IV. Pre-Order/Order Domain Results and Analysis Section

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A. Test Results: POP Manual Order Processing Evaluation (PPR8)

1.0 Description

The POP Manual Order Processing Evaluation (PPR8) was an analysis of the Verizon Virginia (Verizon VA) manual order handling processes of the National Market Centers (NMC) that serve the Competitive Local Exchange Carriers (CLEC) conducting business in Virginia. Manual orders include manually-submitted orders and electronic non-flow-through (NFT) orders that require manual intervention.

2.0 Methodology

This section summarizes the test methodology.

2.1 Business Process Description

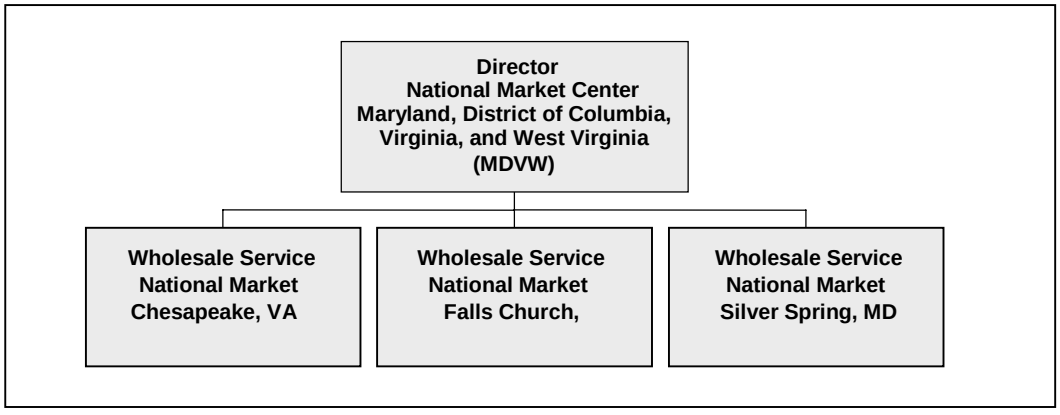
The primary function of the NMCs is to process Local Service Requests (LSR) and Access Service Requests (ASR) for local exchange services and to generate service orders for provisioning by downstream organizations. The NMCs also manage CLEC questions associated with the generation and completion of orders that require manual handling. Questions include pre-order and order business rule questions and order submission questions for electronic as well as manual order processes.

2.1.1 NMC Organization and Operations

The NMC organization operates from three geographically-dispersed locations that are aligned by product type (see Table 8-1). By using cross-trained staff, the NMCs act as overflow centers for one another during unanticipated surges in order volume. NMC hours of operation are 8 a.m. – 6 p.m., Monday through Friday.

Figure 8-1 shows the structure of the Verizon VA NMC.

Figure 8-1: Organization Structure of the Verizon VA NMC[5]



[5] Verizon previously maintained an additional NMC in Virginia Beach, Virginia; however, all wholesale operations that were conducted in the NMC shifted to the Chesapeake, Virginia NMC.

Table 8-1: National Market Center Alignment and Responsibilities

NMC	Responsibility
Chesapeake, Virginia	Primary products: Unbundled Network Elements (UNE) Loop (digital) and UNE-Platform (UNE-P). Overflow operations are in place to support the Falls Church NMC with UNE-Loop analog orders.
Falls Church, Virginia	Primary product: UNE-Loop (analog). Overflow operations are in place to support the Chesapeake NMC with UNE-Loop (digital) orders and the Silver Spring NMC with Resale orders.
Silver Spring, Maryland	Primary products: Resale and ASRs. Overflow operations are in place to support the Chesapeake NMC with UNE-P orders and the Falls Church NMC with UNE-Loop (analog) orders.

2.1.2 LSR Order Submission Process

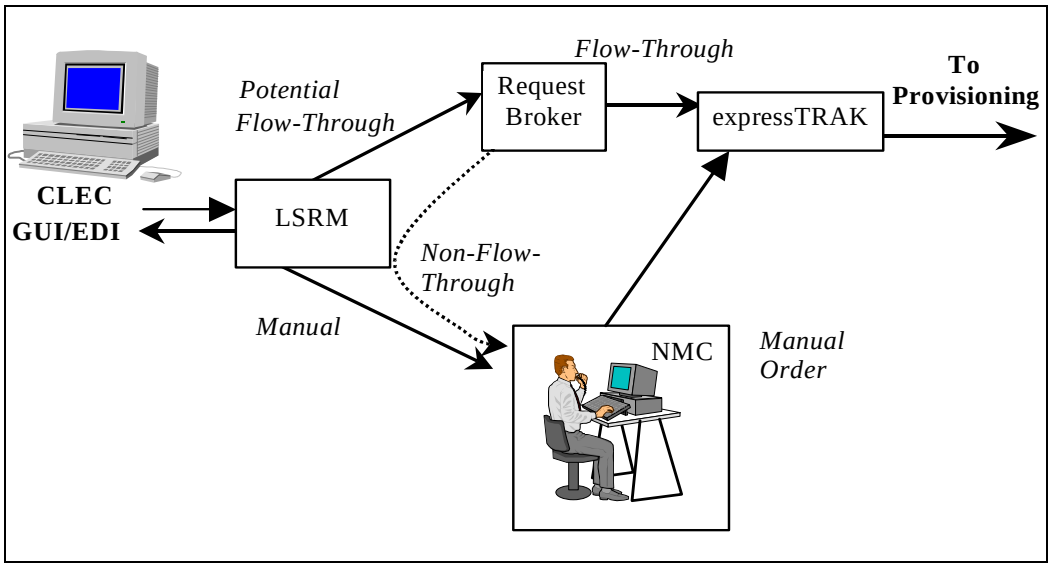
CLECs order local exchange services from Verizon VA either manually or through an electronic interface (e.g., Web Graphical User Interface (GUI) or Electronic Data Interchange (EDI)) by submitting LSRs or ASRs.[6] The ASR order process is described in Section 2.1.4. Once an LSR is submitted electronically, the order is tracked within the Local Service Request Manager (LSRM) system, using the unique Purchase Order Number (PON) specified by the CLEC. The process flow by which orders enter the service order processor (SOP), where a service order is generated and sent for provisioning, is illustrated in Figure 8-2.

A series of edits is performed as an LSR order moves through the order entry process. Orders are categorized as a Level 2 (manual entry), Level 4 (minimal manual intervention), or Level 5 (complete flow-through (FT)) during the course of the process. These categories are defined below.

- **Level 2 -** A Level 2 order enters LSRM and is routed to a Verizon service representative at the NMC for manual entry into the expressTRAK service order processing system;
- **Level 4 -** A Level 4 order enters LSRM and is sent on to Request Broker (RB). RB identifies the order as requiring minimal manual intervention and routes the order to a Verizon service representative at the NMC, who completes processing of the request.
- **Level 5 -** A Level 5 order flows through LSRM, RB, and expressTRAK without manual intervention.

[6] ASRs are the only orders sent via fax in Virginia.

Figure 8-2: LSR Process Flow



2.1.3 LSR Manual Order Process

To begin processing NFT LSR orders, the NMC Team Lead collects all of the service orders in the LSRM system that are flagged "unassigned" and distributes them to individual Service Representatives (SR) based on order type and the SR's level of product knowledge. The service orders are then flagged as "assigned." Once assigned, the SR will retrieve each service order from the LSRM system and begin the order entry process by accessing one of two systems to locate the products and features of a specific service order.

The next step in processing the service order is to receive a Service Order Number as assigned from the SOP. Once the SR has completed the order entry process, the order is then submitted to the SOP to complete the process. The SOP delivers the service order information back to LSRM, providing the CLEC the following notifiers:

- Local Service Request Local Response (LSRLR)/Local Service Confirmation (LSC) – This message indicates that the service order has been issued a confirmation date for completion.
- Provisioning Completion Message (PCM) – This message indicates that all provisioning for the requested order is complete.
- Billing Completion Message (BCM) – This message indicates that billing has been confirmed to begin.

The NMCs are required to process manual orders and provide the confirmation notification in a 24-72 hour time period, depending on the product type.

2.1.4 ASR Order Submission Process

ASR orders are received in the Silver Spring, Maryland NMC either by fax or electronic submission by the CLEC. A designated clerk receives the faxed ASR service request, provides a time-stamp, and then turns the request over to another clerk who accesses the logging database for ASRs in order to enter all of the required information. Electronic ASRs are received through the Carrier Services Gateway (CSG) system and appear on the SR's work list screen in the Exchange Access and Control Tracking (EXACT) ASR processing system. An SR will then process and submit the ASR order into the RequestNet system to conduct a facilities check. A due date for facilities availability is entered into the EXACT system. The Access Service Order Processor (ASOP) provides the correct Universal Service Order Code (USOC) codes and then the order flows to the Trunk Integrated Record Keeping System (TIRKS) system for provisioning. The CLEC will receive a Firm Order Confirmation (FOC) notifier upon confirmation of facilities.

2.1.5 Manual Error Handling Procedures

CLECs are notified of LSR errors in one of two ways:

- The SR processing the order returns a query, error response, or a jeopardy notification (JEOP) to the CLEC via the same interface used by the CLEC to submit the transaction.
- A query is automatically generated by the system informing the CLEC of the error.

CLECs receive a JEOP when the original requested due date is in jeopardy of missing the completion due date. Completion dates have potential to be missed for numerous reasons, including:

- Product unavailability;
- Incomplete billing details;
- Facilities unavailability; and/or
- CLEC-issued due date cannot be processed within the accepted time parameters according to the Verizon Product Interval Guides.

After the JEOP is sent to the CLEC, the related LSR is placed in a holding queue for up to 30 days pending a CLEC response to the NMC regarding disposition of the order. Verizon will not take further action without the CLEC's consent.

For ASRs, CLECs are notified of errors via fax or a phone call by the NMC SR processing the order. CLECs are then advised to submit a Supplemental Order Request (SUP).

2.1.6 NMC Call Handling

The NMC is organized as a virtual center so that all CLECs reach it by dialing the same number, 1-888-847-6288. During operational hours, an Automatic Call Distributor (ACD) Auto-Attendant prompts the caller to select from a set of menu options depending on the type of inquiry. Each NMC location is accessed via a separate menu selection, and these options are as follows:

1. UNE-Platform;

2. UNE-Loop;

3. Resale;
4. Access Service Requests;
5. Billing inquiry or claims; and
6. Navigation through the Web GUI.

Misdirected CLEC calls are warm transferred to other NMC locations or to internal Verizon work centers or help desks as appropriate.

CLECs call the NMC for a number of reasons, including to check the status of a PON or to request additional information/clarification on a standard query or rejection. Every call that comes into the NMC is recorded in a call log, which is maintained by the SRs. The SRs ask the CLEC for the PON number, contact details, and any associated information that the CLEC may be able to provide.

The SR uses the PON number to identify the service request and associated Case Progress History (CPH) notes within LSRM. The SR can then read through the CPH notes and determine the status of the service order or investigate the reason a query was sent to the CLEC. Comments related to a specific service order are logged in the CPH notes. The CPH notes also contain details of conversations between the NMC and CLEC. All incoming calls are tracked by time and date of call, caller identification information, order reference, and order status. System messages delivered directly to CLECs are also recorded within the history file.

If the SR cannot resolve the issue or obtain the requested information during the initial call, the SR will need to initiate a call back to the CLEC. The process for call backs to CLECs is as follows:

- Initial call back is made to the CLEC contact to state that the LSR is being processed. SRs are required to call back within two hours.
- Call back information is tracked on a "call back log" and then entered into the CPH screen within LSRM.
- If the question is related to an out-of-service issue, the LSR will get escalated immediately as a priority to a specified NMC escalation team. The escalation team is also required to contact the CLEC within two hours with either a resolution or an update on the status of the issue.

2.1.7 Escalations

Escalated issues may be raised in one of three ways:

- A CLEC calls the NMC and asks an SR to escalate a specific PON.
- The NMC Manager requests an escalation after receiving a direct request from a CLEC regarding a specific PON.
- A Verizon contact outside of the NMC requests an escalation after receiving a direct request from a CLEC regarding a specific PON.

CLECs may report problems to the NMCs in order to receive status reports on resolving issues. The SR has two hours to call the CLEC with a status. If the SR has not resolved the issue, the CLEC can either escalate it to a Team Lead or allow the SR additional time if a solution seems imminent. If the CLEC escalates, the Team Lead has three hours to call the CLEC with a status. If the Team Lead is unable to resolve the issue, it is escalated to the NMC Manager to communicate a resolution to the CLEC within the business day. If the NMC Manager is unable to resolve the escalation, it will be escalated to the Director for a next-day call back. At any time during this process, the CLEC has an option to escalate through the management levels at Verizon. The names of the relevant escalation contacts and managers for each NMC are listed on the Verizon Wholesale Markets website.

2.1.8 Capacity Management

Verizon uses a number of reports to manage capacity planning for the NMCs, including load, timeliness, productivity, and volume reports. Verizon has also developed a forecasting process as an initial element of its capacity management process. CLECs submit semi-annual forecasts for Resale, UNE, collocation, and trunks. A forecast may be submitted directly through templates provided on the Verizon Wholesale Markets website.

