### 9.1.2 Repeat Report

QWEST will support the 1995 T1M1 Standard for the extensions to the Repeat Report attribute.

# 10 Appendix A. Attribute Definitions

This section includes the Definition for POTS and UNEs for Initial Deployment for each attribute, which will be used by QWEST for its development and initial deployment. See Qwest MEDIACC Mapping Documents for WFAC and LMOS for details.

## *10.1 A Location Access Address*

Definition for POTS for Initial Deployment: The street address received from the Manager is compared against the QWEST street address contained in the host system. If key components of the two addresses are different, the trouble report is created and the street address mismatch is flagged in the host system. Additionally, QWEST will implement a systematic process to prohibit trouble report creation by Manager if a Manager sends substantial amounts of incorrect information causing incorrect dispatches until the condition is corrected.

Definition for UNEs for Initial Deployment: Stored in the OSS.

## *10.2 A Location Access Hours*

Definition for POTS for Initial Deployment: QWEST requires a week mask with current day set to a valid value and hours defaulted to between 0:00 and 23:59. QWEST will disregard any A Location Access Hours provided by the Manager and assume the default values of current day and 0:00-23:59 for hours. The current OSS generated commitment time based on the current service condition (Affecting Service or Out of Service) is returned. Arranging premises access due to access restrictions is a manual process.

Definition for UNEs for Initial Deployment: QWEST OSS limitation of three days, one access interval per day. Time is specified in the customer's (end user's) local time based on the customer's address.

## *10.3 A Location Access Person*

Definition for POTS for Initial Deployment: Not supported due to business process agreements and OSS limitations. The Manager's contact information will be used in the QWEST OSS as primary customer contact per agreement.

Definition for UNEs for Initial Deployment: QWEST supports Name (20 characters) and telephone number (10 digits).

## *10.4 Activity Duration*

Definition for POTS for Initial Deployment: Not supported. This attribute is not applicable for POTS.

Definition for UNEs for Initial Deployment: Fully supported. Summation of No Access intervals. This value is returned when the trouble report is cleared.

## *10.5 Additional Trouble Information List*

Definition for POTS for Initial Deployment: There is an OSS field size limitation of 102 characters for this attribute. QWEST reserves the first 55 characters to populate information derived from attributes sent by the Manager in the host on a Create. QWEST stores 47 characters from the Manager in the host on a Create. The QWEST and Manager information is separated by a delimiter. QWEST uses the aLocationAccessAddress, managedObjectInstance, preferredPriority, repeatReport, troubleType, and tspPriority attributes to derive the information that is stored in its 55 characters. The information sent by the Manager in this attribute should not repeat information derived by QWEST from these Manager supplied attributes but further describe the trouble using QWEST's standard abbreviations, where applicable. (See Appendix I, Data Definitions and Mappings for details.) If the Manager sends the attribute preferredPriority with a value of "life threatening," then the Manager also is required to send further information about the situation in Additional Trouble Information List, for Idaho lines. If an add or modify is performed, the new Manager information will overlay the old Manager information.

Definition for UNEs for Initial Deployment: QWEST supports 255 characters per transaction. Anything greater than 255 characters is truncated without causing the transaction to fail.

## *10.6 Additional Trouble Status Information*

Definition for POTS for Initial Deployment: For all status changes, a text message describing the status change is returned in this attribute. If the status change is due to the initial MLT test, the VER code and VER code definition (a number and the associated text description) are returned. If the Agent sends a text message (remarks) to the Manager, then the text message is returned in this attribute. (See Appendix I, Data Definitions and Mappings for details.)

Definition for UNEs for Initial Deployment: QWEST supports up to 255 characters.

## *10.7 Agent Contact Person*

Definition for POTS for Initial Deployment: The responsible QWEST Work Center name and phone number are returned when the trouble report is created.

Definition for UNEs for Initial Deployment: Same as for POTS Resale.

## *10.8 Authorization List*

Definition for POTS for Initial Deployment: Not supported. This attribute is not applicable for POTS.

Definition for UNEs for Initial Deployment: Fully supported for After Hours Repair, Test, Dispatch, No Access, and Delayed Maintenance for request, approve, and deny. QWEST maps the Manager's Release Authorization to Test Authorization.

## *10.9 Called Number*

Definition for POTS for Initial Deployment: This attribute is stored in a specific host field.

Definition for UNEs for Initial Deployment: Not supported.

## 10.10 Cancel Requested By Manager

Definition for POTS for Initial Deployment: A specific host message is logged in the host system, so the technician can close/cancel the trouble report as appropriate.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## 10.11 Close Out Narrative

Definition for POTS for Initial Deployment: The disposition code (a number) and its associated text description, and the cause code (a number) and its associated text description entered when the trouble report is closed are returned.

Definition for UNEs for Initial Deployment: The text description entered by a technician when the trouble report is cleared is returned. There is no mapping of this text.

## 10.12 Close Out Verification

POTS: implemented, but not supported by LMOS host.

Definition for UNE: The Agent has cleared the trouble and requests permission to close the open trouble report.

## 10.13 Commitment Time

Definition for POTS for Initial Deployment: The OSS generated commitment time based on the current service condition is returned when the trouble report is created. This attribute is not modifiable beyond the create response.

Definition for UNEs for Initial Deployment: The OSS generated Objective Time.

## 10.14 Commitment Time Request

Definition for POTS for Initial Deployment: Not supported.

Definition for UNEs for Initial Deployment: Stored in the OSS.

## 10.15 Customer Trouble Ticket Number

Definition for POTS for Initial Deployment: Not supported.

Definition for UNEs for Initial Deployment: Stored in the OSS.

## 10.16 Escalation List

Definition for POTS for Initial Deployment: Not supported.

Definition for UNEs for Initial Deployment: Fully supported.

## *10.17 Maintenance Service Charge*

Definition for POTS for Initial Deployment: The disposition code entered when the trouble report is closed is used to set the Maintenance Service Charge, which is then returned. (See Appendix I, Data Definitions and Mappings for details.)

Definition for UNEs for Initial Deployment: The value is set to either Yes or No by the technician when the trouble report is cleared. There is no mapping of this value.

## *10.18 Managed Object Access Hours*

Definition for POTS for Initial Deployment: Not supported. This attribute is not applicable for POTS. QWEST believes this is not an issue because currently a technician monitors a line to see if the line is in use. Work is not performed until the line is not in use.

Definition for UNEs for Initial Deployment: QWEST OSS limitation of three days, one access interval per day.

## *10.19 Managed Object Instance*

Definition for POTS for Initial Deployment: This is the QWEST circuit ID, facility ID or telephone number. This attribute is the key element used by the host system when resolving the trouble report.

Definition for UNEs for Initial Deployment: This is the Network ID:Account ID:Circuit ID or Trouble Report ID.

## *10.20 Manager Contact Person*

Definition for POTS for Initial Deployment: The manager contact name and phone number are stored in specific host fields as primary customer contact.

Definition for UNEs for Initial Deployment: QWEST supports Name (20 characters) and telephone number (18 characters).

## *10.21 Managed Object Referring to Test*

Definition for POTS Resale Initial Deployment: MORT is the Qwest telephone number. This attribute identifies the managed object instance(s) which identifies the resource being or to be tested. This parameter is mandatory in all notifications concerning the test invocation when the parameter is also used in the test initiation request.

## *10.22 Outage Duration*

Definition for POTS for Initial Deployment: Since Activity Duration (no access or delayed maintenance) is not applicable for POTS, Outage Duration is calculated as the amount of time between when the trouble report is cleared (Restored Time) and the trouble report Received Time. This value is returned when the trouble report is closed.

Definition for UNEs for Initial Deployment: Restored Time minus Received Time minus Activity Duration. This value is returned when the trouble report is cleared.

## *10.23 Perceived Trouble Severity*

Definition for POTS for Initial Deployment: This information is stored in the host system. If a modify is performed, the severity can only be raised, not lowered. If it was originally set to Affecting Service, then it can be modified to Out of Service. If it was originally set to Out of Service, then it cannot be modified.

Definition for UNEs for Initial Deployment: Out of Service is set to Yes or No in the OSS.

## *10.24 Preferred Priority*

Definition for POTS for Initial Deployment: The Manager is required to send Preferred Priority to indicate a "life threatening" situation for Idaho lines. This information is stored in the host system.

Definition for UNEs for Initial Deployment: Stored in the OSS.

## *10.25 Received Time*

Definition for POTS for Initial Deployment: The QWEST host system generates the value of this attribute, which is returned when the trouble report is created.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## *10.26 Repeat Report*

Definition for POTS for Initial Deployment: Repeat Report is used to derive if there is recent service order activity, defined to be activity within the last seven days, based on the values of Recent Installation (1) or Repeat and Recent Installation (3). If there is recent service order activity, this information is stored in the host. Repeat Report is also used to derive if there is a chronic trouble report situation based on the Chronic value (4) and this information is stored in the host. Repeat Report is not used to indicate a repeat report because this information resides in the host system.

Definition for UNEs for Initial Deployment: Stored in the OSS.

## *10.27 Restored Time*

Definition for POTS for Initial Deployment: The value of this attribute is entered in the host system when the trouble report is cleared.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## 10.28 Trouble Clearance Person

Definition for POTS for Initial Deployment: The person name and phone number are stored in the trouble report in the host during cancellation of a trouble report.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## 10.29 Trouble Found

Definition for POTS for Initial Deployment: The disposition code entered when the trouble report is closed is mapped to a T1.227 standard Trouble Found code. Trouble Found is returned when the trouble report is closed. (See Appendix I, Data Definitions and Mappings for details.)

Definition for UNEs for Initial Deployment: The WFA/C trouble found code entered when the trouble report is cleared is mapped to a T1.227 standard Trouble Found code. (See Appendix I, Data Definitions and Mappings for details.)

## 10.30 Trouble Report Format Object Pointer

Definition for POTS for Initial Deployment: This field refers to the Trouble Report Format that applies to the definition for the CREATE transaction. TRFD 1 is the format in use.

Definition for UNEs for Initial Deployment: TRFD 1 and TRFD 2 are the formats in use.

