
The Regional Oversight Committee (ROC) 3rd Party Test

Qwest
OSS Evaluation Project
Master Test Plan

Revised Release

Version 5.2

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Submitted by:

 **KPMG Consulting**

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EXHIBIT C

- 10. Generate HP reports.
- 11. Report CLEC aggregate measures as a data point to check for consistency.

15.6.3 Outputs

- 1. Reports that provide performance measurements
- 2. Variance between actual performance and standards of performance
- 3. Report of expected results versus actual results
- 4. Unplanned error count by type and percentage of total
- 5. Report of unplanned errors as the result of documentation problems
- 6. Transaction counts, error ratio, response time, etc. by transaction type, product family and delivery method
- 7. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
- 8. Transaction counts per response time/interval range per transaction set
- 9. Observation and Exception reports
- 10. Final report

15.7 Exit Criteria

Table 15.7.1 Exit Criteria

| <i>Criteria</i> | <i>Responsible Party</i> |
|---|--------------------------|
| <i>All activities completed</i> | <i>KPMG Consulting</i> |
| <i>Checklists and reports completed</i> | <i>KPMG Consulting</i> |
| <i>Global exit criteria satisfied</i> | <i>See Section 7</i> |

16. CEMR Functional and Performance Evaluation

16.1 Description

The Customer Electronic Maintenance and Repair (CEMR) functional and performance evaluation is a comprehensive review of the trouble administration functional elements of the IMA GUI, conformance to documented specifications, and an analysis of its functionality in comparison to Qwest's Retail front end systems for trouble management. The test has three major phases, Phase 1 — a basic functional evaluation, Phase 2 — a comparative functional evaluation, Phase 3 — a performance evaluation. The performance evaluation is a transaction driven test designed to evaluate the CEMR system used for M&R under load conditions. Transaction sets will be based on the level of demand projections that are reasonably foreseeable during the life cycle of the system being tested.

16.2 Objective

The objective of this test is to validate the existence and behavior of CEMR functional elements as documented in CEMR Training Guides and other applicable documents, and to evaluate, based on both quantitative and qualitative approaches, the equivalence of CEMR functionality to Qwest's Retail front end systems for trouble management. The behavior of CEMR will be evaluated under load conditions to determine system performance in terms of response time and operability, and to identify potential future performance bottlenecks and whether that performance is consistent with specifications.

16.3 Entrance Criteria

Table 16.3.1 Basic Functional (Phases 1 & 2) Evaluation Entrance Criteria

| <i>Criteria</i> | <i>Responsible Party</i> |
|---|--------------------------------|
| <i>No legally effective orders or injunctions preventing the test exist</i> | <i>ROC, Qwest</i> |
| <i>The ROC has verified measurements to be used in the test</i> | <i>ROC, Liberty Consulting</i> |
| <i>All required Qwest interfaces are operationally ready</i> | <i>Qwest</i> |
| <i>HP is operationally ready</i> | <i>HP</i> |
| <i>Pass/retest criteria have been identified</i> | <i>ROC, KPMG Consulting</i> |
| <i>Detailed test plan completed</i> | <i>KPMG Consulting</i> |
| <i>Test scenarios selected</i> | <i>KPMG Consulting</i> |
| <i>Documentation provided</i> | <i>Qwest</i> |
| <i>Interview guides created</i> | <i>KPMG Consulting</i> |
| <i>Specific test cases and transaction sets developed</i> | <i>KPMG Consulting</i> |
| <i>Product descriptions and business rules for all transactions to be tested are available.</i> | <i>Qwest</i> |
| <i>Basic documentation review completed</i> | <i>KPMG Consulting</i> |
| <i>Detailed functional checklist created</i> | <i>KPMG Consulting</i> |
| <i>Test bed provisioned and validated</i> | <i>Qwest, KPMG Consulting</i> |
| <i>Specific evaluation techniques developed</i> | <i>KPMG Consulting</i> |
| <i>Physical access to the CEMR established</i> | <i>Qwest</i> |
| <i>Security access to CEMR established</i> | <i>Qwest</i> |
| <i>Evaluation criteria defined and approved</i> | <i>ROC</i> |