In addition, a centralized group called the Centralized Resource Management Group (CRMG), based in the Silver Spring, Maryland NMC, manages force loading and day-to-day capacity planning by preparing production forecast reports from information contained within the LSRM system and adjusting resources as necessary.

2.1.9 NMC Performance Measures

Team Leads review orders for integrity of content. Each month the Team Lead pulls a sample of orders (Resale and UNE) from each SR and reviews it for quality. Team Leads assess quality using NMC standards for processing accuracy and timeliness. Team Leads also summarize and track the results of these reviews, evaluating SRs by shift and by team, and report their findings to the NMC Director.

A weekly conference call facilitated by the CRMG is held between NMC Managers and personnel from the Account Management, Production Support, and Call Center departments, as well as other staff representatives. The purpose of this call is to address issues impacting workload, process improvement, mechanization, and customer care. The call also addresses issues and questions relating to Methods and Procedures (M&P) used by NMC representatives in the manual processing of transactions. The CRMG also facilitates management conference calls conducted twice a day – the first for current-day activity based on forecast projection and orders that carried over from the previous day and the second to monitor current day activity and error tracking and to determine what staffing adjustments are required for the next day.

The NMC Quality Assurance and Performance Analysis team examines work processes on an ongoing basis. The objective of this team is to reduce the volume of CLEC orders requiring manual intervention by analyzing the most common FT errors and recommending process and/or system changes to improve productivity and accuracy.

2.2 Scenarios

Scenarios were not applicable to this test.

2.3 Test Targets & Measures

The test targets for the POP Manual Order Processing Evaluation included review of Verizon VA's processes for receiving and executing manual orders. Specific processes and sub-processes in the test target included the following:

- Receive and log order for manual process;
- Process orders manually;
- Send Order Response;
  - Delivery of error messages and queries; and
  - Delivery of confirmations and completions.
- Status tracking and reporting;
- Problem escalation;
- Capacity management process; and
- Process management.
  - General management practices; and
  - Performance measurement process.

2.4 Data Sources

The data collected for this test included the NMC Service Representative Handbook, Introduction to Verizon NMC, the Verizon NMC Methods and Procedures documentation, the Verizon CLEC Handbook, the Verizon Resale Handbook, various Verizon performance reports, training documents, workflow diagrams, and sample output from manual ordering systems and tools.

KPMG Consulting also observed processes at the NMCs during production testing, which were evaluated to determine if documented processing procedures were followed. Additionally, KPMG Consulting gathered information from interviews at the NMCs with various staff levels, including director, manager, team lead, and staff member.

This test did not rely on data generation or volume testing.

2.5 Evaluation Methods

The evaluation methodology, including interviews with Verizon VA employees, direct observations of the NMC operations, and documentation reviews, was designed to determine whether Verizon VA's manual processes provide a framework for efficient receipt, review, and execution of manual orders. KPMG Consulting interviewed Verizon VA personnel in the Silver Spring, Maryland; Falls Church, Virginia; Chesapeake, Virginia; and Virginia Beach, Virginia centers, reviewed relevant documentation, and observed NMC staff conducting their day-to-day work activities.

2.6 Analysis Methods

The POP Manual Order Processing Evaluation included a checklist of evaluation criteria developed by KPMG Consulting during the initial phase of the Verizon Virginia, Inc. OSS Evaluation Project. These evaluation criteria provided the framework of norms, standards, and guidelines for the POP Manual Order Processing Evaluation.

The data collected were analyzed employing the evaluation criteria detailed in Section 3.0 below.

3.0 Results

This section identifies the evaluation criteria and test results. The results of this test are presented in the table below.

Table 8-2: PPR8 Evaluation Criteria and Results

Test Reference	Evaluation Criteria	Result	Comments
PPR8-1	The process and procedures for manual and electronic non-flow-through pre-orders and orders are defined and documented.	Satisfied	The process and procedures for manual and electronic NFT pre-orders and orders are detailed in the Service Representative Handbook and the Request Manager User Guide. Documents outlining the processes and other M&Ps are available on Verizon's intranet. CLECs are trained in pre-order and order processes at quarterly CLEC forums hosted by Verizon's account management personnel. Additionally, CLECs may access pre-order and order processes on the Verizon Wholesale Markets website at http:/www22.Verizon.com/wholesale/handbooks/section/0,,c-3-7-7_2,00.html (pre-order) and http:/www22.Verizon.com/wholesale/handbooks/section/0,,c-3-7-7_3,00.html (order process)
PPR8-2	The manual order process includes procedures for receiving and logging orders.	Satisfied	The NMC process includes procedures for order receipt and order logging as detailed in the Service Representative Handbook, the Request Manager User Guide, and various M&Ps. SRs log and track LSR orders via LSRM. ASRs are tracked and logged via EXACT and RequestNet.
PPR8-3	The manual order process includes procedures for sending order responses.	Satisfied	The manual order process includes procedures for sending order responses. The Service Representative Handbook and the Request Manager User Guide define procedures on how and when to send queries, error messages, and/or JEOPs. Additionally, there are defined procedures on how to manually enter LSR orders into the SOP, which returns confirmation and completion notices via the LSRM. ASR order responses are returned via EXACT, RequestNet, and the ASOP.

Test Reference	Evaluation Criteria	Result	Comments
PPR8-4	Performance measures and process improvement practices are defined, tracked, reported, reviewed, and applied.	Satisfied	The National Market Center 2001 Service Representatives Objectives document defines the performance standards for SRs. NMC supervisory personnel monitor the daily performance of individual SRs through defined measures and production reports extracted from the LSRM system. The reports are used to review performance and timeliness information for individual SRs, a specified department, and the entire NMC. Team Leads use the reports to coach, develop, and take corrective action to remedy service error issues. Team Leads also review reports generated from the ACD system, which provides data associated with each SR's call history (i.e., average speed of answer and call handling time). This information is also used for performance monitoring and call center improvement. The NMC Quality Assurance and Performance Analysis team examines work processes on an ongoing basis for the purposes of process improvement. The team analyzes FT errors to determine possible process and/or system changes to reduce the number of CLEC orders requiring manual intervention. There is also a process that evaluates the training needs of individuals at the NMCs, as documented in Training Coordination Process: A Pathway to New Discoveries.

Test Reference	Evaluation Criteria	Result	Comments
PPR8-5	A capacity management plan is defined and actionable and there are procedures for capacity evaluation and adjustment.	Satisfied	Capacity evaluation within the NMCs is based on a number of reports including load capacity, timeliness, productivity, and volume reports. Verizon has also developed a forecasting process as an initial element of its capacity management plan. The process provides a structured format for the CLEC to submit semi-annual forecasts for Resale, UNE, collocation, and trunks. Based on forecasts, Verizon evaluates and adjusts capacity. Additionally, the CRMG, located in Silver Spring, Maryland, manages the force loading and day-to-day capacity adjustment. Documentation regarding the CRMG team can be found in the Verizon M&Ps letter titled Procedure for Requesting Resources, and Schedule Training and Development/Meeting Time in the NMC (October 17, 2001). For short-term capacity adjustment, Verizon VA has procedures in place to use overtime (voluntary and mandatory) and cross-trained workers and shift specified work between the various NMC locations as required to accommodate volatility in demand.
PPR8-6	The process and procedures for escalations are defined and documented (internal and external escalations).	Satisfied	NMC escalation procedures are defined, documented, and readily available to Verizon employees and CLECs. Information for Verizon staff is available in internal escalation procedure guides, on Verizon's intranet, and in the Service Representative Handbook. For CLEC reference, a detailed description of the escalation process is found on the Verizon website at http://128.11.40.241/east/wholesale/resources/res_escalate_clec.htm.

Test Reference	Evaluation Criteria	Result	Comments
PPR8-7	Internal ownership of manual orders is delineated and the orders are tracked through the process.	Satisfied	Roles and responsibilities for SRs handling manual orders are defined in the Service Representative Handbook and the Request Manager User Guide. Documents outlining the roles and responsibilities and additional M&Ps are available on Verizon's intranet. LSRs are tracked via the CLEC's unique PON and SRs are responsible for tracking them within the LSRM database. CLECs can use this PON number as a reference when contacting the service center. LSRM enables SRs to track order receipt, confirmation dates, queries/errors, pending orders, confirmed orders, volume of work (orders received and by type), and completions. The electronic tracking logs are real-time and readily accessible for order status tracking.

B. Test Results: POP Work Center Support Evaluation (PPR9)

1.0 Description

The POP Work Center Support Evaluation (PPR9) was an analysis of the work center and help desk pre-order and order processes employed by Verizon Virginia (Verizon VA). These processes provide assistance to Competitive Local Exchange Carriers (CLEC) with ordering support questions, escalations, problems, and issues related to pre-ordering and ordering.

2.0 Methodology

This section summarizes the test methodology.

2.1 Business Process Description

This section provides an overview of the Wholesale Customer Care Center (WCCC), the Verizon National Market Centers (NMC), and the Customer Inquiry Response Team (CIRT). The WCCC handles system access issues, system errors, and exceptions.[7] The NMCs process Local Service Requests (LSR) and Access Service Requests (ASR) in order to generate provisioning service orders. The CIRT services general CLEC inquiries (e.g., navigation through the Verizon Wholesale Market Website and the interpretation of business rules).

2.1.1 Wholesale Customer Care Center (WCCC)

The WCCC's primary function is to serve as the single point of contact for CLECs, responding to their questions and concerns for the entire Verizon East footprint.[8] The WCCC is the primary point of contact for CLECs experiencing system access difficulties regardless of the interface used (e.g., Web Graphical User Interface (GUI) or Electronic Data Interchange (EDI)), as well as exceptions and billing and system errors.

2.1.1.1 WCCC Organization and Operations

The WCCC has three distinct working units, as detailed in Table 9-1.

[7] An exception is a WCCC term for a missing EDI notifier, a disputed line loss report, or an error executing a loop qualification.

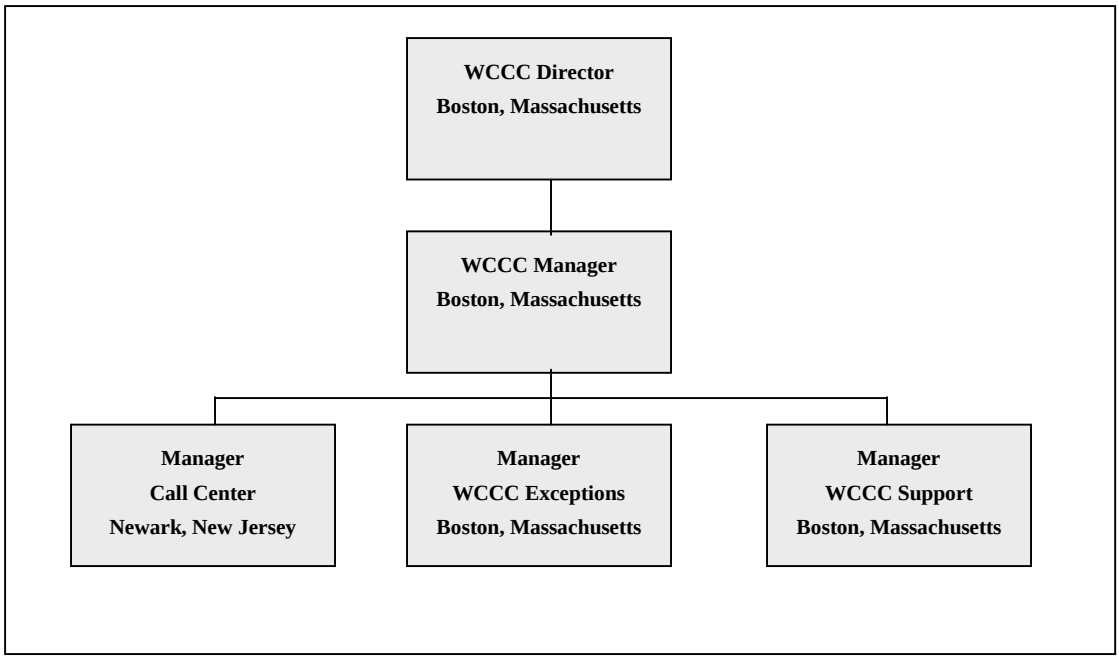
[8] The Verizon East footprint includes the states of Delaware, New Jersey, Pennsylvania, Maryland, Virginia, West Virginia, District of Columbia, Connecticut, Massachusetts, Maine, New Hampshire, New York, Rhode Island, and Vermont.

Table 9-1: WCCC Units and Responsibilities

WCCC Unit	Responsibility
WCCC Call Center (located in Newark, New Jersey)	Supports incoming calls from authorized CLECs in order to manage issues of system availability, system errors, exceptions, billing, and Daily Usage File (DUF) resends.
WCCC Support Team (located in Boston, Massachusetts)	Resolves trouble tickets (together with internal Verizon support groups).
WCCC Exceptions Team (located in Boston, Massachusetts)	Investigates missing EDI notifiers, errors executing loop qualifications, and disputed line loss reports.

Figure 9-1 shows the structure of the WCCC.