## 10.31 Trouble Report Identifier

Definition for POTS for Initial Deployment: The QWEST Trouble Report Identifier that is generated by the host system is returned when the trouble report is created.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## 10.32 Trouble Report State

Definition for POTS for Initial Deployment: Values of Open/Active, Deferred, Cleared, and Closed are supported by the host system.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## 10.33 Trouble Report Status

Definition for POTS for Initial Deployment: Host statuses will be mapped to the T1.227 statuses. (See Appendix I, Data Definitions and Mappings for details.)

Definition for UNEs for Initial Deployment: Same as POTS Resale. (See Appendix I, Data Definitions and Mappings for details.)

## 10.34 Trouble Report Status Time

Definition for POTS for Initial Deployment: The QWEST host system generates the value of this attribute.

Definition for UNEs for Initial Deployment: Same as POTS Resale.

## 10.35 Trouble Report Status Window

Definition for POTS for Initial Deployment: Not supported.

Definition for UNEs for Initial Deployment: Stored in the OSS.

## 10.36 Trouble Type

Definition for POTS for Initial Deployment: Host fields have been identified to store this attribute. QWEST has identified specific trouble types that will indicate Line In Use to prohibit the initial test. Additionally, QWEST has identified specific trouble types that are not applicable trouble types for Local Resale (POTS). In this case, QWEST will not create an electronic trouble report for these trouble types and will return an Invalid Attribute Value error. (See Appendix I, Data Definitions and Mappings for details.)

Definition for UNEs for Initial Deployment: Stored in the OSS. QWEST has identified specific trouble types that are not applicable trouble types for UNEs. In this case, QWEST will not create an electronic trouble report for these trouble types and will return an Invalid Attribute Value error.

## 10.37 TSP Priority

Definition for POTS for Initial Deployment: The TSP Priority received from the Manager is compared against the QWEST TSP Priority contained in the host system. If the two values are different, the TSP value sent by the Manager is stored in the host and this trouble report is flagged for manual screening.

Definition for UNEs for Initial Deployment: Stored in the OSS.

# 11 Appendix B. Managed Object Conformance Statements (MOCS)

This section includes the MOCS tables which will be used by QWEST for its development and initial deployment.

POTS Resale MOCS Table for Initial Deployment

| Attribute | Create | | Get | | Set Add/Mod | | Set/Cancel | | Events | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Man | Agt | Man | Agt | Man | Agt | Man | Agt | Man | Agt |
| ActivityDuration | P | D | O | NR | P | N/A | P | N/A | N/A | C |
| AdditionalTroubleInfoList | M* | NR | O | NR | O* | NR | O | NR | N/A | P |
| AdditionalTroubleStatusInfo | P | M | O | NR | P | N/A | P | N/A | NR | E |
| AgentContactPerson | P | M* | O | NR | P | N/A | P | N/A | N/A | P |
| ALocationAccessAddress | M | NR | O | NR | O | NB | P | N/A | N/A | P |
| ALocationAccessHours | M* | NR | O | NR | O | NB | P | N/A | N/A | P |
| ALocationAccessPerson | M | NB | O | NR | O | NB | P | N/A | N/A | P |
| AuthorizationList | M | NB | O | NR | O | NB | P | N/A | N/A | N/A |
| CalledNumber | O | NR | I | NR | O | NB | P | N/A | N/A | P |
| CancelRequestedByManager | P | D | O | NR | P | N/A | M | NR | N/A | P |
| CloseOutNarr | P | D | O | NR | P | N/A | P | N/A | NR | C |
| CommitmentTime | P | M | O | NR | P | N/A | P | N/A | N/A | N/A |
| CommitmentTimeRequest | O | NB | I | NR | O | NB | P | N/A | N/A | P |
| CustTroubleTikNum | M | NB | O | NR | P | N/A | P | N/A | N/A | P |
| EscalationList | M | NB | O | NR | O | NB | P | N/A | N/A | N/A |
| MaintServiceCharge | P | D | O | NR | P | N/A | P | N/A | NR | C |
| ManagedObjectAccessHours | M* | NR | O | NR | O | NB | P | N/A | N/A | P |
| ManagedObjectInstance | M | M | O | NR | P | P | P | N/A | N/A | P |
| ManagerContactPerson | M | NR | O | NR | O | NB | P | N/A | N/A | P |
| OutageDuration | P | D | O | NR | P | N/A | P | N/A | NR | C |
| PerceivedTroubleSeverity | M* | NR | O | NR | O* | NR | P | N/A | N/A | P |
| PreferredPriority | O* | NR | O | NR | O | NR | P | N/A | N/A | P |
| ReceivedTime | P | M | O | NR | P | N/A | P | N/A | N/A | P |
| RepeatReport | O* | NR | I | NR | O | NB | P | N/A | N/A | P |
| RestoredTime | P | D | O | NR | P | N/A | P | N/A | NR | C |
| TroubleClearancePerson | P | D | O | NR | P | N/A | M | NR | N/A | P |
| TroubleFound | P | D | O | NR | P | N/A | P | N/A | NR | C |
| TroubleReportFormatObjectPtr | M | NR | O | NR | P | P | P | N/A | N/A | P |
| TroubleReportID | P | M | O | NR | P | P | P | N/A | N/A | P |
| TroubleReportState | P | M | O | NR | P | N/A | P | N/A | NR | E |
| TroubleReportStatus | P | M | O | NR | P | N/A | P | N/A | NR | E |
| TroubleReportStatusTime | P | M | O | NR | P | N/A | P | N/A | NR | E |
| TroubleReportStatusWindow | O | NB | I | NR | O | NB | P | N/A | N/A | P |
| TroubleType | M | NR | O | NR | P | P | P | N/A | N/A | P |
| TspPriority | O | NR | O | NR | O | NB | P | N/A | N/A | P |

Legend for POTS Resale MOCS Table for Initial Deployment

| | |
|---|---|
| C | Required on ClosedOut event |
| D | Defaulted on Create, but may be null |
| E | Required on all status change events |
| I | Optional, if this attribute was instantiated on the Create |
| M | Mandatory attribute for this transaction |
| NB | No behavior, the attribute will be stored in the Gateway only |
| O | Optional for this transaction |
| P | Prohibited attribute for this transaction |
| * | Attribute requires new behavior or agreed-to implementation |
| NR | Normal response |
| N/A | Not applicable |

UNE MOCS Table for Initial Deployment

| Attribute | Create | | Get | | Set Add/Mod | | Set/Cancel | | Set/ Closeout | | Close Out Request | Events |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Man | Agt | Man | Agt | Man | Agt | Man | Agt | Man | Agt | Agt | Agt |
| activityDuration | P | D | O | NR | P | N/A | P | N/A | P | N/A | M | N/A |
| additionalTroubleInfoList | M | NR | O | NR | O | NR | O | NR | O | NR | N/A | N/A |
| additionalTroubleStatusInfo | P | M | O | NR | P | N/A | P | N/A | P | N/A | E | NR |
| agentContactPerson | P | M | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| aLocationAccessAddress | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| aLocationAccessHours | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| aLocationAccessPerson | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| authorizationList | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | E |
| cancelRequestedByManager | P | D | O | NR | P | NR | M | NR | P | N/A | N/A | N/A |
| closeOutNarr | P | D | O | NR | P | NR | P | N/A | P | N/A | M | NR |
| closeOutVerification | P | D | O | NR | P | N/A | P | N/A | M | NR | N/A | N/A |
| commitmentTime | P | M | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| commitmentTimeRequest | O | NR | I | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| custTroubleTikNum | M | NR | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| escalationList | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | E |
| maintServiceCharge | P | D | O | NR | P | N/A | P | N/A | P | N/A | M | N/A |
| managedObjectAccessHours | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| managedObjectInstance | M | M | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| managerContactPerson | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| outageDuration | P | D | O | NR | P | N/A | P | N/A | P | N/A | M | N/A |
| perceivedTroubleSeverity | M | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| preferredPriority | O | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| receivedTime | P | M | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| repeatReport | O | NR | I | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| restoredTime | P | D | O | NR | P | N/A | P | N/A | P | N/A | M | N/A |
| troubleClearancePerson | P | D | O | NR | P | NR | M | NR | M | NR | N/A | N/A |
| troubleFound | P | D | O | NR | P | N/A | P | N/A | P | N/A | M | N/A |
| troubleReportFormatObjectPtr | M | NR | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| troubleReportID | P | M | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| troubleReportState | P | M | O | NR | P | N/A | P | N/A | P | N/A | E | E |
| troubleReportStatus | P | M | O | NR | P | N/A | P | N/A | P | N/A | E | E |
| troubleReportStatusTime | P | M | O | NR | P | N/A | P | N/A | P | N/A | E | E |
| troubleReportStatusWindow | O | NR | I | NR | O | NR | P | N/A | P | N/A | N/A | N/A |
| troubleType | M | NR | O | NR | P | N/A | P | N/A | P | N/A | N/A | N/A |
| tspPriority | O | NR | O | NR | O | NR | P | N/A | P | N/A | N/A | N/A |

Legend for UNE MOCS Table for Initial Deployment

| | |
|---|---|
| C | Required on ClosedOut event |
| D | Defaulted on Create, but may be null |
| E | Required on all status change events, or OSS functions |
| I | Optional, if this attribute was instantiated on the Create |
| M | Mandatory attribute for this transaction |
| NB | No behavior, the attribute will be stored in the Gateway only |
| O | Optional for this transaction |
| P | Prohibited attribute for this transaction |
| * | Attribute requires new behavior or agreed-to implementation |
| NR | Normal response |
| N/A | Not applicable |

# 12 Appendix C. Fallback Error Conditions

Fall Back Report Errors: This section lists the fall back errors which will be implemented by QWEST for its initial deployment for POTS Resale and UNEs. There are no Fallback Errors for the Service Test Function.