Table 16.3.2 CEMR Performance Evaluation (Phase 3) Entrance Criteria

| <i>Criteria</i> | <i>Responsible Party</i> |
|---|--------------------------------|
| <i>No legally effective orders or injunctions preventing the test exist</i> | <i>ROC, Qwest</i> |
| <i>The ROC has verified measurements to be used in the test</i> | <i>ROC, Liberty Consulting</i> |
| <i>All required Qwest interfaces are operationally ready</i> | <i>Qwest</i> |
| <i>HP is operationally ready</i> | <i>HP</i> |
| <i>Pass/retest criteria have been identified</i> | <i>ROC, KPMG Consulting</i> |
| <i>Test transaction sets have been built and validated</i> | <i>KPMG Consulting</i> |
| <i>Product descriptions and business rules for all transactions to be tested are available.</i> | <i>Qwest</i> |
| <i>Test bed provisioned and validated</i> | <i>Qwest, KPMG Consulting</i> |
| <i>CEMR test coordination details have been worked out</i> | <i>KPMG Consulting</i> |

16.4 Test Scope

CEMR functionality will be reviewed within the context of specific documentation addressing its use and in comparison to Qwest's Retail front-end systems for trouble management. The following table contains the processes, sub-processes, and methods for evaluating the functionality of Qwest's IMA GUI.

Table 16.4.1 Test Scope: M&R CEMR Functional Evaluation

| Process Area | Sub-Process | Evaluation Measure | Evaluation Technique | Criteria Type |
|---------------------------|----------------------------------|------------------------------------|----------------------|------------------------------|
| Trouble Reporting | Create/Enter Trouble Report (TR) | Functionality exists as documented | Inspection | Existence Qualitative Parity |
| | Modify TR | Functionality exists as documented | Inspection | Existence Qualitative Parity |
| | Close/Cancel TR | Functionality exists as documented | Inspection | Existence Qualitative Parity |
| | Retrieve TR Status | Functionality exists as documented | Inspection | Existence Qualitative Parity |
| Trouble History Access | Retrieve Trouble History | Functionality exists as documented | Inspection | Existence Qualitative Parity |
| Access To Test Capability | Initiate MLT Test | Functionality exists as documented | Inspection | Existence Qualitative Parity |
| | Receive MLT Test Results | Functionality exists as documented | Inspection | Existence Qualitative Parity |

The CEMR performance evaluation is a transaction driven test designed to evaluate the CEMR system used for M&R under load conditions. The following table contains the processes, sub-processes, and methods for evaluating the performance of Qwest's CEMR system.

Table 16.4.2 Test Scope: CEMR Performance Evaluation

| Process Area | Sub-Process | Evaluation Measure | Evaluation Technique | Criteria Type |
|------------------------|----------------------------------|----------------------|------------------------|---------------------------|
| Trouble Reporting | Create/Enter Trouble Report (TR) | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |
| | Modify TR | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |
| | Close/Cancel TR | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |
| | Retrieve TR Status | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |
| Trouble History Access | Retrieve Trouble History Status | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |

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|---------------------------|--------------------------|----------------------|------------------------|---------------------------|
| Access to Test Capability | Initiate MLT Test | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |
| | Receive MLT Test Results | Timeliness, Accuracy | Transaction Generation | Quantitative, Qualitative |

16.5 Test Scenarios

A subset of the Appendix D Table D5 scenarios will be used in this test. Scenarios selected for trouble reporting will include both post provisioning activity and trouble reports on existing HP service.

16.6 Test Approach

This test is broken down into three phases:

- **Phase 1** involves the use of test cases created for this test and observation of processes to evaluate CEMR functionality and to determine if the system behaves as documented.
- **Phase 2** involves observation of similar retail transactions and interviews of Retail Maintenance Administrators (MA) processing trouble calls and entering trouble reports into Qwest's Retail front end systems to assess functionality in comparison to IMA GUI.
- **Phase 3** involves load testing of CEMR by sending transaction sets structured to provide a transaction mix consistent with current system usage, projected normal volumes and stress/load volumes. Included in this mix will be planned errors. The quantity of transactions will be known as the "normal volume". A second execution known as "peak" will use a multiple of 125-150% the "normal" volumes. Finally, the "stress" execution will use transaction volumes that are 150-250% the volumes used for the "normal" test.