Figure 9-1: WCCC Organizational Structure



2.1.1.2 Call Handling

CLECs contact the WCCC by dialing 1-877-WHOL-CCC. The WCCC hours of operation are 6 a.m. to 12 a.m., Monday through Friday, and 6 a.m. to 6 p.m. on Saturday. At all other times, CLECs may leave a voice mail message, which pages the WCCC Manager who is required to return the message within one hour if a CLEC is experiencing an issue with transaction processing where no manual work-around is available. The WCCC returns calls by the next business day if the voice message relates to any other issue.

WCCC Repair Service Clerks (RSC) process CLEC calls in one of the following ways:

- Immediately answer questions and close the trouble ticket (known as a front-end closure);
- Contact another functional group within the WCCC on the customer's behalf and provide updates;
- Take the details of the trouble and call the CLEC back with an update; or
- Warm transfer misdirected calls (i.e., where the RSC remains on the line) to the appropriate work center or help desk within Verizon.

An incoming call to the WCCC is tracked and, if it relates to a new issue, given a unique trouble ticket number. Verizon uses the WCCC Trouble Ticket Administration Database to issue trouble tickets and track the status and work history of an order.

The process for identifying/resolving CLEC issues is as follows:

- A CLEC is directed through the Automatic Call Distributor (ACD) Auto-Attendant and presented with the following five options:

    1. Systems availability;
    2. Exceptions;
    3. Billing;
    4. System errors; and
    5. Other.

- Based on the selection chosen, the CLEC reaches an RSC who presents the CLEC contact with a trouble ticket number assigned through the WCCC Trouble Ticket Administration Database.
- If appropriate, an RSC in Newark, New Jersey attempts to recreate the problem in order to determine a solution for it.

- If this solution fails, the RSC transfers the trouble ticket to the Support Team in Boston, Massachusetts and informs the CLEC of the next step in the process.
- The Support Team in Boston, Massachusetts is now responsible for informing the CLEC contact within one business day that they will work on the ticket. The Support Team will inform the CLEC when progress occurs and when the work is completed. The CLEC is also free to contact that specific Support Team contact in order to solicit information on trouble ticket status.
- In the event that the WCCC cannot resolve the issue, or the issue is out of the WCCC's scope, then a Boston, Massachusetts Support Team Manager warm transfers the CLEC to another Verizon support team external to the WCCC. The WCCC Support Team Manager explains the nature of the trouble to the Verizon agent, passes over the responsibility for that ticket to this agent, and consequently closes the ticket within the WCCC Trouble Ticket Administration Database.

2.1.1.3 Trouble Ticket Closure

There are two ways to close a ticket. The first is a front-end closure where the RSC at the call center in Newark, New Jersey resolves the issue during the initial call from the CLEC and closes the ticket. The second is when a referral to the specialists on the Support Team in Boston results in resolution and closure. The CLEC contact is informed of the Support Team's closure either through a telephone contact or a voice mail message. The CLEC has three business days following notification of closure to dispute the resolution. If the CLEC is not satisfied with the outcome, the ticket remains open and is investigated further. If Verizon does not hear from the CLEC within three business days, Verizon assumes the CLEC is satisfied with the resolution.

The process of ticket closure is posted on the Verizon Wholesale Markets website (http://128.11.40.241/east/wholesale/customer_docs/pdfs/wccc_external.pdf).

2.1.1.4 WCCC Escalation Process

Table 9-2 identifies various escalation processes within the WCCC.

Table 9-2: WCCC Escalation Processes

Escalation Type	Process
Systems availability	A trouble ticket is escalated to the Call Center Manager, who responds to the CLEC contact within one business day. If no resolution is available, the WCCC Manager is committed to respond within one business day. Failing a resolution from the WCCC Manager, the WCCC Director is held accountable for providing a response to the CLEC within one business day.
Exceptions	A trouble ticket is escalated to the Exceptions Team Manager, who responds to the CLEC contact within one business day. If no resolution is available, the WCCC Manager is committed to respond within one business day. Failing a resolution from the WCCC Manager, the WCCC Director is held accountable for providing a response to the CLEC within one business day.
Billing and system errors	A trouble ticket is escalated to the Support Team Manager, who responds to the CLEC contact within one business day. If no resolution is available, the WCCC Manager is committed to respond within one business day. Failing a resolution from the WCCC Manager, the WCCC Director is held accountable for providing a response to the CLEC within one business day.

The above escalation processes, on which WCCC personnel are trained, are posted on the Verizon Wholesale Markets website. The WCCC Managers track and monitor escalations through the WCCC Trouble Ticket Administration Database. CLECs may also request trouble ticket escalation on behalf of their end-users. At any time after a trouble ticket is created, the CLEC is able to escalate the issue.

2.1.2 Verizon National Market Center (NMC)

For a full description of the NMC and its operating procedures, please refer to POP Manual Order Processing Evaluation (PPR8), Section 2.1.1.

2.1.3 Customer Inquiry Response Team (CIRT)

In addition to the NMC and WCCC, there is a general inquiry help desk called the CIRT.[9] The role of the CIRT is to assist with the following tasks:

- Completing LSRs and associated data gathering forms;
- Interpreting business rules;
- Placing Verizon directory listing orders;
- Navigating through the Verizon Wholesale Customer Support website;
- Navigating through the Web GUI interface (not system connectivity issues);
- Explaining error rejections;
- Answering Customer Service Record (CSR) and complex services questions; and
- Providing contact information to CLECs.

2.1.3.1 CIRT Organization and Operations

The CIRT has one Group Manager and five Specialists - First Line Managers. The Specialists have Verizon business office and wholesale experience as part of their background. The CIRT group takes calls from 8 a.m. to 6 p.m. and can be contacted directly at 1-800-483-1642.

2.1.3.2 CIRT Call Handling

As a general inquiry and help desk, the CIRT predominantly receives straightforward calls. The CIRT also occasionally supports the CLEC account management teams and takes calls from (and transfers calls to) other internal work centers such as the WCCC and NMCs. The CIRT's customers are, therefore, both internal and external to Verizon.

The CIRT has access to the same systems and information as the CLECs (e.g., Web GUI and the Verizon Wholesale Markets website (including business rules)). The CIRT can analyze a specific LSR through the Web GUI and attempt to solve the associated issue. The CIRT does not have access to expressTRAK, billing, or backend ordering systems and, therefore, warm transfers CLECs with issues requiring access to these systems to the appropriate NMC. Any system issues are referred to the WCCC.

2.1.3.3 Trouble Ticket Closure

Due to the nature of its incoming calls, the CIRT is able to immediately resolve most issues it receives. Complex issues that cannot be resolved are transferred to the appropriate Verizon work center, which assumes responsibility for issuing and closing any necessary trouble tickets.

[9] Prior to August 1, 2001, CIRT was known as the Web GUI Help Desk for Verizon East; however, the CIRT scope now extends beyond Web GUI help.

2.1.3.4 CIRT Escalation Process

CLECs may escalate issues to the CIRT Group Manager whose contact details are posted on the Verizon Wholesale Markets website as the escalation contact.

2.2 Scenarios

Scenarios were not applicable to this test.

2.3 Test Targets & Measures

The test target was Verizon VA work center and help desk support functions and included evaluation of the following processes and sub-processes:

- Respond to help desk call;
  - Answer call;
  - Interface with user; and
  - Log call.
- Process help desk call;
  - Access to systems to observe user problems; and
  - Resolve user question, problem, or issue.
- Close help desk call and log closure information;
- Monitor status;
  - Track status; and
  - Report status.
- Request and manage escalations;
- Manage the help desk process; and
  - Provide management oversight; and
  - Training and updating of CSRs.
- Capacity management process.

2.4 Data Sources

The data sources collected for the test included the Verizon Wholesale Markets website, the Verizon NMC Service Representative Handbook, the CLEC/Resale Handbook, the Wholesale Customer Care Center – Functions and Services documentation, the WCCC Trouble Ticket Job Aid, the WCCC Trouble Ticket Maintenance Log, the Request Manager User Guide, various M&Ps, various performance standards and reports, Verizon training materials, Verizon organization charts, Verizon's intranet, and various production reports.

KPMG Consulting also gathered information from observations and interviews at Verizon VA work centers and help desks, including Chesapeake, Virginia; Falls Church, Virginia; Virginia Beach, Virginia; Silver Spring, Maryland; Irving, Texas; Newark, New Jersey; and Boston, Massachusetts. KPMG Consulting interviewed Verizon employees at various levels, including director, manager, team lead, and staff.

This test did not rely on data generation or volume testing.

2.5 Evaluation Methods

The evaluation methodology, including interviews with Verizon VA employees, direct observations of the work center operations, CLEC surveys, and documentation reviews, was designed to determine whether Verizon VA meets the established evaluation criteria listed in Section 3.0.

KPMG Consulting conducted structured interviews with Verizon VA personnel using guides generated from the evaluation criteria. KPMG Consulting also observed Verizon VA processes and procedures. In addition, KPMG Consulting considered its own experience via the POP Functional Evaluation (TVV1) transaction test with the various work centers to verify that Verizon VA's actual procedures were in line with documented procedures.

2.6 Analysis Methods

The POP Work Center Support Evaluation included a checklist of evaluation criteria developed by KPMG Consulting during the initial phase of the Verizon Virginia, Inc. OSS Evaluation Project. These evaluation criteria provided the framework of norms, standards, and guidelines for the POP Work Center Support Evaluation analysis.

The data collected were analyzed employing the evaluation criteria detailed in Section 3.0 below.

3.0 Results

This section identifies the evaluation criteria and test results. The results of this test are presented in the table below.

Table 9-4: PPR9 Evaluation Criteria and Results

Test Reference	Evaluation Criteria	Result	Comments
PPR9-1	The work center and help desk processes are documented, including policy, procedures, roles, and objectives.	Satisfied	NMC Work Center descriptions and responsibilities are defined and documented within the Service Representative Handbook (revision dated July 26, 2001). This is available on Verizon's intranet. Other NMC processes and procedures are documented in methods and procedures (M&P) letters sent out internally to Verizon VA managers and staff. These and other work center processes, including training manuals and process descriptions, are documented and available on Verizon's intranet. The Verizon East Wholesale Customer Care Center – Functions and Services document (Version 1.0, July 9, 2001) details the WCCC's responsibilities and objectives and is available to Verizon staff. The full description of the WCCC's processes is documented on Verizon's intranet tool. The CIRT's roles and objectives are summarized on the Verizon Wholesale Markets Website at http://128.11.40.214/east/wholesale/html/ss_conn_gui.htm.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-2	The scope and objectives of the work centers and help desks are documented, defined, and communicated to customers.	Satisfied	The NMC's scope, procedures, hours of operation, and basic contact information are defined and documented in the CLEC/Resale Handbook Series (Volume II, Section 5.3). This information is also available on the Verizon Wholesale Markets website at http://www22.verizon.com/wholesale/handbooks/section/0,,cr-2-5-5_3,00.html. The Verizon East Wholesale Customer Care Center – Functions and Services document (Version 1.0, July 9, 2001) details the WCCC's responsibilities and objectives and is available to CLECs on the Verizon Wholesale Markets website at http://128.11.40.241/ east/wholesale/ customer_docs/pdfs/wccc_external.pdf. The CIRT's scope and objectives are defined on the Verizon Wholesale Markets website at http://128.11.40.214/east/wholesale/html/ss_conn_gui.htm.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-3	The work center and help desk processes include call intake procedures for logging and acknowledgement of issues.	Satisfied	The work center and help desk processes include call intake procedures for logging and acknowledgement of issues. An NMC training guide for the Local Service Request Manager (LSRM) system, the Request Manager User Guide (Version 6.6, Section 5.5, May 21, 2001), provides representatives with call intake and logging procedures. Further assistance is available in the Case Progress History (CPH) Notations for NMCs (May 2001) document. Calls to the WCCC result in the opening of a trouble ticket within the WCCC Trouble Ticket Administration Database. This process is described in an internal document titled WCCC Trouble Ticket Job Aid, July 9, 2001. The CIRT records details of all incoming calls and their resolutions, including transfers to other Verizon work centers.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-4	The work center and help desk processes include procedures for providing CLECs with accurate and timely responses to their ordering issues.	Satisfied	The work center and help desk processes include procedures for providing CLECs with accurate and timely responses to their ordering issues. The NMCs are aligned according to product types to provide specialized attention for specific products and ordering issues. The alignment helps the NMCs provide accurate and timely responses. There is also a metric, PO-3-02, % Answered within 20 Seconds – Ordering, with a standard of 85% of calls that come into each NMC must be answered within 20 seconds.[10] NMC Managers and Team Leads are evaluated according to how well their staffs adhere to this metric. Issues that cannot be resolved immediately at the NMC may be escalated through a documented escalation procedure available via the Verizon Wholesale Markets website at http://128.11.40.241/east/wholesale/resources/res_escalate_clec.htm. The WCCC uses first-line managers with Verizon business office and wholesale experience to help provide timely and accurate responses. The WCCC also has a process in place to escalate complex issues that cannot be solved immediately at the call center and the support center. The CIRT also uses first-line managers with Verizon business office and wholesale experience to help provide timely and accurate responses. Due to the nature of calls directed to the CIRT, most issues can be resolved immediately. Complex issues are transferred to appropriate internal Verizon work centers, such as the NMCs or the WCCC.