POTS Resale and UNEs:

| Code | Error | Definition |
|---|---|---|
| 0 | Circuit Mismatch | Circuit not found or invalid circuit ID format |
| 1 | Create in progress | Create Transaction in Progress (Currently in process of creating a ticket) |
| 2 | Circuit Ownership | Invalid MCN or RSID |
| 7 | Circuit Disconnected | Circuit is not in a valid working status |

UNEs:

| Code | Error | Definition |
|---|---|---|
| 6 | New Service Pending | Circuit is designed and/or provisioned, but service is Not In Effect |

# 13 Appendix D. JIA Change Control Form

JIA Change Control Form

Request Info Section

| | |
|---|---|
| Date Requested | |
| Originator Organization | |
| Originator Name | |
| JIA Version | |
| JIA Section Number | |
| JIA Page Number | |
| Change Description | |
| Reason for Change | |
| Proposed Change Implementation Date | |

Reviewer Info Section

| | |
|---|---|
| Internal Review Date | |
| Reviewer Name | |

Log Info Section

| | |
|---|---|
| Log Number | |
| Origination Date | |

Status Info Section

| | |
|---|---|
| Response Date | |
| Responder Name | |
| Status/Comments | |

# 14 Appendix E. JIA Change Control Log

JIA Change Control Log

| Log Number | Origination Date | Originator Organization | JIA Version | Section Number | Page Number | Change Description | Response Date | Responder Name | Status/ Comments |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
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| | | | | | | | | | |

# 15 Appendix F. JIA Revision Log

All revisions made to this document are listed below in chronological order. The release number of this document does not relate to the release number of the software:

JIA Revision Log

| JIA Release Number | JIA Release Date |
|---|---|
| Version 1.0 | 10/XX/2000 |
| | |
| | |
| | |
| | |
| | |
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| | |

# 16 Appendix G. EB TA Process Management

This section lists trouble isolation and trouble resolution processes.

- All trouble isolation processes will be followed by CO-PROVIDER before CO-PROVIDER sends an electronic trouble report to QWEST.

# 17 Appendix H. References to Other Documents

This document is intended to contain a list of all publications and release dates for all documents referenced in this Joint Implementation Agreement.

References:

T1M1.5/96-216, 5/1/96, Operations, Administration, Maintenance and Provisioning (OAM&P) - Basic extensions to Generic Network Information Model for Interfaces Between Operations Systems Across Jurisdictional Boundaries to Support a Generic Set of Management Services

ANSI T1.227 -1995, American National Standards for Telecommunications - Operations, Administration, Maintenance, and Provisioning (OAM&P) - Extension to Generic Network Model for Interfaces Between Operations Systems Across Jurisdictional Boundaries to Support Fault Management - Trouble Administration

ANSI T1.228 -1995, American National Standards for Telecommunications - Operations, Administration, Maintenance, and Provisioning (OAM&P) - Services for Interfaces Between Operations Systems Across Jurisdictional Boundaries to Support Fault Management - Trouble Administration

ANSI T1.254-1997, Security

ANSI T1.262 –1998, American National Standards for Telecommunications - Operations, Administration, Maintenance, and Provisioning (OAM&P) - Services for Interfaces Between Operations Systems Across Jurisdictional Boundaries to Support Fault Management – Service Test Function

Electronic Communications Implementation Committee (ECIC) Trouble Administration (TA) Testing Standard Application (ANSI T1.262-1998) Implementation Guidelines, ECIC Document Number: TRA/98-03

ECIC Trouble Administration Test Cases for ANSI T1.262-1998 Testing Standard Application, ECIC Document Number TCIF-ECIC-TRA-099-032

Qwest MEDIACC Mapping Document for WFAC, ver. 5.0, 10/29/1998

Qwest MEDIACC Mapping Document for LMOS, ver 5.0, 10/29/1998

ISO/IEC CMIP/OSI Standards:
- 10164, parts 1-18
- 10165, parts 1-7
- other supporting ISO/IEC CMIP/OSI Standards

RFC 1006

Network Validation, Negative/Duplicate, End-to-End, Load Testing, Regression Long Distance, System Test, Test Cases – CO-PROVIDER and QWEST – Electronic Bonding Local Resale – Final Draft, dated xxx(“CO-PROVIDER Test Cases”)

# 18 Appendix I. Data Definitions and Mappings

Data Definitions and Mappings for both POTS Resale and UNEs

Standard Abbreviations

| ABBREVIATIONS | MEANING |
|---|---|
| AAB | ALL ACCESS BUSY |
| ACC | ACCESS |
| ADL | ADDITIONAL |
| ADV | ADVISED |
| ALCLS | ALL CALLS |
| ALIT | ALI (AUTOMATIC LINE TEST) |
| ALL ONES | GETTING ALL ONES |
| ALM | ALARM |
| ALPHS | ALL PHONES |
| ANA TST | ANALOG TEST LINE |
| ANI TMOUT | ANI TIMEOUT |
| APT | APARTMENT |
| ASAP | AS SOON AS POSSIBLE |
| ASW | AERIAL SERVICE WIRE |
| /T | AT TIMES OR INTERMITTANT |
| ATTN | ATTENTION |
| B4 | BEFORE |
| BAD BAL | BAD BALANCE |
| BAD ERL | BAD ERL |
| BAD FREQ | DOES NOT PASS FREQ RESPONSE |
| BAD LVLS | LEVELS OUT OF LIMITS |
| BDR | BELL DOESN'T RING |
| BDR EXT | BELL DOES NOT RING2 |
| BIPOL ERR | BIPOLAR VIOLATIONS |
| BO | BUSINESS OFFICE |
| BR | BELL RINGS |
| BRAA | BELL RINGS AFTER ANSWERED |
| BRCA | BELL RINGS CAN'T ANSWER |
| BRKN | BROKEN |
| BRWD | BELL RINGS WHILE DIALING |
| BSW | BURIED SERVICE WIRE |
| BUS | BUSINESS |
| BUSY | BUSY |
| BSY | ALWAYS BUSY/CANNOT BE CALLED BUSY |
| BSY TRIPS | RINGS THEN GOES BUSY |
| C/RUN CSU | CANNOT RUN TO CSU |
| C/RUN OSU | CANNOT RUN TO OSU |
| CALL RET | CALL RETURN NOT WORKING |
| CANCEL | CANCEL |
| CANT MEET | CANNOT MEET |
| CBC | CAN'T BE CALLED |
| CBDT | CAN'T BREAK DIAL TONE |
| CBDT | CAN'T BREAK DIAL TONE |
| CBH | CAN'T BE HEARD |
| CBR | CAN'T BE REACHED |
| CBS | CANNOT BE SIGNALLED |

| ABBREVIATIONS | MEANING |
|---|---|
| CC 700 | CANNOT CALL 700 |
| CC 800/888 | CANNOT CALL 800/888 |
| CC 900 | CANNOT CALL 900 |
| CC 911 | CANNOT CALL 911 |
| CC DA | CANNOT CALL DA |
| CC LD | CANNOT CALL LONG DISTANCE |
| CC LLD | CANNOT CALL INTERLATA TOLL |
| CC TRACE | CALL TRACE NOT WORKING |
| CCE | CUSTOMER CHECKED EQUIPMENT |
| CCF | CAN'T CALL FORWARD |
| CCO | CAN'T CALL OUT |
| CD | COMPLETION DATE |
| CF | CALL FORWARDING |
| CFBL | CALL FORWARDING BUSY LINE |
| CFDA | CALL FORWARDING DON'T ANSWER |
| CFWN | CALL FORWARDING WRONG NUMBER |
| CH | CAN'T HEAR |
| CHK | CHECK |
| CHNG | CHANGE |
| CID | CALLER ID |
| CKD | CIRCUIT DEAD/DEAD AT CIRCUIT |
| CKT DOWN | CIRCUIT DOWN |
| CKT FAIL | FAILING CIRCUIT |
| CKT SZD | SEIZURE ON CIRCUIT |
| CL BLK | CALL BLOCKING NOT WORKING |
| CL RET BLK | CALLER RETURN BLOCK NOT WORKING |
| CL XFER | CALL TRANSFER PROBLEM |
| CLB4 | CALL BEFORE |
| CLD | CALLED |
| CLICKING | CLICKING |
| CLIPPING | CLIPPING |
| CLR | CALLER |
| CNTX | CENTREX |
| COMM | COMMITMENT |
| CONV | CONVERSATION |
| CPH | CALLING PARTY HOLD |
| CPIW | CUSTOMER PROVIDED INSIDE WIRE |
| CPU | CALL PICK UP |
| CR | CALL REJECT |
| CRC | CAN'T RELEASE CIRCUIT |
| CRDA | CANNOT RECEIVE DATA |
| CRT | CATHODE RAY TUBE |
| CSDA | CANNOT SEND DATA |
| CSO | CANNOT SIGNAL |
| CUT CABLE | CUT CABLE |
| CUT OFF | CUT OFF |
| CW | CALL WAITING |
| CWD | CALL WAITING DELUXE |
| CXX | NEW OR ADDING INFORMATION |
| 2DY | TODAY |

| ABBREVIATIONS | MEANING |
|---|---|
| DAMAGE | DAMAGE |
| DATA EQUIP | DATA EQUIPMENT |
| DATA SET | DATA SET |
| DD | DUE DATE |
| DEAD PC | CANNOT ACTIVATE PC |
| DEL | DELAY |
| DIAL BLK | REPEAT DIAL BLOCK NOT WORKING |
| DIE | DISCONNECT IN ERROR |
| DIG TST | DIGITAL TEST LINE |
| DISC | DISCONNECT |
| DISP | DISPATCH |
| DISTANT | DISTANT |
| DL TMOUT | PARTIAL DIAL TIMEOUT |
| DMARC | DEMARCATION POINT |
| DROP OUTS | DROPOUTS |
| DT | DIAL TONE |
| DTAD | DIAL TONE AFTER DIALING |
| DTWT | DIAL TONE WHILE TALKING |
| ECO | ECHO |
| EQUIP | EQUIPMENT |
| ERR | ERRORS |
| EST | ESTIMATE |
| ETIR | EVERY TIME IT RAINS |
| EXT | EXTENSION |
| FAC ALM | FACILITY ALARM |
| FADE IN/OUT | FADES IN AND OUT |
| FADES | FADING |
| FEAT | FEATURES |
| FEAT BRK | CUSTOM CALL FEATURES DO NOT WORK |
| FLS PULSE | FALSE KEY PULSE |
| FRI | FRIDAY |
| FRM ERR | FRAME ERRORS |
| FRM ERR/H | FRAME ERRORS HICAP |
| FRM SLPS | FRAME SLIPS |
| FSR | FALSE RINGS |
| FST BSY | FAST BUSY |
| GBI | GETS BUSY IN |
| GCO | GETS CUT OFF |
| GRBL | GARBLED |
| GRBL DATA | GARBLED DATA |
| GRND | GROUND |
| GRND HUM | GROUND HUM |
| GWN | GETS WRONG NUMBER |
| HAE | HARMONIC DISTORTION |
| HAZARD | HAZARD |
| HI ROLL | HIGH END ROLLOFF |
| HI/DRY | HIGH AND DRY |
| HICAPDOWN | HICAP DOWN |
| HID | HIGH DISTORTION |
| HIL | HIGH LEVELS |