The number of observations and period of time over which the observations are taken for both wholesale and retail processes will be sufficient to provide a statistically valid basis for evaluation.

16.6.1 Inputs

1. Test cases
2. Documentation (CEMR Learning Guide, etc.)
3. Functionality checklists
4. Interview guide
5. CEMR systems and validated test bed
6. Personnel to interview Wholesale user and Retail Maintenance Administrators and observe their use of CEMR and retail front-end systems for Trouble Management, respectively.

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16.6.2 Activities – Phase I

1. Use test cases created for this test and appropriate Qwest documentation to perform each of the functions listed on the checklist provided via the CEMR interface. Observe and interview HP as they execute the test cases to determine usability.
2. Verify that each system function behaves as documented.
3. Note any anomalies in the space provided on the checklist.
4. Note any discrepancies between CEMR documentation and behavior.
5. Ensure that all trouble reports entered in IMA have been canceled.

16.6.3 Activities – Phase II

1. Use the checklist and interview guide to conduct interviews with MA's selected from the Residence and Business M&R work centers.
2. Observe MA trouble report activities similar to those test cases used in Phase I as identified on the checklist provided.
3. Note the presence and behavior of functions identified on the checklist.
4. Identify any anomalies relative to the functions being observed.
5. Note any additional relevant information from the MA interview (e.g., additional capabilities, performance, etc.).
6. Determine and document any M&R functions that can be performed from a Retail trouble management workstation that are not available in CEMR and vice versa.
7. Perform a detailed evaluation of relative functionality and capabilities between CEMR and retail front-end systems for trouble management.

16.6.4 Activities – Phase III

1. Feed transaction sets to IMA GUI.
2. Periodically exercise CEMR functionality manually during test execution.
3. Observe and capture observations from (2) above in terms of performance and operability.
4. Capture transaction performance statistics via data test generator. (automatic)
5. Capture transaction performance statistics via IMA GUI. (automatic)
6. Monitor CEMR system interfaces to identify any bottleneck conditions. (Qwest personnel)
7. Ensure all generated trouble reports have been canceled/closed.
8. Reset test bed for next test (if required) or clean up production databases. (Qwest)
9. Execute test once with normal, projected transaction volumes and once with peak/stress volumes.
10. Analyze performance reports.
11. Review execution and observation reports.

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12. Compare HP vs. performance metric results.

16.6.5 Activities – Common

Document the results and findings from the activities conducted in Phases 1, 2 and 3.

16.6.6 Outputs

1. Completed checklists from Phases 1, 2 and 3 activities
2. Completed interview summaries
3. Summary reports of findings from each phase, including a discussion of anomalies and relevant observations relating to usability and timeliness of each system interface
4. Reports that provide the measurements to support the standards of performance defined in Appendix C
5. Variance between actual performance and the standards of performance defined in Appendix C
6. Test execution and observation reports
7. HP performance reports
8. CEMR performance reports
9. A Summary report comparing relative functionality in CEMR and Retail front end systems for Trouble Management highlighting differences and contrasting ease of use of the two systems in performing the functions observed
10. Observation and Exception reports

16.7 Exit Criteria

Table 16.7.1 Exit Criteria

| <i>Criteria</i> | <i>Responsible Party</i> |
|---|--------------------------|
| <i>Global exit criteria satisfied</i> | <i>See Section 7</i> |
| <i>All activities completed</i> | <i>KPMG Consulting</i> |
| <i>Checklists and reports completed by personnel participating in the test.</i> | <i>KPMG Consulting</i> |

17. MEDIACC (EB-TA) M&R Trouble Functional Evaluation

17.1 Description

The Electronic Bonding Trouble Administration (MEDIACC EB-TA) Functional Evaluation is a comprehensive review of all of the functional elements of the MEDIACC EB-TA System and their conformance to documented interface specifications.