[10] Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-5	The work center and help desk processes include procedures for problem categorization, prioritization, and escalation.	Satisfied	Processes for problem categorization and prioritization exist at the NMCs in the form of severity coding of issues. The escalation policy and process for the NMCs are documented on the Verizon Wholesale Markets website at http://128.11.40.241/east/wholesale/resources/res_escalate_clec.htm. Additional documentation with descriptions of the escalation process is available to managers and staff accessible via Verizon's intranet. The escalation procedures for the WCCC are defined in the Verizon East Wholesale Customer Care Center - Functions and Services documentation, accessible by CLECs from the Verizon Wholesale Markets website. Severity codes are applied for problem categorization and detailed in an internal document titled WCCC Trouble Ticket Job Aid, July 9, 2001. Due to the nature of calls directed to the CIRT, most issues can be resolved immediately. Complex issues are transferred to appropriate internal Verizon work centers, such as the NMCs or WCCC. CLECs may also escalate issues to the CIRT Group Manager whose contact details can be found on the Verizon Wholesale Markets website at http://128.11.40.241/east /wholesale/html/ss_conn_gui.htm.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-6	The work center and help desk processes include procedures for closure posting.	Satisfied	The NMCs have standardized processes for closure posting. An NMC call is tracked until closure and recorded in the CPH section of the LSRM. Resolution is indicated by a queried or confirmed message sent to the CLEC. At the WCCC, upon closure of a ticket, the RSC handling the issue calls the CLEC contact and informs the contact of the issue closure. Documentation on this process is found on the Verizon Wholesale Markets website under Wholesale Customer Care Center – Functions and Services Documentation at http://128.11.40.241/ east/wholesale/customer_docs/pdfs/wccc_externa l.pdf. The CIRT logs all calls including closure and transfer of issues to other Verizon work centers.
PPR9-7	The work center and help desk processes include procedures for referrals and transfers of calls.	Satisfied	The work center and help desk processes include procedures for referrals and transfers of calls. Agents and representatives at their respective centers are provided with contact lists for other work centers and help desks and have the capability to either warm transfer or schedule conference calls as needed.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-8	The work center and help desk processes include procedures for addressing CLEC problems or issues.	Satisfied	The work center and help desk processes have procedures for addressing CLEC problems or issues. The NMCs provide their staff with structured and detailed training to ensure their understanding of business rules and their applicability to potential CLEC issues. The Service Representative Handbook (revision dated July 26, 2001) also provides direction and assistance on addressing CLEC issues. This is available on Verizon's intranet and contains various M&Ps to allow Verizon VA managers and staff to keep updated on addressing ordering issues. The WCCC staff has specific training to ensure they are equipped to address CLEC issues. They also have an internal job aid that they can reference in the categorization and assignment of trouble tickets, the WCCC Trouble Ticket Job Aid, July 9, 2001. The CIRT Specialists have Verizon business office and wholesale experience to assist CLECs with their problems or issues. Their experience and ability to access the same systems as the CLEC enable the CIRT Specialists to address specific problems encountered by the CLECs.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-9	Performance measures and process improvement practices are defined, tracked, reported, reviewed, and applied.	Satisfied	Performance measures and process improvement practices are defined, tracked, reported, reviewed, and applied at the work centers and help desks. A centralized team, the Centralized Resource Management Group (CRMG) based in Silver Spring, Maryland, proactively monitors confirmed due date timeliness across the NMCs. A major function of this team is to effectively allocate resources to satisfy customer and project requirements. In addition, supervisory personnel conduct direct observations of their staff, as well as assess summary reports from the ACD logs. Analysis from these reports is used for performance measurement and process improvement. The NMC Quality Assurance and Performance Analysis team examines reports and work processes on an ongoing basis for the purposes of potential process improvements. There is also a process that evaluates the training needs of individuals at the NMCs, which is defined in the Training Coordination Process: A Pathway to New Discoveries document. The WCCC uses a number of tools to measure and track performance, including reports generated from the WCCC Trouble Ticket Administration Database. These reports are broken down by functional group and are used by management to monitor performance and to determine training needs for the RSCs. The CIRT uses ACD and call logs to track and report on performance.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-10	The work center and help desk processes include procedures for capacity planning.	Satisfied	The NMCs have processes in place for capacity planning based on the following: ♦ Load capacity reports; ♦ Confirmed due date timeliness reports; ♦ Productivity reports; ♦ Verizon East volume reports; and ♦ The CLEC forecasting process. These reports are used to determine projected work volume and the NMC's ability to effectively service the volume. Additionally, the CRMG manages the NMC force-loading and the day-to-day capacity planning process by preparing production forecast reports from the production data in LSRM. To address short-term capacity needs, Verizon has procedures in place to use overtime (voluntary and mandatory) and cross-trained workers, as well as shift-specified work between the various Verizon NMC locations as required in order to accommodate volatility in demand. The WCCC Director and Manager monitor the historical use of resources in responding to call volumes and will add RSCs and Managers when call volumes increase. The CIRT uses call logs for analysis purposes. Additionally, the CIRT has processes in place to route calls to an overflow help desk in Yonkers, New York during times of high call volume.

Test Reference	Evaluation Criteria	Result	Comments
PPR9-11	The work center and help desk processes include procedures for maintaining security and integrity of data.	Satisfied	The works centers and help desks have processes for maintaining security and integrity of data. Application and data servers on the Verizon Corporate Local Area Network (LAN) are subject to documented corporate security procedures. These security procedures address system access, passwords, and firewalls. The LSRM can only be accessed with a valid username and password. LSRM access procedures are documented in the Verizon Request Manager User Guide (Version 6.6, Chapter 2, May 21, 2001). NMC representatives require CLEC callers to provide a PON number in order to access the LSR in question. Callers to the WCCC are required to provide the RSCs with a unique tracking number (as issued by the WCCC Trouble Ticket Administration Database) in order to gain further information regarding the status of that issue. Callers to the CIRT that have specific LSR queries are also requested to provide a PON number in order for the Specialist to access the LSR in question. Verizon VA buildings have controlled access via identification badges.

C. Test Results: POP Functional Evaluation (TVV1)

1.0 Description

The POP Functional Evaluation (TVV1) evaluated the systems, processes, and other operational elements associated with the Verizon Virginia (Verizon VA) pre-order and order processes. The two interfaces evaluated were Electronic Data Interchange (EDI) and Web Graphical User Interface (GUI). The objective of this test was to validate the existence, functionality, and performance of the Verizon VA interfaces and processes for pre-ordering and ordering transaction submissions and responses.

2.0 Methodology

This section describes the test approach and methodology used to execute the POP Functional Evaluation.

2.1 Business Process Description

EDI connectivity is established by building an interface based upon the Verizon pre-order and order business rules, the Verizon EDI specifications, and the EDI industry standards. Once EDI connectivity is established and the interface is certified, CLECs can submit transactions.

The Web GUI is an internet application in which access is controlled via user IDs and passwords. Once the Verizon Web GUI is accessed and the users are authenticated, CLECs can submit transactions.

Two transaction processes were central to the POP Functional Evaluation: the pre-ordering process and the ordering process. As part of the pre-ordering process, CLECs submit pre-order queries to validate existing customer information, to inquire about facility and technician availability, and to obtain data (e.g., telephone numbers, service feature codes) that may be used as input on subsequent Local Service Requests (LSR). In response to a pre-order inquiry, Verizon returns a pre-order response or an error message.

The ordering process begins with the origination of an LSR by a CLEC. Upon receipt of an LSR, Verizon generates a Functional Acknowledgement (ACK), indicating that the Web GUI or EDI file was successfully received. For the Web GUI, the ACK is an interim message that is overlaid with a subsequent response. The LSR then passes through the Verizon order-processing environment where systems and/or representatives perform validations to determine if the LSR is properly formatted and contains accurate data. If errors are found, Verizon transmits an Error Message (ERR) to the CLEC. Depending on the error type, CLECs submit a new or supplemental LSR to correct the error. Once the LSR successfully passes through the validation process, Verizon generates a Local Service Request Local Response (LSRLR) for EDI transactions and a Local Service Confirmation (LSC) for Web GUI transactions. This LSRLR/LSC confirms that Verizon validated the LSR and provides a Due Date (DD) on which Verizon commits to completing the requested provisioning activities.

Verizon transmits a Local Service Request Provisioning Completion Message (PCM) for a particular LSR when provisioning activities are completed. Verizon subsequently transmits a Local Service Request Billing Completion Message (BCM) following the conclusion of downstream billing system updates.

When encountering problems with order or pre-order business rule interpretation or error resolution, CLECs may seek assistance from two Verizon help desks: the Verizon National Market Center (NMC) and the Wholesale Customer Care Center (WCCC).

The NMC is contacted for error resolution of submitted orders and when notification responses are late or missing. Error resolution involves analysis of the business rules and the verification of system/representative-generated errors.

Issues raised with the NMC result in one or a combination of the following courses of action:

- Resubmission of the LSR by CLEC with a correction;
- Processing of an LSR without CLEC resubmission (i.e., no error existed as the LSR was mistakenly queried by a service representative);
- Resubmission of an LSR by CLEC as-is (i.e., no error existed as the LSR was mistakenly queried by a service representative);
- Transfer of the issue to the WCCC; and
- Correction to the Verizon system.

The WCCC is used for general system errors, billing issues, exceptions, and system availability problems. The WCCC generates trouble tickets to facilitate issue tracking. The WCCC then monitors the trouble tickets and provides regular updates by telephone to the CLEC. WCCC escalations are required if solutions internally-recommended by the WCCC fail, do not match the requirements of the business rules, or are not received in a timely fashion. Issues raised with the WCCC result in one of the following courses of action:

- Correction of the Verizon system followed by resubmission of the transaction by the CLEC;
- Resubmission of the service request as-is by the CLEC (i.e., errors are the result of NMC representative error); and
- Resubmission of the service request with a correction by the CLEC.

Figure 1-1 below provides an overview of the Verizon pre-order and order transaction process. Figure 1-2 provides a high level system view of the pre-order and order process once a transaction reaches Verizon.