| ABBREVIATIONS | MEANING |
|---|---|
| HIS | HISTORICAL REPORTS |
| HITS | MULTIPLE SHORT DURATION HIT |
| HOL | HOLLOW |
| HOOL | HEARS OTHERS ON LINE |
| HOT LVL | HOT LEVELS |
| HTG | HUNTING |
| HUM ON LN | HUM ON LINE |
| HUNG UP | HUNG UP |
| IMP NSY | IMPULSE NOISE |
| IN FAIL | HIGH RATE INCOMPLETE INCOMING |
| IN LPBK | CIRCUIT IN LOOPBACK |
| IN OK | INCOMING OK |
| INF | INFORMATION |
| INFO | INFORMATION |
| INSP | INSPECT |
| INV DATA | INVALID DATA |
| IW | INSIDE WIRE |
| JITTER | PHASE JITTER |
| LBO | LIGHT BURNED OUT |
| LCR | LAST CALL RETURN |
| LD | LONG DISTANCE |
| LINE LOSS | LINE LOSS |
| LOC | LOCATION |
| LOL | LOW LEVELS |
| LONG LVL | LONG LEVELS |
| LOOSE JK | LOOSE JACK |
| LOUD | LOUD |
| LOW ROLL | LOW END ROLLOFF |
| LOW SF | LOW SF |
| LOW SIG | LOSS EPSCS OR SWITCHED |
| LTR | LOST TIME REPORT |
| LXD | LINE CROSSED |
| MEM | MEMORY |
| MIS PULSE | MISPLACED START PULSE |
| MISC | MISCELLANEOUS |
| MISS COMM | MISSED COMMITMENT |
| MKBSY | MAKE BUSY |
| MODEM | MODEM |
| MON | MONDAY |
| MONT CKT | MONITOR CIRCUIT |
| MSC | MAINTENANCE OF SERVICE CHARGE |
| MUT DIG | MUTILATED DIGIT GROUP |
| # | NUMBER |
| #CHG | NUMBER CHANGED |
| ND EQLZD | NEEDS EQUALIZED |
| NDT | NO DIAL TONE |
| NDT ORDER | NEW SERVICE NOT WORKING |
| NDT/T | NO DIAL TONE AT TIMES |
| NI | NETWORK INTERFACE |
| NO ANI | ANI FAILURE |

| ABBREVIATIONS | MEANING |
|---|---|
| NO ANSBK | NO ANSWER BACK |
| NO CONT | NO CONTINUITY |
| NO CXR | NO CARRIER |
| NO D CHNL | D CHANNEL DOWN |
| NO LPBK | NO LOOP BACK |
| NO NTWK | NETWORK FAILURE |
| NO POLL | NOT POLLING |
| NO PULSE | NO KEY PULSE |
| NO REG | NO REGISTER |
| NO RESP | NO RESPONSE |
| NO SF | NO SF |
| NO SYNC | LOSS OF SYNC |
| NRNA | NO RING NO ANSWER |
| NSY | NOISY |
| NSY EPS | NOISE EPSCS OR SWITCHED SERVICES |
| NSY/T | INTERMITTENT NOISE |
| NTR | CANNOT TRANSMIT CANNOT RECEIVE |
| NWNK | NO WINK START |
| OD | OUT OF ORDER |
| OG OK | OUTGOING OK |
| OHOP | ONLY HAS ONE PHONE |
| OO FRM | OUT OF FRAME |
| OO SPEC | OUT OF SPECIFICATION |
| OOS | OUT OF SERVICE |
| OPEN | OPEN |
| OPEN EPSC | OPEN EPSCS OR SWITCHED SERVICES |
| OPENDMARC | OPEN TO DEMARC |
| OUT FAIL | OUTGOING FAILURE AFTER WINK |
| OVERSEAS | CANNOT CALL OVERSEAS |
| PERM SIG | PERMANENT SIGNAL |
| PH | PHONE |
| PHYS | PHYSICAL |
| PLZ | PLEASE |
| PRC DEAD | PROCESSOR DEAD |
| PRN | HIGH SPEED PRINTER |
| PROT | PROTECTOR |
| PTY | PARTY |
| PTYLN | PARTY LINE |
| QTD | QUOTED |
| RCF | REMOTE CALL FORWARDING |
| REQ ASSIST | REQUEST TEST ASSIST |
| REQ DISP | REQUEST DISPATCH |
| RES | RESIDENCE |
| RLS | RELEASE |
| RLS CKTEC | RELEASE CKT REQUESTED BY EC |
| RLS CKTIC | RELEASE CKT REQUESTED BY IC |
| RLS FACEC | RELEASE FACILITY REQUESTED BY EC |
| RLS FACIC | RELEASE FACILITY REQUESTED BY IC |
| RMV | REMOVE |
| RNA | RING NO ANSWER |

| ABBREVIATIONS | MEANING |
|---|---|
| RNA CKL | CANNOT RAISE A CIRCUIT LOCATION |
| RNTRBL | OTHER RING TROUBLE |
| RO CKT | RECORDING ON CIRCUIT |
| ROH | RECEIVER OFF HOOK |
| ROL | RECORDING ON LINE OR INTERCEPT |
| ROUTINE | REQUEST FOR ROUTINE |
| RPR | REPAIR |
| RPT DIAL | REPEAT DIAL NOT WORKING |
| RPTD | REPORTED |
| RPTR | REPEATED REPORT |
| RTF | ROUTINE TEST FAILURE |
| RVY RPT | RECOVERY REPORT |
| SAT | SATURDAY |
| SC8/30 | SPEED CALLING 8 OR 30 |
| SFTWR ALM | SOFTWARE GROUP ALARM |
| SGD ERR | STATION GROUP DESIGNATION DIGIT FAILURE |
| SIG ERR | SIGNALING NETWORK FAILURE INCOMING |
| SLIP | SLIP |
| SLOW RESP | SLOW RESPONSE |
| SO | ORDER WORK |
| SOL | STATIC ON LINE |
| STAT | STATUS |
| STK SNDR | STUCK SENDER |
| STRMR | STREAMER |
| SUN | SUNDAY |
| SUP | SUPERVISION/IMPROPER SUPERVISION |
| SUPV | SUPERVISOR |
| SWITCH | SWITCH OR TRUNK RELATED |
| SYS | SYSTEM |
| T1 ERRS | DEGRADATION OF T1.5 |
| TAG LINE | LINES NEED TAGGING |
| TC | TRANSFER OF CALLS |
| THURS | THURSDAY |
| TIC | TROUBLE ISOLATION CHARGE |
| TKT | TICKET |
| TN | TELEPHONE NUMBER |
| TRACE BLK | CALL TRACE BLOCK NOT WORKING |
| TRAN | TRANSMISSION |
| TRBL | TROUBLE |
| TRK BLKD | TRUNK BLOCKED FAR END |
| TTY | TTY SET |
| VIDO EQUIP | VIDEO EQUIPMENT |
| VM | VOICE MESSAGE |
| VOIC EQUIP | VOICE EQUIPMENT |
| 3WC | THREE WAY CALLING |
| W/O | WITHOUT |
| WATS FSR | OUT WATS RINGING IN |
| WED | WEDNESDAY |
| WKG | WORKING |
| XFER | TRANSFER |

| ABBREVIATIONS | MEANING |
|---|---|
| XMD | CROSS MODULATION |
| XTLK | CROSS TALK |
| XTR DIGIT | EXTRA DIGIT |
| XTR PULSE | EXTRA PULSE |

Status

| TR State | TR Status |
|---|---|
| 1 (openActive) | 1 (screening) |
| 1 | 3 (dispatchedIn) |
| 1 | 4 (dispatchedOut) |
| 1 | 6 (bulkDispatchedOut) |
| 1 | 9 (pendingDispatch) |
| 2 (deferred) | 13 (noAccessOther) |
| 2 | 14 (startNoAccess) |
| 2 | 16 (startDelayedMtce) |
| 3 (cleared) | 20 (temporaryOK) |
| 3 | 25 (clearedCustAdvised) |
| 4 (closed) | 27 (closedOut) |

Status Messages

| State | Status | Status Message |
|---|---|---|
| 1 | 1 | Pending Screen |
| 1 | 3 | Dispatched In |
| 1 | 4 | Dispatched Out |
| 1 | 6 | Bulk Dispatched Out, Report one of several routed to a Technician |
| 1 | 9 | Pending Dispatch |
| 2 | 13 | No Access Other, Technician had no access to TELCO equipment in order to restore service |
| 2 | 14 | No Access Subscriber, Outside tech had no access to customer premises |
| 2 | 16 | Hold, Report is on hold pending further action |
| 3 | 20 | Temporary OK, Service is restored but is temporary |
| 3 | 25 | Cleared Customer Advised, Service has been restored and customer advised |
| 4 | 27 | Closed, Report is closed in system and no longer electronically bonded |

Trouble Type to Line In Use

If the line is in use (LIU indicator is set to Y), then no initial MLT test is run. If the line is not in use, (LIU indicator is set to N), then the initial MLT test is run.