Figure 1-1: POP Functional Evaluation Transaction Overview

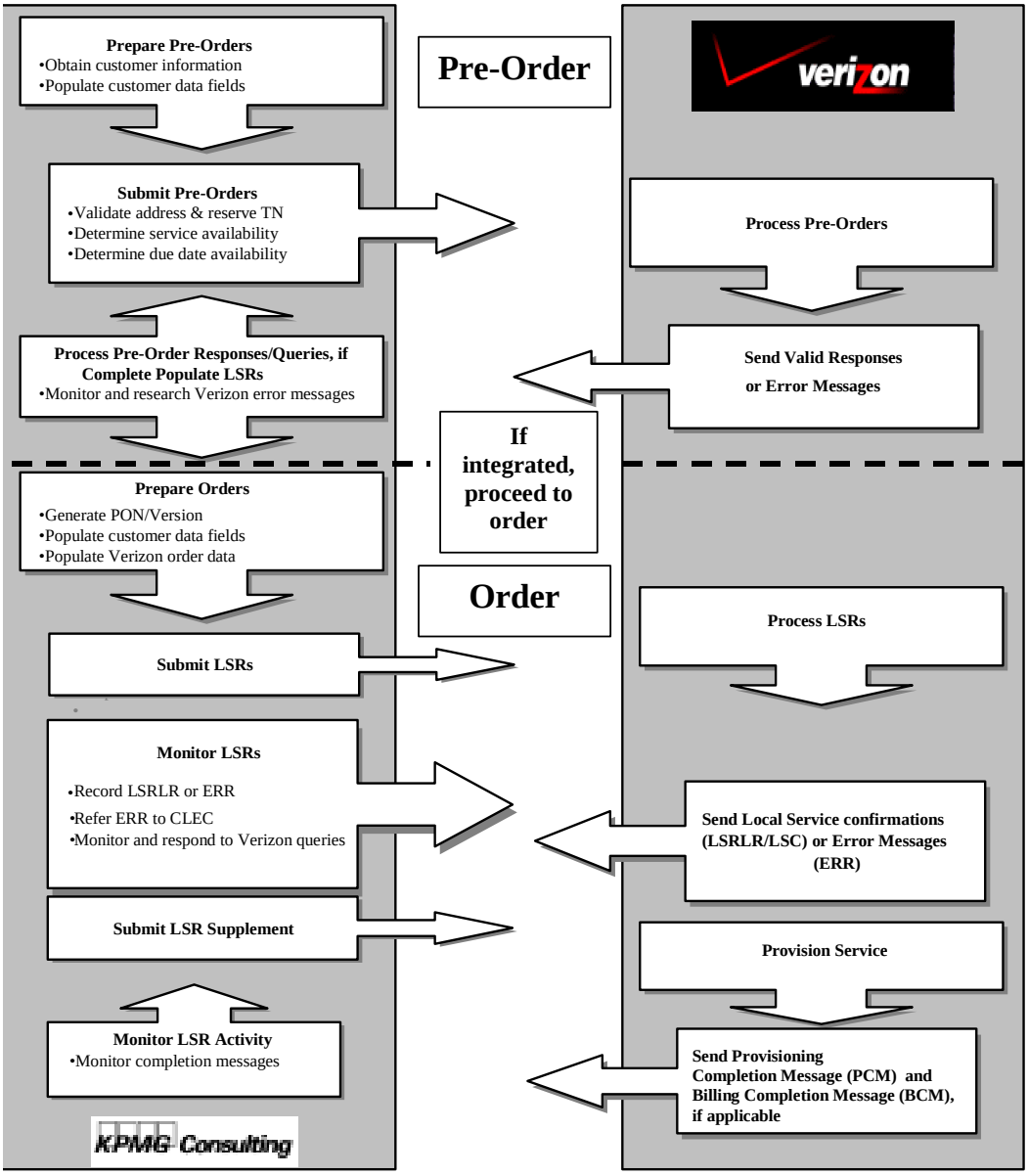
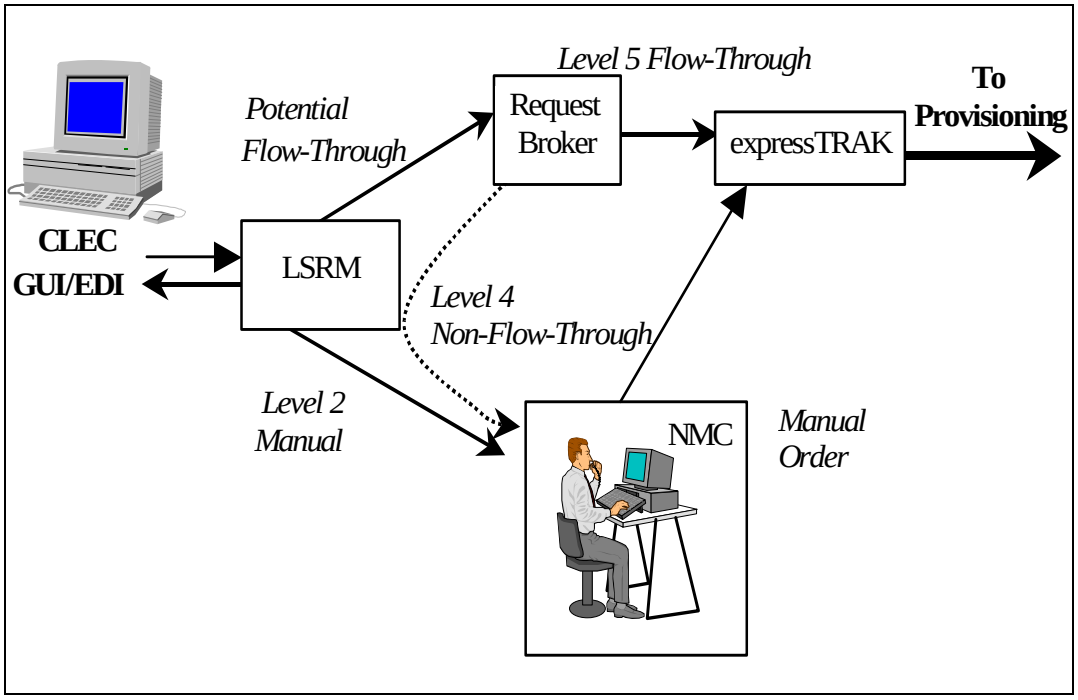


Figure 1-2: LSR Transaction Process Overview



LSRs are submitted by a CLEC using common mechanized front-end interfaces: EDI and Verizon's Web GUI. These orders enter Verizon's systems through a gateway system known as Local Service Request Manager (LSRM). LSRM uses the unique Purchase Order Numbers (PON) specified by a CLEC to track the submitted orders. Depending on an order's flow-through (FT) eligibility, the order enters expressTRAK via Request Broker or the NMC as follows:

- A Level 2 order enters LSRM and is routed to a Verizon service representative at the NMC for manual entry into the expressTRAK service order processing system;
- A Level 4 order enters LSRM and is sent on to Request Broker (RB). RB identifies the order as requiring minimal manual intervention and routes the order to a Verizon service representative at the NMC, who completes processing of the request; and
- A Level 5 order flows through LSRM, RB, and expressTRAK without manual intervention.

2.2 Scenarios

Tables 1-1 through 1-5 list the pre-order and order scenarios used in the POP Functional Evaluation.

Table 1-1: Functional Pre-Order Test Scenarios

Activity	Residence	Business
Obtain Customer Service Record (CSR)	**X**	**X**
Obtain Parsed Customer Service Record (CSR)	**X**	**X**
Validate customer address (ADR)	**X**	**X**
Reserve and release telephone numbers using Conversational method (ADR, CTNS, CTN/R, TRA, TRU)	**X**	**X**
Reserve telephone numbers using Direct method (TNA)[11]	**X**	**X**
Perform directory listing inquiry (DLR)	**X**	**X**
Inquire about product and service availability (PSA)	**X**	**X**
Determine if customer's loop qualifies for ISDN (LQB)	**X**	**X**
Determine if customer's loop is xDSL capable (LXR)	**X**	**X**
Determine availability of desired due date (DDA)	**X**	**X**
Inquire about Installation Status (ISR)	**X**	**X**
Inquire about Status of Service Orders (SOR)	**X**	**X**
Inquire if a customer's telephone number can be location ported to another service address (LPI)	**X**	**X**
Inquire about Loop Make-up criteria (LMU)	**X**	**X**

[11] The ADR pre-order form is used for the TNA pre-order transaction.

Table 1-2: Functional Order Test Scenarios: Resale

Activity	Res. POTS	Bus. POTS	Centrex	Private Line
Migration from Verizon VA "as is"	**X**	**X**	**X**	
Migration from Verizon VA "as is" with minor changes		**X**		
CLEC to CLEC migration	**X**	**X**		
Feature changes to existing customer	**X**	**X**	**X**	
Migration from Verizon VA "as specified"	**X**	**X**	**X**	
New customer	**X**	**X**		**X**
Telephone number change	**X**	**X**		
Directory change	**X**	**X**	**X**	
Add lines/trunks/circuits	**X**	**X**	**X**	**X**
Suspend/restore service	**X**	**X**		
Disconnect (full and partial)	**X**	**X**	**X**	**X**
Moves (inside and outside)	**X**	**X**		
Migrate from CLEC to Verizon VA	**X**	**X**		

Table 1-3: Functional Order Test Scenarios: Unbundled Network Elements Platform (UNE-P)

Activity	Res. POTS	Bus. POTS
Migration from Verizon VA "as is"	**X**	**X**
Migrate from CLEC to CLEC	**X**	**X**
Feature changes to existing customer	**X**	**X**
Migration from Verizon VA "as specified"	**X**	**X**
New Customer	**X**	**X**
Telephone number change	**X**	**X**
Directory change	**X**	**X**
Add lines/trunks/circuits	**X**	**X**
Suspend/restore service	**X**	**X**
Disconnect (full and partial)	**X**	**X**
Moves (inside and outside)	**X**	**X**
Migrate from CLEC to Verizon VA	**X**	**X**
Convert from Resale to Unbundled Network Elements-Platform (UNE-P)	**X**	**X**
Line Splitting	**X**[12]	**X**[13]

[12] KPMG Consulting submitted Verizon-supported Line Splitting orders with residential accounts.

[13] KPMG Consulting submitted new Port orders for existing ADSL business accounts to establish the Port portion of a Line Splitting arrangement.

Table 1-4: Functional Order Test Scenarios: UNE-Loop Activity

Activity	Res. Analog Loop	Bus. Analog Loop	Res. xDSL Capable Loop	Bus. xDSL Capable Loop	ISDN Capable Loop	Bus. DS1 Loop	Inter-office Facility	Stand-alone LNP
Migrate lines from Verizon VA without number port	X	X						
Migrate lines from Verizon VA with LNP	X	X						
Migrate from CLEC to CLEC	X	X						
Add new lines to existing customer	X	X	X	X	X	X		
Add new interoffice Digital Signal – 1/Digital Signal – 3 (DS1/DS3) facilities							X	
Purchase lines for a new customer	X	X	X	X	X	X		
Disconnect (full and partial)	X	X	X	X		X		
Moves (inside and outside)	X	X	X	X				
Directory Listing Change	X	X						
Convert from Resale to UNE-Loop	X	X						
Convert from UNE-P to UNE-Loop	X	X						
Number Portability								X
Move loop off Integrated Digital Loop Carrier (IDLC) system	X	X						
Migrate existing customer to a line shared loop			X	X	X			
Add Dark Fiber							X	
Migrate a retail Point-to-Point DS1 private line customer to UNE DS1 Loop						X		

Table 1-5: Functional Order Test Scenarios: Unbundled Network Elements EEL (UNE-EEL)

Activity	Res. Loops	Bus. Loops
Migration from Verizon VA without number port	**X**	**X**
Add new lines to existing EEL	**X**	**X**
Purchase lines for a new customer	**X**	**X**

2.3 Test Targets & Measures

The test targets were Verizon VA's pre-order and order transactions which were processed via the EDI and Web GUI. The following processes and sub-processes were included in the test target for pre-orders:

- Submit pre-order transactions;
  - Send pre-order transactions;
  - Receive match response;
  - Receive near match response; and
  - Receive error response.
- Validate pre-order transactions; and
  - Receive pre-order response; and
  - Review pre-order response.
- Follow up on delayed or erred pre-order activities.
  - Request status of response;
  - Escalate request for information if necessary;
  - Request pre-order transaction population support; and
  - Request pre-order error correction support.

The following processes and sub-processes were included in the test target for orders:

- Submit order;
  - Send order transaction;
  - Receive acknowledgment of request;
  - Receive confirmation of request (LSRLR/LSC) and verify receipt of response;
  - Receive error/reject response (ERR); and
  - Verify accuracy and completeness of response.
- Submit a planned error;
  - Send error in order transaction;
  - Receive acknowledgment of request;
  - Receive planned error/reject response (ERR) and verify receipt of response;
  - Correct error(s);
  - Resend order; and
  - Receive LSRLR/LSC.

- Supplement an order;
  - Send supplement;
  - Receive acknowledgement of supplement;
  - Receive confirmation of supplement (LSRLR/LSC) and verify receipt of response; and
  - Receive error/reject response (ERR).
- Correct error(s);
  - Resend supplement; and
  - Receive LSRLR/LSC.
- Pre-order/order Integration;
  - Populate integration orders with information from designated pre-orders;
  - Submit integration orders;
  - Receive acknowledgement;
  - Receive LSRLR/LSC or ERR; and
  - Check service order status.
- Follow-up on delayed or erred order activities; and
  - Request status of response;
  - Escalate request for information, if necessary;
  - Request order population support; and
  - Request order error correction support.
- Validate order transaction responses.
  - Receive LSRLR/LSC;
  - Review LSRLR/LSC;
  - Receive PCM;
  - Review PCM;
  - Receive BCM; and
  - Review BCM.

2.4 Data Sources

The data collected for the test included versions of the Verizon LSOG4[14] pre-ordering, ordering, and Access Service Request[15] (ASR) Business Rules that were current during the transaction period of the test. KPMG Consulting also used the following: the Verizon Resale Handbook, the Verizon CLEC Handbook, Verizon EDI and Web GUI User Guides, the Verizon VA USOC In-Scope Table for expressTRAK, Verizon CTE test decks, the November 2001 CLEC Aggregate Carrier-to-Carrier Report, and the Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000.

For each test scenario identified in Table 1-1 through Table 1-5, KPMG Consulting designed and processed a set of transactions for the purpose of analyzing the available pre-order types, order delivery methods, and activity types.

[14] Verizon LSOG4 Business Rules (Versions 4.6.1 and 4.7.1) and Verizon LSOG4 EDI Guides (Versions 4.6.1 and 4.7.1).

[15] ASR Business Rules (Versions 23.1 and 23.2).

2.5 Evaluation Methods

The Master Test Plan (MTP) defined a set of pre-order and order scenarios for testing in the POP Functional Evaluation. The scenarios outlined, at a high-level, the products and services to order and the activity types to request.[16] Using these descriptions, KPMG Consulting developed test cases for each scenario. Each test case contained a detailed description of the case and described order requirements including the following: (i) customer types (business or residential), (ii) service families (e.g., Plain Old Telephone Service (POTS), Centrex, and xDSL), (iii) service delivery methods (e.g., Resale, UNE, and UNE-P), (iv) activity types (e.g., partial or full migration,[17] disconnect, change, and move), (v) FT designation, and (vi) other information necessary to execute the test case.

Each test case was then used to generate distinct pre-order and order transactions. Verizon VA provided test bed accounts, which were provisioned based on the test case descriptions, against which pre-order and order transactions were placed.

2.5.1 EDI Functional Evaluation

KPMG Consulting used the Verizon LSOG4 business rules and EDI guides[18] to prepare pre-order and order transactions. The business rules detail the form and field information required to submit valid pre-order inquiries and order requests. The EDI guides detail mapping of business field entries to EDI transaction sets for transmission to Verizon via the EDI interface.