| Trouble Type | TA Code | LIU |
|---|---|---|
| NoDialToneGroup | 0100 | N |
| NoDialTone | 0101 | N |
| SlowDialTone | 0102 | N |
| CircuitDead | 0103 | N |
| CanNotCallOutGroup | 0200 | N |
| CanNotCallOut | 0201 | N |
| CanNotBreakDialTone | 0203 | N |
| DialToneAfterDialing | 0204 | N |
| HighandDry | 0205 | N |
| CanNotRaise | 0206 | N |
| AllAccessBusy | 0207 | N |
| canNotCallOut2 | 0208 | N |
| CanNotCallLongDistance | 0209 | N |
| CanNotCallOverseas | 0210 | N |
| SpeedCall | 0211 | N |
| cannotCall911 | 0212 | N |
| cannotCall700 | 0213 | N |
| cannotCall800/888 | 0214 | N |
| cannotCall900 | 0215 | N |
| CannotCallDA | 0216 | N |
| CannotCallInterLATAToll | 0217 | N |
| CanNotBeCalledGroup | 0300 | N |
| CanNotBeCalled | 0301 | N |
| CanNotBeCalledBusy | 0302 | N |
| DoNotGetCalled | 0303 | N |
| CanNotTripRing | 0304 | N |
| FalseRings | 0305 | N |
| DoNotAnswer | 0306 | N |
| ReachRecording | 0307 | N |
| CanNotRaiseAStation | 0308 | N |
| CanNotRaiseAdrop | 0309 | N |
| CanNotRaiseACircuitLocation | 0310 | N |
| RingNoAnswer | 0311 | N |
| Reorder | 0312 | N |
| AlwaysBusy | 0313 | N |
| BellDoesNotRing | 0314 | N |
| bellDoesNotRing2 | 0315 | N |
| BellRingsCannotAnswer | 0316 | N |
| bellRingsAfterAnswer | 0317 | N |
| noRingNoAnswer | 0318 | N |
| otherRingTrouble | 0319 | N |
| receivesCallsForWrongNumber | 0320 | N |
| recordingOnLine | 0321 | N |
| ringsThenGoesBusy | 0322 | N |

| Trouble Type | TA Code | LIU |
|---|---|---|
| canNotBeHeardGroup | 0400 | N |
| canNotBeHeard | 0401 | N |
| canNotHear | 0402 | N |
| fading | 0403 | N |
| distant | 0404 | N |
| reachedWrongNumberGroup | 0500 | N |
| reachedWrongNumber | 0501 | N |
| circuitOperationGroup | 0600 | N |
| open | 0601 | N |
| falseDisconnect | 0602 | N |
| grounded | 0603 | N |
| canNotBeSignalled | 0604 | N |
| canNotSignal | 0605 | N |
| permanentSignal | 0606 | N |
| improperSupervision | 0607 | N |
| supervision | 0608 | N |
| canNotMeet | 0609 | N |
| canNotReleaseCircuit | 0610 | N |
| hungUp | 0611 | N |
| noWinkStart | 0612 | N |
| noSF | 0613 | N |
| lowSF | 0614 | N |
| noContinuity | 0615 | N |
| openToDEMARC | 0617 | N |
| noRingGenerator | 0618 | N |
| badERL | 0619 | N |
| echo | 0620 | N |
| hollow | 0621 | N |
| circuitDead | 0622 | N |
| circuitDown | 0623 | N |
| failingCircuit | 0624 | N |
| noSignal | 0625 | N |
| seizureOnCircuit | 0626 | N |
| lossEPSCSorSwitched | 0627 | N |
| monitorCircuit | 0628 | N |
| newServiceNotWorking | 0629 | N |
| openEPSCSorSwitchedServices | 0630 | N |
| otherVoiceDescribeAdditInfo | 0631 | N |
| trunkBlockedFarend | 0632 | N |
| badBalance | 0633 | N |
| highRateIncompleteIncoming | 0634 | N |
| outgoingFailureAfterWink | 0635 | N |
| cutOffsGroup | 0700 | N |
| cutOff | 0701 | N |
| noiseProblemGroup | 0800 | N |
| intermittentNoise | 0801 | N |
| noisy | 0802 | N |
| foreignTone | 0803 | N |
| clipping | 0804 | N |
| crossTalk | 0805 | N |

| Trouble Type | TA Code | LIU |
|---|---|---|
| staticOnLine | 0806 | N |
| groundHum | 0807 | N |
| hearsOtherOnLine | 0808 | N |
| humOnLine | 0809 | N |
| clicking | 0810 | N |
| noiseEPSCSorSwitchedServices | 0811 | N |
| levelTroublesGroup | 0900 | N |
| lowLevels | 0901 | N |
| highLevels | 0902 | N |
| longLevels | 0903 | N |
| hotLevels | 0904 | N |
| highEndRollOff | 0905 | N |
| lowEndRollOff | 0906 | N |
| needsEqualized | 0907 | N |
| lineLoss | 0908 | N |
| doesNotPassFreqResponse | 0909 | N |
| levelsOutOfLimits | 0910 | N |
| miscellaneousTroublesGroup | 1000 | Y |
| carrierDown | 1002 | Y |
| recordingOnCircuit | 1010 | Y |
| outwatsRingingIn | 1012 | Y |
| remoteAccess | 1013 | Y |
| multipleShortDurationHit | 1016 | Y |
| networkFailure | 1022 | Y |
| memoryServiceProblemGroup | 1100 | Y |
| picTrouble | 1101 | Y |
| callTransferProblem | 1102 | Y |
| callWaitingProblem | 1103 | Y |
| customCallFeature | 1104 | Y |
| threeWayCalling | 1105 | Y |
| callTraceNotWorking | 1106 | Y |
| callTraceBlockNotWorking | 1107 | Y |
| repeatDialNotWorking | 1108 | Y |
| repeatDialBlockNotWorking | 1109 | Y |
| callReturnNotWorking | 1110 | Y |
| calledReturnBlockNotWorking | 1111 | Y |
| callerIdentificationNotWorking | 1112 | Y |
| callBlockingNotWorking | 1113 | Y |
| voiceMessagingServicesProblem | 1114 | Y |
| callForwardingNotWorking | 1115 | Y |
| callForwardingBusyLineNotWorking | 1116 | Y |
| callForwardingNoAnswerNotWorking | 1117 | Y |
| huntingNotWorking | 1118 | Y |
| selectiveCallForwardingNotWorking | 1119 | Y |
| cannotSetupUniqueRingID | 1120 | Y |
| callerIDBlockNotWorkingPerLine | 1121 | Y |
| callerIDBlockNotWorkingPerCall | 1122 | Y |
| cannotRemoveBlockingOnASingleCall | 1123 | Y |
| dataTroubleGroup | 1200 | N |
| canNotReceiveData | 1201 | N |

| Trouble Type | TA Code | LIU |
|---|---|---|
| canNotSendData | 1202 | N |
| canNotTransmitCanNotReceive | 1203 | N |
| noReceive | 1204 | N |
| noResponse | 1205 | N |
| delay | 1206 | N |
| noCarrier | 1212 | N |
| errors | 1224 | N |
| garbledData | 1225 | N |
| invalidData | 1226 | N |
| slowResponse | 1228 | N |
| otherDataDescribeAdditInfo | 1229 | N |
| | | |
| wireBrokSetBrokePoleDown | 1415 | Y |
| | | |
| otherCaseGroup | 1500 | N |
| callTransferProblem | 1501 | Y |
| callWaitingProblem | 1502 | Y |
| customCallFeatureDoNotWork | 1503 | Y |
| information | 1504 | N |
| threeWayCallingProblem | 1505 | Y |
| orderWork | 1506 | N |
| recovery | 1600 | Y |
| recoveryReport | 1601 | Y |

Disposition Code to Trouble Found

| Disposition Code | Definition | T1.227 Code | Trouble Found Definition |
|---|---|---|---|
| **01** | **Public Segment - Applies To All Troubles Outside The Phone** | | |
| 0110 | External Components not listed below | 24 | Public Service Coin Set |
| 0111 | Coin/Coinless Housing | 24 | Public Service Coin Set |
| 0112 | Rotary/TT Dial | 24 | Public Service Coin Set |
| 0114 | Loud button assembly | 24 | Public Service Coin Set |
| 0115 | Handset/Handset cord | 24 | Public Service Coin Set |
| 0117 | Switch-hook/Cradle/Intl Ckt | 24 | Public Service Coin Set |
| 0119 | Instruction Card/Number plate | 24 | Public Service Coin Set |
| 0150 | Enclosure misc. components | 24 | Public Service Coin Set |
| 0151 | Glass | 24 | Public Service Coin Set |
| 0152 | Lights | 24 | Public Service Coin Set |
| 0154 | Shelf | 24 | Public Service Coin Set |
| 0155 | Enclosure | 24 | Public Service Coin Set |
| 0156 | Power | 24 | Public Service Coin Set |
| 0158 | Directory | 24 | Public Service Coin Set |
| 0159 | Signage | 24 | Public Service Coin Set |
| 0160 | Miscellaneous Assemblies | 24 | Public Service Coin Set |
| 0168 | TDD Unit | 24 | Public Service Coin Set |
| 0170 | Clean Equipment | 24 | Public Service Coin Set |
| 0171 | Preventive Maintenance/Routine NTF | 24 | Public Service Coin Set |
| **02** | **Public Segment - Applies To All Troubles Inside The Phone** | | |
| | **Set Internal/Shelf/Book** | | |
| 0210 | Set internal components not listed below | 24 | Public Service Coin Set |
| 0211 | Chassis | 24 | Public Service Coin Set |
| 0212 | Coin chute | 24 | Public Service Coin Set |
| 0213 | Escrow/Hopper/Relay Assembly | 24 | Public Service Coin Set |
| 0216 | Full Coin Box | 24 | Public Service Coin Set |
| 0217 | Signal Unit/Totalizer | 24 | Public Service Coin Set |
| 0219 | Validator | 24 | Public Service Coin Set |
| 0231 | Software/Reprogram | 24 | Public Service Coin Set |
| 0232 | Battery/Power/Transformer | 24 | Public Service Coin Set |
| 0233 | PCB (Printed Circuit Board) | 24 | Public Service Coin Set |
| 0234 | Card Reader Assembly | 24 | Public Service Coin Set |
| 0237 | LCD Display | 24 | Public Service Coin Set |
| 0240 | Coin Collection Misc. | 24 | Public Service Coin Set |
| 0246 | Prevent Full Box | 24 | Public Service Coin Set |
| 0247 | Tripped Box, Box not Seated | 24 | Public Service Coin Set |
| | **Miscellaneous** | | |
| 0290 | Other Miscellaneous | 24 | Public Service Coin Set |
| 0291 | Foreign coin grabber | 24 | Public Service Coin Set |
| 0292 | Tel-Cart battery | 24 | Public Service Coin Set |
| 0293 | Lock or key | 24 | Public Service Coin Set |
| 0294 | Coin on ledge | 24 | Public Service Coin Set |
| 0295 | Box not open, not seated | 24 | Public Service Coin Set |
| 0296 | String cutter | 24 | Public Service Coin Set |

| Disposition Code | Definition | T1.227 Code | Trouble Found Definition |
|---|---|---|---|
| **01** | **Public Segment - Applies To All Troubles Outside The Phone** | | |
| 0297 | Telecart circuitry | 24 | Public Service Coin Set |
| 0298 | Board/Card - Inmate Service | 24 | Public Service Coin Set |
| 0299 | Conduit | 24 | Public Service Coin Set |
| **03** | **Regulated Station Wiring** | | |
| 0331 | Simple Network terminating Wire- for coin phone and/or wire between terminal and demarc | 19 | Station Wiring |
| 0341 | Network Interface, Registration Jack, NCTE | 16 | Station Product Terminal |
| 0371 | Protection | 30 | Protective Connecting Arrangement |
| 0381 | Drop or BSW bad, replaced or repaired | 44 | Outside Wire |
| 0382 | *Broadband drop replaced or repaired | 44 | Outside Wire |
| 0383 | Buried Service Wire bad, placed temp Drop on Grnd | 44 | Outside Wire |
| 0385 | Temp Drop On Grnd damaged; replaced or repaired | 44 | Outside Wire |
| 0387 | Temp Drop On Grnd, cut over to permanent BSW | 44 | Outside Wire |
| **04** | **Outside Plant** | | |
| | **Cable Not Repaired** | | |
| 0401 | Pair Transferred/Cut to clear | 5 | Facility |
| 0402 | Bridge tap removed/Cut dead ahead | 5 | Facility |
| 0403 | Pair transposed | 5 | Facility |
| | **Copper Cable** | | |
| 0410 | Intermittent/Came clear | 1 | Came Clear |
| 0411 | Fault in sheath, conductor or pair | 5 | Facility |
| 0421 | Splice case, closure | 5 | Facility |
| 0431 | Terminal, Cross Box, GAI | 5 | Facility |
| 0434 | Encap plant; unable to clear; laid temp drop | 5 | Facility |
| 0441 | Rural, Open or Urban wire | 5 | Facility |
| 0461 | Analog pair gain system | 46 | Outside Plant Equipment |
| 0471 | Digital pair gain system | 46 | Outside Plant Equipment |
| | **Associated Trouble** | | |
| 0481 | All pole, guy, anchor, trench or other miscellaneous trouble | 46 | Outside Plant Equipment |
| | **Fiber Optic Cable** | | |
| 0483 | Buried or aerial fiber optic cable | 47 | Outside Plant Fiber Optic |
| | **Broadband** | | |
| 0492 | Hut, replacing broadband cards | 46 | Outside Plant Equipment |
| 0493 | ONU-COAX power associated trouble | 46 | Outside Plant Equipment |
| 0494 | ONU-Fiber | 47 | Outside Plant Fiber Optic |
| 0495 | ONU-Protection | 46 | Outside Plant Equipment |
| **05** | **Central Office** | | |
| | **Central Office Equipment** | | |
| 0510 | Other/Came clear | 1 | Came Clear |
| 0511 | Common equipment processor | 2 | Central Office |
| 0512 | Common equipment peripheral | 2 | Central Office |
| 0513 | Line Equipment | 2 | Central Office |
| 0514 | Billing Equipment | 2 | Central Office |
| 0515 | Trunk, includes calling party hold | 6 | Central Office Facility |
| 0516 | Trunk, Customer/IEC | 6 | Central Office Facility |

| Disposition Code | Definition | T1.227 Code | Trouble Found Definition |
|---|---|---|---|
| **01** | **Public Segment - Applies To All Troubles Outside The Phone** | | |
| 0518 | Held by traffic | 2 | Central Office |
| 0519 | SS7 network failure | 35 | Service Node |
| | **Central Office Translations** | | |
| 0520 | Other | 3 | Switch Trouble |
| 0521 | Software generic error | 3 | Switch Trouble |
| 0522 | Parameter error | 3 | Switch Trouble |
| 0523 | Translations Questionaires (TQs) and ASRs | 3 | Switch Trouble |
| 0524 | Routing | 3 | Switch Trouble |
| 0525 | Marketing Centrex forms | 3 | Switch Trouble |
| 0526 | Other marketing forms | 3 | Switch Trouble |
| 0527 | QWEST translations letters | 3 | Switch Trouble |
| 0528 | Trunking software | 3 | Switch Trouble |
| 0529 | Special Requests | 3 | Switch Trouble |
| | **Distributing Frames** | | |
| 0530 | Other/Came Clear | 1 | Came Clear |
| 0531 | Cross-Connect missing | 50 | CO Equipment Frames |
| 0532 | Cross-Connect broken | 50 | CO Equipment Frames |
| 0533 | Cross-Connect work error | 50 | CO Equipment Frames |
| 0534 | Intercept work error (EM only) | 50 | CO Equipment Frames |
| 0535 | Protection/reversing device/coils | 50 | CO Equipment Frames |
| 0536 | Improper connection | 50 | CO Equipment Frames |
| 0537 | Cross-Connect document error | 50 | CO Equipment Frames |
| 0538 | Request for Assistance | 50 | CO Equipment Frames |
| 0539 | Customer change request/Not ready | 50 | CO Equipment Frames |
| | **Line Translations** | | |
| 0540 | Other/Came clear | 1 | Came Clear |
| 0541 | RCMAC work error | 3 | Switch Trouble |
| 0542 | Flowthrough system error | 3 | Switch Trouble |
| 0543 | Inaccurate missing work document: HPS | 3 | Switch Trouble |
| 0544 | Inaccurate missing work document: SBS | 3 | Switch Trouble |
| 0545 | Inaccurate missing work document: BGS | 3 | Switch Trouble |
| 0546 | Inaccurate missing work document: Other MU | 3 | Switch Trouble |
| 0547 | Inaccurate missing work document: LPC/MPAC | 3 | Switch Trouble |
| 0548 | Inaccurate missing work document: CDAC/BDAC/BCSC | 3 | Switch Trouble |
| 0549 | Inaccurate missing work document: Network Tech | 3 | Switch Trouble |
| | **Power** | | |
| 0550 | Other/Came clear | 1 | Came Clear |
| 0551 | DC Power Equipment | 2 | Central Office |
| 0552 | AC Power Equipment | 2 | Central Office |
| 0554 | Standby Emergency Power | 2 | Central Office |
| | **Miscellaneous** | | |
| 0560 | Other/Came clear | 1 | Came Clear |
| 0561 | Subscriber line carrier | 46 | Outside Plant Equipment |
| 0562 | Line testing equipment | 51 | CO Concentrator |
| 0563 | Concentrator | 51 | CO Concentrator |
| 0564 | Range extender | 2 | Central Office |

| Disposition Code | Definition | T1.227 Code | Trouble Found Definition |
|---|---|---|---|
| **01** | **Public Segment - Applies To All Troubles Outside The Phone** | | |
| 0565 | Carrier system | 46 | Outside Plant Equipment |
| | **Special Services Equipment** | | |
| 0570 | Other/Came clear | 1 | Came Clear |
| 0571 | Design | 2 | Central Office |
| 0573 | Carrier channel | 2 | Central Office |
| 0574 | Signaling | 35 | Service Node |
| 0575 | Repeater | 2 | Central Office |
| | **Radio System** | | |
| 0580 | Other/Came Clear | 1 | Came Clear |
| 0581 | Maritime | 2 | Central Office |
| 0582 | Ship to Shore | 2 | Central Office |
| 0583 | G2 Control | 2 | Central Office |
| 0584 | Enhanced Mobile Telephone Service control | 2 | Central Office |
| 0585 | Enhanced Mobile Telephone Service/B | 2 | Central Office |
| 0586 | Telephone Mobile Radio Service manual | 2 | Central Office |
| 0587 | Telephone Mobile Radio Service aitp, atoc | 2 | Central Office |
| 0588 | Advanced Mobile Phone System | 2 | Central Office |
| | **Data Base for Driven Services** | | |
| 0590 | Other/Came clear | 1 | Came Clear |
| 0591 | Calling Card Services (ABS-LIDB) | 3 | Switch Trouble |
| 0592 | Automatic Intercept System | 3 | Switch Trouble |
| 0593 | Expanded 911 Service | 3 | Switch Trouble |
| 0596 | 800 Data Base | 3 | Switch Trouble |
| 0597 | 700 Services | 3 | Switch Trouble |
| 0598 | Expanded 800 Service | 3 | Switch Trouble |
| 0599 | Dial it Services | 3 | Switch Trouble |
| **06** | **Customer Action/Public Services/Customer Use Of Equipment** | | |
| 0611 | Receiver Off Hook (ROH) | 25 | Manager Operation Instructions |
| 0612 | Calling Party Hold (CPH) | 25 | Manager Operation Instructions |
| 0613 | User Dialing Wrong | 25 | Manager Operation Instructions |
| 0615 | Foreign or Bent Coins/Objects, Pennies | 25 | Manager Operation Instructions |
| 0616 | Canadian | 25 | Manager Operation Instructions |
| 0617 | Remove for Remodeling | 25 | Manager Operation Instructions |
| 0618 | Can't Be Called (On Outgoing Only) | 25 | Manager Operation Instructions |
| 0619 | Line Is In Use | 25 | Manager Operation Instructions |
| 0690 | Service Order Activity | 9 | Information |
| | **Customer Action/All Classes Of Service/Non-Dispatched** | | |
| 0620 | Service Order | 9 | Information |
| 0640 | Suspended or Disconnected | 9 | Information |
| 0650 | Cancel Report | 42 | Cancel Excluded |
| 0660 | Not Currently in Trouble | 9 | Information |
| 0661 | Customer Requests Information | 9 | Information |
| **07** | **Test OK, Verify OK** | | |
| 0701 | Verified OK with Customer | 26 | Tested OK, Verified OK |
| 0702 | Customer does not answer (DA) | 23 | Test OK |