KPMG Consulting used an internally developed application to populate pre-order and order transactions in the Formset Common Interchange Format (FCIF) file format. The FCIF files were then sent to Hewlett Packard, the Test Transaction Generator (TTG). The TTG translated the FCIF files into EDI format and transmitted the EDI files to Verizon VA. The responses from Verizon VA were received in EDI format, translated by the TTG into the FCIF format, and transmitted to KPMG Consulting.

The TTG was responsible for recording date and timestamp information at the transaction level, both upon submission of LSRs and receipt of responses (i.e., ACK, LSRLR, Jeopardy Notification (JEOP), Notice of Cancellation (CANCL), ERR, PCM, and BCM).

KPMG Consulting submitted stand-alone pre-orders and orders to evaluate Verizon VA system functionality. When necessary, pre-orders were also submitted to obtain information required to validate customer information or to receive input for a subsequent LSR. In addition, KPMG Consulting analyzed pre-order and order field content and field formats to evaluate compliance with the Verizon business rules.

EDI transaction responses were evaluated for consistency with the pre-order and order business process flow, as described in Section 2.1. The responses were evaluated for timeliness, accuracy and completeness, and clarity.

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[16] KPMG Consulting was unsuccessful in gaining the cooperation of any CLEC operating in Virginia to support Local Number Portability (LNP) testing for the UNE-EEL product. As a result, none of the LNP scenarios for EEL products, identified in Appendix A of the MTP were tested.

[17] A full migration converts all of a customer's lines from Verizon to a CLEC. A partial migration converts some lines to a CLEC and retains at least one line with Verizon.

[18] Verizon LSOG4 Business Rules (Versions 4.6.1 and 4.7.1) and Verizon LSOG4 EDI Guides (Versions 4.6.1 and 4.7.1).

KPMG Consulting tracked the status and progress of submitted pre-orders and orders. Error responses were researched (either internally or by contacting one of the Verizon help desks), corrected, and re-submitted as appropriate. KPMG Consulting also investigated missing, late, and incorrect responses.

KPMG Consulting measured EDI pre-order and order system availability during a sample period of the functional evaluation. This was accomplished by submitting and monitoring responses for pre-orders[19] and orders[20] via EDI at regular intervals[21] throughout the business day. The system was considered available for periods during which both the interface was functional, as evidenced by the submission of a transaction, and the associated backend systems were functional, as evidenced by the return of the appropriate response.[22] The system was considered unavailable for periods during which no transaction could be submitted due to interface inaccessibility, non-functionality, or when no response was received.[23] KPMG Consulting also reviewed Verizon system outage notices in order to compare reported outages to actual experience for accuracy and consistency.

2.5.2 Web GUI Functional Evaluation

To prepare pre-order and order transactions, KPMG Consulting used the Verizon LSOG4 business rules and Web GUI User Guide. The business rules detail the form and field information required to submit valid pre-order inquiries and order requests.

KPMG Consulting populated and then submitted various types of pre-order and order transactions to Verizon. The Web GUI transactions submitted during the test were comparable to EDI transactions. KPMG Consulting monitored the Verizon VA Web GUI to check for response postings. Responses were evaluated for timeliness, accuracy and completeness, and clarity.

For the Verizon VA Web GUI, information (e.g., date and timestamp) pertaining to order submissions and response postings was captured by KPMG Consulting. Verizon VA does not provide date and timestamps on pre-order responses returned via the Web GUI.

KPMG Consulting submitted stand-alone pre-orders and orders to evaluate Verizon system functionality. When necessary, pre-orders were submitted to obtain information to validate customer information or to provide required data for a subsequent LSR.

KPMG Consulting actively tracked the progress and status of submitted pre-orders and orders. Error responses were researched (either internally or by contacting the Verizon help desks), corrected, and re-submitted as appropriate. KPMG Consulting also investigated missing, late, and incorrect responses.

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[19] Pre-orders submitted for pre-order system availability were ADRs.

[20] Orders submitted for order system availability were Resale feature change and UNE-P migration as-is with minor change.

[21] Orders were submitted via EDI once every 15 minutes from 8 a.m. to 8 p.m. between October 26, 2001 and November 21, 2001. Pre-orders were submitted via EDI once every five minutes from 8 a.m. to 8 p.m. between October 26, 2001 and November 21, 2001. Volume test days, weekends, and published Verizon VA holidays were excluded from measurement.

[22] For the purpose of the system availability measurement, appropriate responses were: valid pre-order responses for pre-order inquiries and LSRLRs for orders.

[23] Minimum period of two hours for orders; 10 minutes for pre-orders.

KPMG Consulting measured Web GUI pre-order and order system availability during a sample period of the functional evaluation. This was accomplished by submitting and monitoring responses for pre-orders[24] and orders[25] via the Web GUI at regular intervals[26] throughout the business day. The system was considered available for periods during which both the GUI interface was functional, as evidenced by the submission of a transaction, and the associated backend systems were functional, as evidenced by the return of the appropriate response.[27] The system was considered unavailable for periods during which no transaction could be submitted due to interface inaccessibility, non-functionality, or when no response was received.[28] KPMG Consulting also reviewed Verizon system outage notices in order to compare reported outages to actual experience for accuracy and consistency.

2.6 Analysis Methods

The POP Functional Evaluation included a checklist of evaluation criteria developed by KPMG Consulting during the initial phase of the Verizon Virginia, Inc. OSS Evaluation Project. These evaluation criteria provided the framework of norms, standards, and guidelines for the POP Functional Evaluation.

The data collected were analyzed employing the evaluation criteria detailed in Section 3.0 below. Results in the POP Functional Evaluation were intended to reflect the KPMG Consulting pseudo-CLEC experience. KPMG Consulting applied the standards in the Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports (Carrier-to-Carrier Guidelines), dated August 11, 2000 as the evaluation criteria. When there was no standard in the Carrier-to-Carrier Guidelines, KPMG Consulting's professional judgment was applied to the evaluation criteria. Where applicable, results were calculated based on KPMG Consulting's external timestamps (e.g., the TTG for EDI transactions) or other data points provided in transaction responses from Verizon VA. KPMG Consulting measured the CLEC end-to-end response time while Verizon VA measured processing time within its own environment. For those POP Functional Evaluation criteria that did not map to the measurement points defined in the Carrier-to-Carrier metrics, KPMG Consulting reviewed results based on an assessment of potential CLEC impact. Therefore, the KPMG Consulting results are expected to differ somewhat from the measurement points reported by Verizon VA in the Carrier-to-Carrier Guidelines.

[24] Pre-orders submitted for pre-order system availability were ADRs.

[25] Orders submitted for order system availability were Resale feature change and UNE-P migration as-is with minor change.

[26] Orders were submitted via the Web GUI once every 15 minutes from 9 a.m. to 6 p.m. between October 26, 2001 and November 21, 2001. Pre-orders were submitted via the Web GUI once every five minutes from 8 a.m. to 8 p.m. between October 29, 2001 and November 21, 2001. Volume test days, weekends, and published Verizon VA holidays were excluded from measurement.

[27] For the purposes of the system availability measurement, appropriate responses were valid pre-order responses for pre-order inquiries and LSRLRs for orders.

[28] Minimum period of two hours for orders; 10 minutes for pre-orders.

3.0 Results

This section identifies the evaluation criteria and test results.

3.1 Results Summary

The results of this test are presented in the table below.

Table 1-6: TVV1 Evaluation Criteria and Results

Test Reference	Evaluation Criteria	Result	Comments
Documentation			
TVV1-1-1	Documentation used during the course of the evaluation was clear, accurate, and complete.	Satisfied	The documentation used during the course of the evaluation was clear, accurate, and complete. Publicly available documentation used to conduct the POP Functional Evaluation test included the following: ♦ Verizon LSOG4 Pre-Order Business Rules; ♦ Verizon LSOG4 Order Business Rules; ♦ Verizon Pre-order EDI Guide; ♦ Verizon Order EDI Guide; ♦ Verizon Product Interval Guides for Resale and UNE; ♦ USOC In-Scope Table for expressTRAK; ♦ Resale and CLEC Handbooks; ♦ Access Service Ordering Guide (ASOG); and ♦ Jeopardy Notification document. When documentation issues were identified, the Verizon help desks were contacted. Verizon investigated the issues and, if required, published a change to the documentation in the next documentation release.

Test Reference	Evaluation Criteria	Result	Comments
Interface Availability			
TVV1-2-1	Verizon systems are available for Web GUI pre-order processing during scheduled hours of operation.	Satisfied	Based on KPMG Consulting's experience, the Verizon Web GUI and associated systems were 99.6% available for pre-order processing.[29] KPMG Consulting measured system availability as described in Section 2.5.2 of this report for a sample period between October 29, 2001 and November 21, 2001.
TVV1-2-2	Verizon systems are available for Web GUI order processing during scheduled hours of operation.	Satisfied	Based on KPMG Consulting's experience, the Verizon Web GUI and associated systems were 100% available for order processing.[30] KPMG Consulting measured system availability as described in Section 2.5.2 of this report for a sample period between October 26, 2001 and November 21, 2001.
TVV1-2-3	Verizon systems are available for EDI pre-order processing during scheduled hours of operation.	Satisfied	Based on KPMG Consulting's experience, the Verizon EDI and associated systems were 99.6% available for pre-order processing.[31] KPMG Consulting measured system availability as described in Section 2.5.1 of this report for a sample period between October 26, 2001 and November 21, 2001.
TVV1-2-4	Verizon systems are available for EDI order processing during scheduled hours of operation.	Satisfied	Based on KPMG Consulting's experience, the Verizon EDI and associated systems were 100% available for order processing.[32] KPMG Consulting measured system availability as described in Section 2.5.1 of this report for a sample period between October 26, 2001 and November 21, 2001.

[29] Pre-orders were submitted via the Web GUI once every five minutes from 8 a.m. to 8 p.m.

[30] Orders were submitted via the Web GUI once every 15 minutes from 9 a.m. to 6 p.m.

[31] Preorders were submitted via EDI once every five minutes from 8 a.m. to 8 p.m.

[32] Orders were submitted via EDI once every 15 minutes from 8 a.m. to 8 p.m.

Test Reference	Evaluation Criteria	Result	Comments
Accuracy and Completeness of Functionality			
TVV1-3-1	Verizon systems or representatives provide required pre-order functionality.	Satisfied	Verizon systems or representatives provided required pre-order functionality. Verizon systems and representatives provided documented functionality to process 17 of 17 pre-order transaction types evaluated during the course of the test. See Table 1-1 for additional detail.
TVV1-3-2	Verizon systems or representatives provide required order transaction functionality.	Satisfied	Verizon systems or representatives provided required order functionality. Verizon systems or representatives provided appropriate functionality to process the order scenario types evaluated during the course of this test. See Tables 1-2, 1-3, 1-4, and 1-5 for additional detail.
Timeliness of Response - Functional Evaluation			
TVV1-4-1	Verizon systems provide timely responses to Conversational TN Selection Inquiries (CTNS).	Satisfied	Verizon systems provided timely CTNS pre-order responses via EDI. The average response time observed by KPMG Consulting for CTNS was 4.74 seconds, which satisfied the KPMG Consulting CTNS pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-2	Verizon systems provide timely responses to Address Validation Inquiries (ADR).	Satisfied	Verizon systems provided timely ADR pre-order responses via EDI. The average response time observed by KPMG Consulting for ADR was 5.94 seconds, which satisfied the Carrier-to-Carrier Guidelines ADR pre-order timeliness standard of 8.55 seconds. See Table 1-7 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-4-3	Verizon systems provide timely responses to Address Validation-TN Availability inquiries (TNA).	Satisfied	Verizon systems provided timely TNA pre-order responses via EDI. The average response time observed by KPMG Consulting for TNA was 9.08 seconds, which satisfied the Carrier-to-Carrier Guidelines TNA pre-order timeliness standard of 9.88 seconds.[33] See Table 1-7 for additional detail.
TVV1-4-4	Verizon systems provide timely responses to Customer Service Record Information Inquiries (CSR).	Satisfied	Verizon systems provided timely CSR pre-order responses via EDI. The average response time observed by KPMG Consulting for CSR was 3.50 seconds, which satisfied the Carrier-to-Carrier Guidelines CSR pre-order timeliness standard of 4.74 seconds. See Table 1-7 for additional detail.
TVV1-4-5	Verizon systems provide timely responses to Parsed Customer Service Record Information Inquiries (CSR).	Satisfied	Verizon systems provided timely Parsed CSR pre-order responses via EDI. The average response time observed by KPMG Consulting for Parsed CSR was 2.93 seconds, which satisfied the Carrier-to-Carrier Guidelines Parsed CSR pre-order timeliness standard of 10.74 seconds. See Table 1-7 for additional detail.
TVV1-4-6	Verizon systems provide timely responses to Due Date Availability Inquiries (DDA).	Satisfied	Verizon systems provided timely DDA pre-order responses via EDI. The average response time observed by KPMG Consulting for DDA was 5.22 seconds, which satisfied the Carrier-to-Carrier Guidelines DDA pre-order timeliness standard of 5.36 seconds. See Table 1-7 for additional detail.
TVV1-4-7	Verizon systems provide timely responses to Directory Listing Inquiries (DLR).	Satisfied	Verizon systems provided timely DLR pre-order responses via EDI. The average response time observed by KPMG Consulting for DLR was 5.80 seconds, which satisfied the KPMG Consulting DLR pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.