| Disposition Code | Definition | T1.227 Code | Trouble Found Definition |
|---|---|---|---|
| **01** | **Public Segment - Applies To All Troubles Outside The Phone** | | |
| 0703 | Central Office Overload | 23 | Test OK |
| 0704 | *Broadband TOK | 23 | Test OK |
| 0710 | Operator report TOK | 23 | Test OK |
| 0720 | PRED report TOK non-dispatched | 23 | Test OK |
| 0747 | Test OK via front end close out | 23 | Test OK |
| 0751 | TOK, verified OK with Customer | 26 | Tested OK, Verified OK |
| 0752 | TOK, Customer does not answer | 23 | Test OK |
| **08** | **Found OK In** | | |
| 0810 | Test made - No Trouble Found | 27 | CO Facility Tested, Found OK |
| | **Data Base for Data Base Driven Services** | | |
| 0880 | Other C. O. based services | 27 | CO Facility Tested, Found OK |
| 0891 | Calling Card Services | 27 | CO Facility Tested, Found OK |
| 0892 | Automatic Intercept Services | 27 | CO Facility Tested, Found OK |
| 0893 | Expanded 911 Service | 27 | CO Facility Tested, Found OK |
| 0897 | 700 Services | 27 | CO Facility Tested, Found OK |
| 0898 | Expanded 800 Service | 27 | CO Facility Tested, Found OK |
| 0899 | Dial It Service | 27 | CO Facility Tested, Found OK |
| **09** | **Found OK Out** | | |
| 0910 | Dispatched and Found OK | 13 | No Trouble Found |
| 0920 | *Broadband dispatched and found OK | 13 | No Trouble Found |
| 0950 | Unable to isolate trouble In or Out because of no access to demarc/protector | 13 | No Trouble Found |
| 0970 | Public Services Trouble reported and found OK | 13 | No Trouble Found |
| **10** | **Referred Out** | | |
| 1001 | QWEST Toll Cable Cut/Damaged | 29 | Referred Out to Other Department |
| 1002 | other outside QWEST | 29 | Referred Out to Other Department |
| 1005 | Move drop, deliver/place drop | 29 | Referred Out to Other Department |
| 1006 | Other non-network within QWEST | 29 | Referred Out to Other Department |
| **11** | **Non-Telco Plant** | | |
| | **Non-QWEST, dispatched out** | | |
| 1150 | Wires down, broken poles, etc., that are other than QWEST plant or equipment, and a dispatch was required to make this determination | 9 | Information |
| | **Non-QWEST, not dispatched** | | |
| 1151 | Wires down, broken polse, etc., that are other than QWEST plant or equipment, and a dispatch was not required to make the determination | 9 | Information |
| **12** | **Trouble Beyond The Network Interface** | | |
| 1210 | Customer has a maintenance contract and QWEST does not bill | 31 | CPE Manager Responsibility |
| 1211 | *Linebacker Coverage of non-standard inside wire | 31 | CPE Manager Responsibility |
| 1220 | Customer has trouble beyond the NI and QWEST does not bill | 31 | CPE Manager Responsibility |
| 1230 | Customer does not have a maintenance contract, or has only WMR, and we bill Trouble Isolation Charge (TIC). | 31 | CPE Manager Responsibility |
| 1231 | Idaho non-complex customer and/or Iowa customer where QWEST does not bill | 31 | CPE Manager Responsibility |

| Disposition Code | Definition | T1.227 Code | Trouble Found Definition |
|---|---|---|---|
| **01** | **Public Segment - Applies To All Troubles Outside The Phone** | | |
| 1240 | Customer does not have any maintenance contract and QWEST bills both TIC and Time & Materials | 31 | CPE Manager Responsibility |
| 1250 | Customer does not have a maintenance contract and QWEST bills Trip Charge and Time & Materials | 31 | CPE Manager Responsibility |
| 1260 | Carrier/End-user Trouble where QWEST bills TIC and possibly Time & Materials | 31 | CPE Manager Responsibility |
| **13** | **Miscellaneous Non-Dispatched Reports For Non-QWEST Trouble** | | |
| 1310 | CPE Trouble | 31 | CPE Manager Responsibility |
| 1320 | Reported by Other | 31 | CPE Manager Responsibility |
| 1330 | Test Assist | 9 | Information |
| 1340 | Carrier Trouble | 8 | Interexchange Carrier |
| 1350 | Carrier Testing | 8 | Interexchange Carrier |
| 1370 | Customer Instructions | 25 | Manager Operation Instructions |

Disposition Code to Maintenance Service Charge

| Disposition Code | Definition | MSC |
|---|---|---|
| 1230 | Customer does not have a maintenance contract, or has only WMR, and QWEST bills Trouble Isolation Charge (TIC) | Y |
| 1240 | Customer does not have any maintenance contract and QWEST bills both TIC and Time & Materials | Y |
| 1250 | Customer does not have a maintenance contract and QWEST bills Trip Charge and Time & Materials | Y |
| 1260 | Carrier/End-user Trouble where QWEST bills TIC and possibly Time & Materials | Y |

Non-Applicable Trouble Types for Local Resale (POTS)

QWEST will not create an electronic trouble report for these trouble types:

| Trouble Type | TA Code | Extra Rules |
|---|---|---|
| cutCable | 0616 | |
| (miscellaneousTroublesGroup) | | |
| hiCapDown | 1001 | |
| biPolarViolations | 1003 | |
| frameErrorsHiCap | 1004 | |
| outofFrame | 1005 | |
| lossOfSync | 1006 | |
| frameSlips | 1007 | |
| noLoopBack | 1008 | |
| canNotLoopbackDEMARC | 1009 | |
| linesNeedTagging | 1011 | |
| other | 1014 | |
| alarm | 1015 | |
| frameErrors | 1017 | |
| facilityAlarm | 1018 | |
| softwareGroupAlarm | 1019 | |
| dChannelDown | 1020 | |
| degadationOfT1.5 | 1021 | |
| (dataTroubleGroup) | | |
| impulseNoise | 1207 | |
| phaseJitter | 1208 | |
| harmonicDistortion | 1209 | |
| highDistortion | 1210 | |
| noDataLoopback | 1211 | |
| notPolling | 1213 | |
| dataFramingErrors | 1214 | |
| dropOuts | 1215 | |
| hits | 1216 | |
| noAnswerBack | 1217 | |
| streamer | 1218 | |
| outOfSpecification | 1219 | |
| canNotRunToCSU | 1220 | |
| canNotRunToOSU | 1221 | |
| deadDataCircuit | 1222 | |
| circuitInLoopback | 1223 | |
| crossModulation | 1227 | |
| gettingAllOnes | 1230 | |
| slip | 1231 | |
| stationTroubleGroup | 1300 | |
| voiceEquipment | 1301 | |
| dataEquipment | 1302 | |
| videoEquipment | 1303 | |
| otherEquipment | 1304 | |
| stationWiring | 1305 | N/A for all states except Colorado, Minnesota, |

| Trouble Type | TA Code | Extra Rules |
|---|---|---|
| | | and Oregon. |
| physicalTroubleGroup | 1400 | |
| lightBurnedOut | 1401 | |
| dataset | 1402 | |
| ttySet | 1403 | |
| highSpeedPrinter | 1404 | |
| ANIfailure | 1405 | |
| ALI | 1406 | |
| canNotActivatePC | 1407 | |
| modem | 1408 | |
| cathodeRayTube | 1409 | |
| looseJack | 1410 | N/A for all states except Colorado, Minnesota, and Oregon. |
| OffHook | 1411 | |
| physicalProblem | 1412 | |
| processorDead | 1413 | |
| wiringProblem | 1414 | N/A for all states except Colorado, Minnesota, and Oregon. |
| NoRegister | 1416 | |
| stuckSender | 1417 | |
| otherStationTrouble | 1418 | |
| (otherCaseGroup) | | |
| releaseCktRequestedByIC | 1507 | |
| releaseCktRequestedByEC | 1508 | |
| releaseFacilityRequestedByIC | 1509 | |
| releaseFacilityRequestedByEC | 1510 | |
| requestForRoutine | 1511 | |
| release | 1512 | |
| requestDispatch | 1513 | |
| requestMonitorOfCircuit | 1514 | |
| routineTestFailure | 1515 | |
| lostTimeReport | 1516 | |
| historicalReports | 1517 | |
| switchOrTrunkRelated | 1518 | |
| requestTestAssist | 1519 | |
| analogTestLine | 1520 | |
| digitalTestLine | 1521 | |
| manualInterventionRequested | 1522 | |
| switchedNetworkGroup | 1700 | |
| aNITimeout | 1701 | |
| extraDigit | 1702 | |
| extraPulse | 1703 | |
| falseKeyPulse | 1704 | |
| misplacedStartPulse | 1705 | |
| mutilatedDigitGroup | 1706 | |
| noKeyPulse | 1707 | |
| partialDialTimeout | 1708 | |
| signalingNetworkFailureIncoming | 1709 | |

| Trouble Type | TA Code | Extra Rules |
|---|---|---|
| stationGroupDesignationDigitFailure | 1710 | |
| aNI Problem | 1711 | |
| oSPSEqualAccessSignaling | 1712 | |
| missingANI | 1713 | |
| vacantCodeAnnouncement | 1714 | |
| invalidDigit | 1715 | |
| highandWet | 1716 | |
| payPhoneProblemsGroup | 1800 | |
| noCoinReturn | 1801 | |
| coinStuck | 1802 | |
| cannotDepositCoin | 1803 | |
| coinsFallThrough | 1804 | |
| coinsDoNotRegister | 1805 | |
| payPhoneDamage | 1806 | |