[33]The TNA standard is derived by adding four seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR in August, September, October, and November 2001, as proposed by the Virginia Metrics Collaborative.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-4-8	Verizon systems provide timely responses to Installation Status Inquiries (ISR).	Satisfied	Verizon systems provided timely ISR pre-order responses via EDI. The average response time observed by KPMG Consulting for ISR was 4.57 seconds, which satisfied the KPMG Consulting ISR pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-9	Verizon systems provide timely responses to Loop Make-up Inquiries (LMU).	Satisfied	Verizon systems provided timely LMU pre-order responses via EDI. The average response time observed by KPMG Consulting for LMU was 9.94 seconds, which satisfied the KPMG Consulting LMU pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-10	Verizon systems provide timely responses to Location Porting Inquiries (LPI).	Satisfied	Verizon systems provided timely LPI pre-order responses via EDI. The average response time observed by KPMG Consulting for LPI was 4.50 seconds, which satisfied the KPMG Consulting LPI pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-11	Verizon systems provide timely responses to Loop Qualification Inquiries (LQB).	Satisfied	Verizon systems provided timely LQB pre-order responses via EDI. The average response time observed by KPMG Consulting for LQB was 10.62 seconds, which exceeded the KPMG Consulting LQB pre-order timeliness benchmark of 10 seconds. According to KPMG Consulting's analysis, 10.62 seconds is not statistically significantly different (p-value = 0.27) from the benchmark of 10 seconds with 95% confidence. See Table 1-7 and Figure 1-3 for additional detail.
TVV1-4-12	Verizon systems provide timely responses to xDSL Loop Qualification Inquiries (LXR).	Satisfied	Verizon systems provided timely LXR pre-order responses via EDI. The average response time observed by KPMG Consulting for LXR was 5.48 seconds, which satisfied the Carrier-to-Carrier Guidelines LXR pre-order timeliness standard of 17.56 seconds. See Table 1-7 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-4-13	Verizon systems provide timely responses to Product and Service Availability Inquiries (PSA).	Satisfied	Verizon systems provided timely PSA pre-order responses via EDI. The average response time observed by KPMG Consulting for PSA was 14.16 seconds, which satisfied the Carrier-to-Carrier Guidelines PSA pre-order timeliness standard of 17.80 seconds. See Table 1-7 for additional detail.
TVV1-4-14	Verizon systems provide timely responses to Service Order Information Inquiries (SOR).	Satisfied	Verizon systems provided timely SOR pre-order responses via EDI. The average response time observed by KPMG Consulting for SOR was 3.17 seconds, which satisfied the KPMG Consulting SOR pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-15	Verizon systems provide timely responses to Conversational TN Reservation Inquiries (CTN/R).	Satisfied	Verizon systems provided timely CTN/R pre-order responses via EDI. The average response time observed by KPMG Consulting for CTN/R was 6.45 seconds, which satisfied the KPMG Consulting CTN/R pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-16	Verizon systems provide timely responses to Reservation Maintenance Inquiries (TRA).	Satisfied	Verizon systems provided timely TRA pre-order responses via EDI. The average response time observed by KPMG Consulting for TRA was 5.00 seconds, which satisfied the KPMG Consulting TRA pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.
TVV1-4-17	Verizon systems provide timely responses to Reservation Maintenance Modification Inquiries (TRU).	Satisfied	Verizon systems provided timely TRU pre-order responses via EDI. The average response time observed by KPMG Consulting for TRU was 5.00 seconds, which satisfied the KPMG Consulting TRU pre-order timeliness benchmark of 10 seconds. See Table 1-7 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-4-18	Verizon systems provide timely pre-order Rejected Query responses.	Satisfied	Verizon systems provided timely pre-order Rejected Query responses. Average response time for Rejected Queries was 5.27 seconds, which exceeded the associated Carrier-to-Carrier Guidelines standard of 4.21 seconds. According to KPMG Consulting's analysis, 5.27 seconds is not statistically significantly different (p-value = 0.10) from the standard of 4.21 seconds with 95% confidence. See Table 1-8 and Figure 1-4 for additional details.
TVV1-4-19	Verizon systems provide timely Functional Acknowledgements (ACK).	Satisfied	Verizon systems provided timely ACKs. The standard for ACK timeliness in the Carrier-to Carrier Guidelines is 95% within two hours. 100% of 2,571 KPMG Consulting EDI orders received ACK[34] within two hours. Average response time for ACKs was 0.19 minutes. See Table 1-9 for additional details.
TVV1-4-20	Verizon systems provide timely Local Service Request Local Response/Local Service Confirmation (LSRLR/LSC) in response to flow-through (FT) (UNE or Resale) orders.	Satisfied	Verizon systems provided timely LSRLRs/LSCs in response to FT orders. The standard for LSRLR/LSC timeliness in the Carrier-to-Carrier Guidelines is 95% of FT orders within two hours. 99.25 % of 798 FT LSRLRs/LSCs were returned within two hours. See Table 1-10 for additional detail.
TVV1-4-21	Verizon representatives provide timely Local Service Request Local Responses (LSRLR/LSC) in response to non-flow-through (NFT) orders.	Satisfied	Verizon representatives provided timely LSRLRs/LSCs in response to NFT orders. The standard for LSRLR/LSC timeliness in the Carrier-to-Carrier Guidelines is 95% of NFT orders within 24 or 72 hours, depending on service type. 96.65 % of 1,074 NFT LSRLRs/LSCs were returned within the required time period. See Tables 1-11 and 1-11A for additional detail.

[34] ACK in the Web GUI is an interim message that is overlaid with the subsequent response. Receipt of Web GUI ACKs was not captured.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-4-22	Verizon systems provide timely Error Messages (ERR) in response to flow-through (FT) (UNE or Resale) orders.	Satisfied	Verizon systems provided timely ERRs in response to FT orders. The standard for ERR timeliness in the Carrier-to-Carrier Guidelines is 95% of FT orders within two hours. 100 % of 59 ERRs were returned within two hours. See Table 1-10 for additional detail.
TVV1-4-23	Verizon representatives provide timely Error Messages (ERR) in response to non-flow-through (NFT) orders.	Satisfied	Verizon representatives provided timely ERRs in response to NFT orders. The standard for ERR timeliness in the Carrier-to-Carrier Guidelines is 95% of NFT orders within 24 or 72 hours, depending on service type. 98.72% of 312 ERRs were returned within the required time period. See Tables 1-11 and 1-11A for additional detail.
TVV1-4-24	Verizon systems or representatives provide timely Provisioning Completion Messages (PCM).	Satisfied	Verizon systems or representatives provided timely PCMs. The standard for PCM timeliness in the Carrier-to-Carrier Guidelines is 97% of all PCMs received by noon of the day after the PCM Completion Date (CD). 96.96% of 953 PCMs were returned within the required time period,[35] which did not satisfy the 97% standard in the Carrier-to-Carrier Guidelines. According to KPMG Consulting's analysis, the 96.96% is not statistically significantly different (p-value = 0.50) from the benchmark of 97% with 95% confidence. See Table 1-12 and Figure 1-5 for additional detail.

[35] Verizon experienced an internal system condition that caused post-completion errors during its November 3, 2001 code release. The condition was corrected on November 14, 2001. As this appeared to be an isolated incident, KPMG Consulting removed PCMs received from November 3, 2001 to November 14, 2001 when analyzing PCM timeliness. Including PCMs received from November 3, 2001 to November 14, 2001 in the analysis, 93.92% of the 1,251 PCMs were received within the required period.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-4-25	Verizon systems or representatives provide timely Billing Completion Messages (BCM).	Satisfied	Verizon systems or representatives provided timely BCMs. The standard for BCM timeliness in the Carrier-to-Carrier Guidelines is 97% of all BCMs received by noon of the day after the BCM Completion Date (CD). 98.01% of 953 expected BCMs were received within the required time period.[36] See Table 1-13 for additional detail.
Accuracy and Completeness of Response			
TVV1-5-1	Verizon systems provide clear, accurate, and complete pre-order responses.	Satisfied	Verizon systems provided clear, accurate, and complete pre-order responses. A sample of 218 pre-order responses was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Pre-Order Business Rules. 17 of the 17 pre-order types tested complied with the business rules. KPMG Consulting was able to populate, create, and submit valid orders based on information received from those pre-orders.
TVV1-5-2	Verizon systems provide clear, accurate, and relevant pre-order error messages.	Satisfied	Verizon systems provided clear, accurate, and relevant pre-order error messages. A sample of 140 pre-order error responses was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Pre-Order Business Rules. The error messages were received in response to invalid pre-order requests and generally provided sufficient information to determine the cause of the error. In some cases, KPMG Consulting contacted the Verizon help desk and received the clarification needed to rectify the error.

[36] Verizon experienced an internal system condition that caused post-completion errors during its November 3, 2001 code release. The condition was corrected on November 14, 2001. As this appeared to be an isolated incident, KPMG Consulting removed BCMs received from November 3, 2001 to November 14, 2001 when analyzing BCM timeliness. Including BCMs received from November 3, 2001 to November 14, 2001 in the analysis, 95.00% of the 1,241 BCMs were received within the required period.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-5-3	Verizon systems or representatives provide clear, accurate, and complete Local Service Request Local Response/Local Service Confirmation (LSRLR/LSC).	Satisfied	Verizon systems or representatives provided clear, accurate, and complete LSRLRs/LSCs. A sample of 376 LSRLRs/LSCs was examined for clarity, accuracy, and completeness relative to the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.
TVV1-5-4	Verizon systems or representatives provide clear, accurate, and complete Notices of Cancellation (CANCL).	Satisfied	Verizon systems or representatives provided clear, accurate, and complete CANCLs. A sample of 140 CANCLs was examined for clarity, accuracy, and completeness relative to the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.
TVV1-5-5	Verizon systems or representatives provide clear, accurate, and complete Jeopardy Notifications (JEOP).	Satisfied	Verizon systems or representatives provided clear, accurate, and complete JEOPs. 35 JEOPs were examined for clarity, accuracy, and completeness relative to the Verizon LSOG4 Order Business Rules and Jeopardy Notification document. The fields required by the Verizon LSOG4 Order Business Rules and Jeopardy Notification document were present and the data were populated correctly.
TVV1-5-6	Verizon systems or representatives provide accurate and complete Provisioning Completion Messages (PCM).	Satisfied	Verizon systems or representatives provided accurate and complete PCMs. A sample of 293 PCMs was examined to determine compliance with the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.
TVV1-5-7	Verizon systems or representatives provide accurate and complete Billing Completion Messages (BCM).	Satisfied	Verizon systems or representatives provided accurate and complete BCMs. A sample of 293 BCMs was examined to determine compliance with the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.

Test Reference	Evaluation Criteria	Result	Comments
TVV1-5-8	Provisioning dates confirmed within Verizon's order confirmations (LSRLR/LSC DD) are consistent with valid desired due date requests (LSR DDD) (e.g., a due date selected in accordance with the product's standard interval or, if appropriate, from the responses to the DDA pre-orders).	Satisfied	Provisioning dates confirmed within Verizon's order confirmations (LSRLR/LSC DD) were consistent with valid desired due date requests (LSR DDD). Of 1807 LSRLRs/LSCs, 95.41% of confirmed due dates (DD) contained within LSRLRs/LSCs met the requested desired due date (DDD).
TVV1-5-9	Verizon systems or representatives provide clear, accurate, and complete Error Messages (ERR).	Satisfied	Verizon systems or representatives provided clear, accurate, and complete ERRs. A sample of 140 ERRs was examined to determine compliance with the Verizon LSOG4 Order Business Rules. ERRs were received in response to incorrect LSRs. They contained an Error Description and Error Code field that provided information to determine the cause of the error. The ERRs returned by Verizon VA contained the fields and corresponding data required by the Verizon LSOG4 Business Rules. The Error Description and Error Code values returned within the ERR did not always provide an adequate level of detail to determine the cause of the error. In cases where clarification was required, KPMG Consulting performed additional analysis and, if necessary, contacted the appropriate Verizon VA help desk in order to correct the error.

Test Reference	Evaluation Criteria	Result	Comments
Pre-Order/Order Integration			
TVV1-6-1	Pre-order and order field names and formats are compatible.	Satisfied	The field names and formats used in the Verizon pre-order systems are compatible with the corresponding field names and forms used in the Verizon order system with the following exception: Corresponding data fields between the DLR pre-order response and LSR Directory Listing (DL) form were inconsistent with respect to field name and field length in some cases. While the names and field length of the pre-order and order fields did not agree, the contents and attributes of the fields were compatible and would not present an obstacle to the transfer of information.
Help Desk Support			
TVV1-7-1	The information provided by the Verizon Help Desks is accurate.	Satisfied	Information provided by the Verizon help desks was accurate. For assistance with order and pre-order errors, there are two Verizon help desks from which KPMG Consulting may seek assistance: the NMC, formerly TISOC, and the WCCC. During the course of testing, KPMG Consulting raised 48 issues with the NMC and generated 17 trouble tickets with the WCCC.