Status

| TR State | TR Status |
|---|---|
| 1 (openActive) | 1 (screening) |
| 1 | 3 (dispatchedIn) |
| 1 | 4 (dispatchedOut) |
| 1 | 11 (referMtceCenter) |
| 1 | 15 (stopNoAccess) |
| 1 | 17 (stopDelayedMtce) |
| 2 (deferred) | 14 (startNoAccess) |
| 2 | 16 (startDelayedMtce) |
| 3 (cleared) | 26 (clearedAwaitingCustVerification) |
| 4 (closed) | 27 (closedOut) |

Status Messages

| State | Status | Status Message |
|---|---|---|
| 1 | 1 | Pending Screen |
| 1 | 3 | Handoff to Central Office |
| 1 | 4 | Handoff to Dispatch |
| 1 | 11 | Handoff to Facility |
| 1 | 15 | No Access Canceled or No Access Expired |
| 1 | 17 | Delayed Maintenance Canceled or Delayed Maintenance End |
| 2 | 14 | No Access Start |
| 2 | 16 | Delayed Maintenance Start |
| 3 | 26 | Cleared Awaiting Customer Verification |
| 4 | 27 | Closed |

UNE Trouble Found Codes

| Trouble Found | T1.227 Code |
|---|---|
| pending | 0 |
| cameClear | 1 |
| centralOffice | 2 |
| switchTrouble | 3 |
| customerProvidedEquipment | 4 |
| facility | 5 |
| centralOfficeFacility | 6 |
| ICfacility | 7 |
| interexchangeCarrier | 8 |
| information | 9 |
| nonplanClassified | 10 |
| nonplanClassifiedIC | 11 |
| nonplanClassifiedEA | 12 |
| noTroubleFound | 13 |
| station | 14 |
| stationProductData | 15 |
| stationProductTerminal | 16 |
| stationProductVideo | 17 |
| stationProductVoice | 18 |
| stationWiring | 19 |
| otherStationEquipment | 20 |
| foundOKStation | 21 |
| servingBureau | 22 |
| testOK | 23 |
| publicServicesCoinSet | 24 |
| customerOperatingInstructions | 25 |
| testedOKVerifiedOK | 26 |
| coFacilityTestedFoundOK | 27 |
| outsideFacilityTestedFoundOK | 28 |
| referredOutToOtherDept | 29 |
| protectiveConnectiveArrang | 30 |
| cpeCustomerResponsibility | 31 |
| preService | 32 |
| preServiceIC | 33 |
| preServiceEA | 34 |
| serviceNode | 35 |
| data | 36 |
| customerReferredToVendor | 37 |
| exchangeAccess | 38 |
| international | 39 |
| otherProvidedAccess | 40 |
| existingReport | 41 |
| cancelExclude | 42 |

Non-Applicable Trouble Types for UNEs

QWEST will not create an electronic trouble report for these trouble types:

| Trouble Type | TA Code |
|---|---|
| (canNotCallOutGroup) | |
| canNotCallOut2 | 0208 |
| (canNotBeCalledGroup) | |
| bellDoesNotRing2 | 0315 |
| (circuitOperationGroup) | |
| improperSupervision | 0607 |
| noSF | 0613 |
| lowSF | 0614 |
| (miscellaneousTroublesGroup) | |
| hiCapDown | 1001 |
| frameErrorsHiCap | 1004 |
| linesNeedTagging | 1011 |
| outwatsRingingIn | 1012 |
| softwareGroupAlarm | 1019 |
| (dataTroubleGroup) | |
| invalidData | 1226 |
| (stationTroubleGroup) | |
| voiceEquipment | 1301 |
| dataEquipment | 1302 |
| videoEquipment | 1303 |
| otherEquipment | 1304 |
| (physicalTroubleGroup) | |
| lightBurnedOut | 1401 |
| dataset | 1402 |
| ttySet | 1403 |
| highSpeedPrinter | 1404 |
| canNotActivatePC | 1407 |
| modem | 1408 |
| cathodeRayTube | 1409 |
| looseJack | 1410 |
| offHook | 1411 |
| physicalProblem | 1412 |
| processorDead | 1413 |
| noRegister | 1416 |
| stuckSender | 1417 |
| otherStationTrouble | 1418 |
| (otherCaseGroup) | |
| information | 1504 |
| requestDispatch | 1513 |
| requestMonitorOfCircuit | 1514 |
| routineTestFailure | 1515 |
| lostTimeReport | 1516 |
| historicalReports | 1517 |
| requestTestAssist | 1519 |
| analogTestLine | 1520 |

| Trouble Type | TA Code |
|---|---|
| digitalTestLine | 1521 |
| manualInterventionRequested | 1522 |
| recovery | 1600 |
| recoveryReport | 1601 |
| payPhoneProblemsGroup | 1800 |
| noCoinReturn | 1801 |
| coinStuck | 1802 |
| cannotDepositCoin | 1803 |
| coinsFallThrough | 1804 |
| coinsDoNotRegister | 1805 |
| payPhoneDamage | 1806 |

# 19 Appendix J. Open Issues

The issues listed below are separated into two sections. The issues listed in the first section were developed during the CO-PROVIDER/QWEST Electronic Bonding Maintenance and Repair meetings, and further refined in management letters exchanged between CO-PROVIDER (dated xxx) and QWEST (dated xxx), and later meetings. The issue numbers correspond to the order of the issues outlined in the management letters. New issues are listed in the second section.

| Issue No. | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

# 20 Appendix K. Glossary/Acronyms

Acronyms either used in this document or useful for discussions about this document are listed below.

| Acronym | Definition |
|---|---|
| ACSE | Association Control Service Element |
| ANSI | American National Standards Institute |
| AOM | Application of OSI Management |
| AVC | Attribute Value Change |
| BAS | Business Application Services |
| CCITT | International Telegraph and Telephone Consultative Committee |
| CLEC | Certified Local Exchange Carrier |
| CME | Conformant Management Entity |
| CMIP | Common Management Information Protocol |
| CMIS | Common Management Information Service |
| CMISE | Common Management Information Service Element |
| CTR | Customer Trouble Reporting |
| CUG | Closed User Group |
| DCS | Data Communications Services |
| DES CBC | Data Encryption Standard/Cipher Block Chain |
| DTN | Digital Telephone Number |
| EB | Electronic Bonding |
| ECIC | Electronic Communications Implementation Committee |
| EFD | Event Forwarding Discriminator |
| FU | Functional Units |
| IEC | International Electrotechnical Commission |
| ISO | International Organization for Standardization |
| ISP | International Standardized Profiles |
| LEC | Local Exchange Carrier |
| LMOS | Loop Maintenance Operations System |
| MAPDU | Management Application Protocol Data Unit |
| MEDIACC | Mediated Access |
| MLT | Mechanized Loop Test |
| MOCS | Managed Object Conformance Statements |
| MOI | Managed Object Instance |
| MORT | Managed Object Referring to Test |
| NM | Network Management |
| NSAP | Network Service Access Point |
| OBF | Ordering and Billing Forum |
| OID | Object Identifier |
| OIW | OSI Implementation Workshop |
| ORT | Operational Readiness Test |
| OSI | Open Systems Interconnection |
| OSS | Operations Support Systems |
| PDU | Protocol Data Unit |
| PICS | Protocol Implementation Conformance Statements |
| POI | Point of Interface |
| POP | Point of Presence |
| POTS | Plain Old Telephone Service |
| PSAP | Presentation Service Access Point |
| RMA | Request for Manual Assistance |
| ROSE | Remote Operations Service Element |
| ROER | ROSE Error |
| RORJ | ROSE Error Reject |

| Acronym | Definition |
|---|---|
| SAP | Service Access Point |
| SMFU | System Management Functional Unit |
| SSAP | Session Service Access Point |
| SYAD | Systems Administration |
| TA | Trouble Administration |
| TACEN | Trouble Administration Configuration Event Notification |
| TMN | Telecommunications Management Network |
| TR | Telecommunications Local Trouble Report |
| TRFD | Trouble Report Format Definition |
| TSAP | Transport Service Access Point |
| TT | Trouble Ticket |
| TT | Trouble Tracking |
| TTR | Telecommunications Trouble Report |
| WFA/C | Work Force Administration/Control |

# 21 Appendix L. Managed Object Instance Formats

Sample POTS Resale and UNE (only unbundled loop and unbundled switch network elements) circuit formats are listed below.

## *21.1 POTS Resale Formats*

### 21.1.1 Telephone Number Format

3031234567

### 21.1.2 Telephone Number with Terminal Format

3031234567TER12345

## *21.2 UNE Formats*

### 21.2.1 Unbundled Loop Circuit Formats

24/LXFU/111111/MS (serial numbered)
24/UBFU/111111/MS
24/HCFU/111111/MS

### 21.2.2 Unbundled Switch Circuit Formats

29/SNNU/303-555-1111 (telephone numbered)
A02/T1/CLSPCOMADS0/CLSPCOMAHJ3 (carrier)
97/PH55IEKEYY/CLSPCOMAHJ3/77/CLSPCOMADS0 (message trunk)

# 22 Appendix M. Sign Off/Approval

I have reviewed the QWEST/CO-PROVIDER Joint Implementation Agreement, dated October 16, 2000 and, at this time, agree that we plan to implement an electronic interface based on this document. I understand that any future modifications of the interface will be made according to the Change Control process documented in the Joint Implementation Agreement.

## *22.1 CO-PROVIDER*

_____ Date _____

_____ Date _____

_____ Date _____

## *22.2 QWEST*

_____ Date _____

_____ Date _____

# 23 Service Test Function

## 23.1 Implementation

23.1.1 Co-Provider shall implement Service Test Function at a later date. Qwest has implemented Loop Test only.

See Electronic Communications Implementation Committee (ECIC) Trouble Administration (TA) Testing Standard Application (ANSI T1.262-1998) Implementation Guidelines, ECIC Document Number: TRA/98-03 for specifics.

## 23.2 Error Messages – See Section 4 of ANSI T1.262-1998