3.2 Additional Data

Table 1-7: EDI Pre-Order Valid Response Timeliness (Functional Evaluation)

Query Type	Number of Valid Responses	Range of Response Time (seconds)			Average Response Time (seconds)		% Within Standard
		Min	Max	Median	Standard	KPMG Consulting	
CTNS	31	3	8	5	N/A	4.74	N/A
ADR (Address Validation)	177	3	36	5	8.55	5.94	91.53%
TNA (ADR-TN Selection)	352	4	43	8	9.88	9.08	80.68%
CSR	54	2	6	3	4.74	3.50	88.89%
Parsed CSR	210	1	25	3	10.74	2.93	99.52%
DDA	235	2	49	4	5.36	5.22	84.68%
DLR	25	3	20	5	N/A	5.80	N/A
ISR	143	2	42	4	N/A	4.57	N/A
LMU	128	6	18	9.5	N/A	9.94	N/A
LPI	35	3	8	4	N/A	4.50	N/A
LQB	98	3	56	7	N/A	10.62	N/A
LXR	201	3	17	10	17.56	5.48	100.00%
PSA	131	11	29	14	17.80	14.16	94.66%
SOR	98	2	6	3	N/A	3.17	N/A
CTN/R	31	4	11	6	N/A	6.45	N/A
TRA	29	3	9	5	N/A	5.00	N/A
TRU	29	3	9	5	N/A	5.00	N/A
Total	2,007						

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time Outs or pre-order queries for which a response was not returned within 330 seconds.
2. The standards are derived by adding four seconds to the averages of the Verizon VA EnView retail averages in August, September, October, and November 2001. For Parsed CSR, the standards is derived by adding 10 seconds to the average of the Verizon VA EnView retail averages in August, September, October, and November 2001.
3. The TNA standard is derived by adding four seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR in August, September, October, and November 2001, as proposed by the Virginia Metrics Collaborative.
4. N/A = Not Applicable. There is no standard identified in the Carrier-to-Carrier Guidelines for these query types.

Figure 1-3: EDI Loop Qualification for ISDN (LQB) Response Timeliness

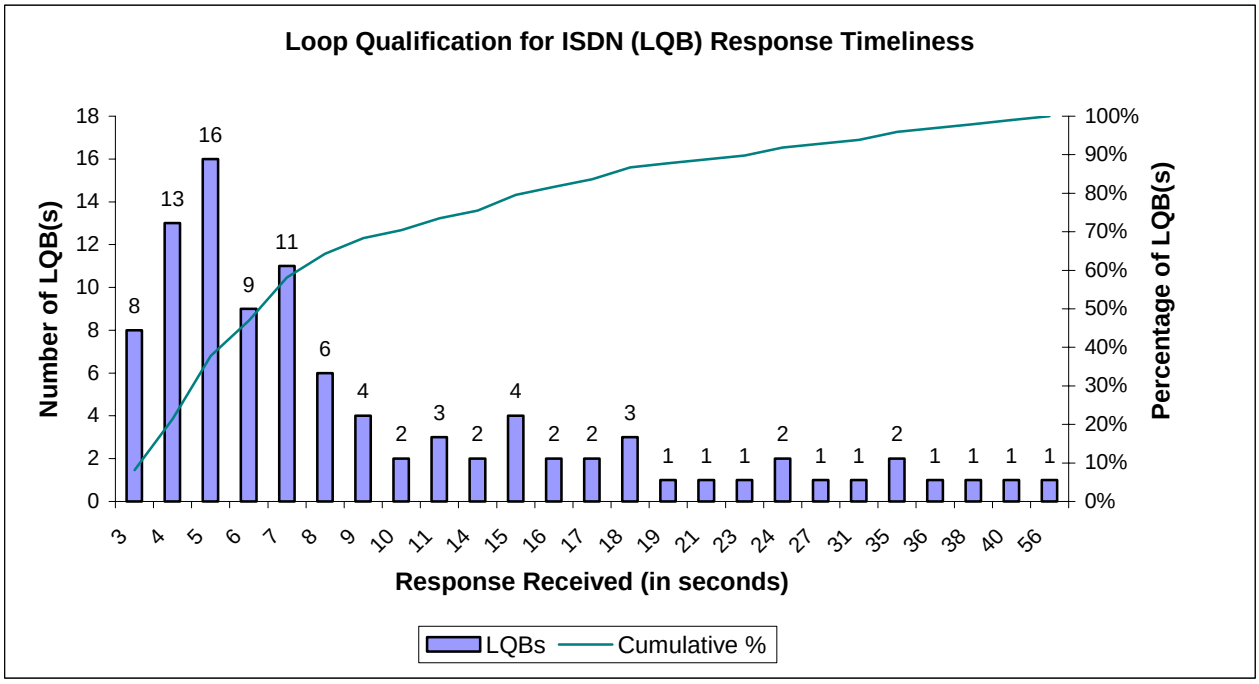


Table 1-8: EDI Pre-Order Rejected Queries Timeliness (Functional Evaluation)

Query Type	Number of Rejected Queries	Range of Response Time (seconds)			Average Response Time (seconds)		% Within Standard
		Min	Max	Median	Standard	KPMG Consulting	
CTNS	3	3	4	3			
ADR (Address Validation)	0	N/A	N/A	N/A			
TNA (ADR-TN Selection)	7	2	28	4			
CSR	1	3	3	3			
Parsed CSR	1	2	2	2			
DDA	1	4	4	4			
DLR	0	N/A	N/A	N/A			
ISR	9	2	40	9			
LMU	0	N/A	N/A	N/A			
LPI	1	7	7	7			
LQB	33	2	20	3			
LXR	2	3	3	3			
PSA	1	12	12	12			
SOR	3	2	4	3			
CTN/R	1	4	4	4			
TRA	1	4	4	4			
TRU	0	N/A	N/A	N/A			
Total	**64**	**2**	**40**	**3**	**4.21**	**5.27**	**79.69%**

Notes:

1. Per the Carrier-to-Carrier Guidelines, a Rejected Query is a query that cannot be processed by Verizon's pre-ordering systems due to incomplete or invalid information submitted by the sender, resulting in an error message to the sender.
2. KPMG Consulting also received 156 valid pre-order erred responses, which were not included in the pre-order Rejected Queries timeliness analysis because they were indeed processed by Verizon's pre-ordering systems. The average response time for the 156 valid erred responses was 4.72 seconds.
3. Per the Carrier-to-Carrier guidelines, a Rejected Query excludes Time Outs or pre-order queries for which a response was not returned within 330 seconds.
4. The Reject Query time standard is derived by adding four seconds to the Verizon VA EnView retail averages in August, September, October, and November 2001.

Figure 1-4: EDI Pre-Order Rejected Queries Timeliness (Functional Evaluation)

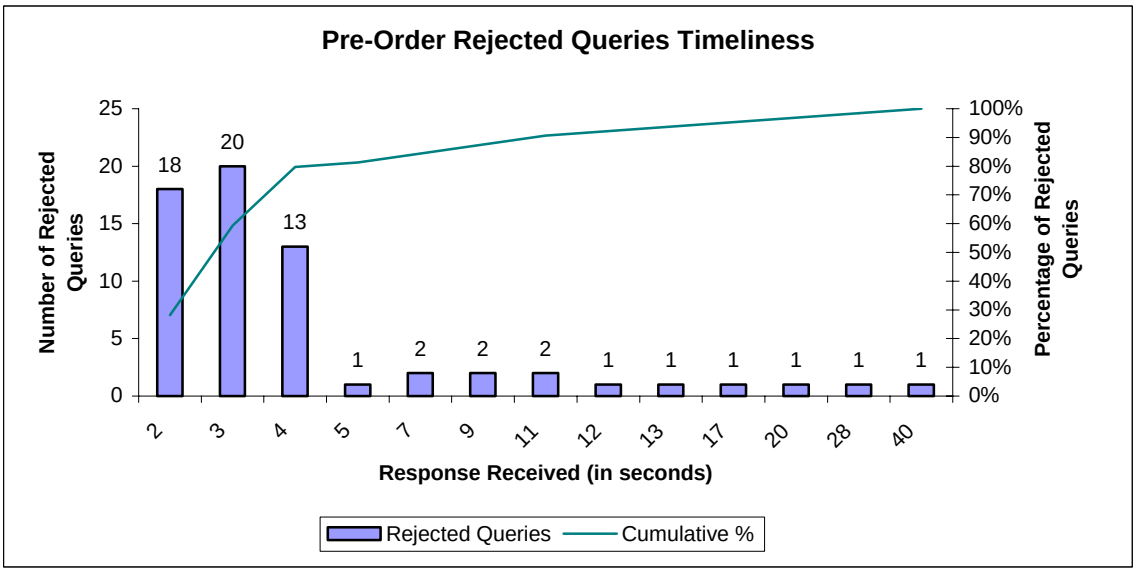


Table 1-9: Functional Acknowledgements

Data	Total
Count of FA Received	2,571
Max of FA Response Time (Minutes)	101.87
Min of FA Response Time (Minutes)	0.01
Average of FA Response Time (Minutes)	0.19
% On-Time	100.00%

Notes:

1. The Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000, defined functional acknowledgement (ACK) timeliness in OR-8-01 as 95% received within two hours.

Table 1-10: Local Service Request Local Response (LSRLR)/(LSC)Local Service Confirmation and Error Message (ERR) Timeliness (Functional Evaluation) – Flow-Through (FT)

Benchmark: 95% within 2 hours (Combined EDI and GUI)		Flow-Through	
		LSRLR/LSC	**ERR**
Resale & Resale Complex	Total responses	151	15
	Total on-time responses	150	15
	% On-time	99.34%	100.00%
UNE-L & UNE-L Complex	Total responses	397	14
	Total on-time responses	395	14
	% On-time	98.64%	100.00%
UNE-P	Total responses	250	30
	Total on-time responses	247	30
	% On-time	98.80%	100.00%
Aggregated	**Total responses**	**798**	**59**
	Total on-time responses	**792**	**59**
	% On-time	**99.25%**	**100.00%**

Notes:

1. The Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000, defined Flow-Through Local Service Request Local Response (LSRLR/LSC) timeliness in OR-1-02 as 95% received within two hours.

2. The Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000, defined Flow-Through Erred Messages (ERR) timeliness in OR-2-02 as 95% received within two hours.

Table 1-11: Local Service Request Local Response (LSRLR)/Local Service Confirmation (LSC) and Error Message (ERR) Timeliness (Functional Evaluation) – Non-Flow-Through (NFT)

Benchmark: 95% within given time frame (24 hours or 72 hours respectively)		**Non-Flow-Through**	
		LSRLR/LSC	**ERR**
24 hours (Resale and UNE (POTs/Pre-qualified Complex) with less than 6 lines)	Total responses	782	212
	Total on-time responses	747	209
	% On-time	95.52%	98.58%
72 hours (Resale and UNE (POTs/Pre-qualified Complex) with more than or equal to 6 lines, Complex (2 Wire Digital Services, 2 Wire xDSL Services))	Total responses	292	100
	Total on-time responses	291	99
	% On-time	99.66%	99.00%
Aggregated	**Total responses**	**1,074**	**312**
	Total on-time responses	**1,038**	**308**
	% On-time	**96.65%**	**98.72%**

Notes:

1. The Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000, defined timeliness for non-Flow-Through Local Service Request Local Responses (LSRLR/LSC) for LSR with less than 6 lines in OR-1-04 as 95% received within 24 hours; for non-Flow-Through LSRLRs/LSC for LSR with more than or equal to 6 lines and complex orders in OR-1-06 as 95% received within 72 hours.
2. The Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000, defined Flow-Through Erred Messages (ERR) for LSR with less than 6 lines in OR-2-04 as 95% received within 24 hours; for Flow-Through ERR for LSR with more than or equal to 6 lines and complex orders in OR-2-06 as 95% received within 72 hours.

Table 1-11A: Local Service Request Local Response (LSRLR)/(LSC) Local Service Confirmation and Error Message (ERR) Timeliness (Disagreggated by Product Type) – Non-Flow-Through

LSRLR/LSC and ERR Timeliness – Disagreggated by Product Type		**Non-Flow-Through**	
RESALE		**LSRLR/LSC**	**ERR**
24 hours (Resale with less than 6 lines)	Total responses	249	108
	Total on-time responses	241	108
	% On-time	96.79%	100.00%
72 hours (Resale with more than or equal to 6 lines)	Total responses	9	6
	Total on-time responses	9	6
	% On-time	100.00%	100.00%
72 hours (Resale-Complex)	Total responses	58	46
	Total on-time responses	57	46
	% On-time	98.28%	100.00%
Resale Aggregated	**Total responses**	**316**	**160**
	Total on-time responses	**307**	**160**
	% On-time	**97.15%**	**100.00%**
UNE-L		**LSRLR/LSC**	**ERR**
24 Hours (UNE-L with less than 6 lines)	Total responses	211	39
	Total on-time responses	193	39
	% On-time	91.47%	100.00%
72 Hours (UNE-L Complex)	Total responses	225	48
	Total on-time responses	225	47
	% On-time	100.00%	97.92%
UNE-L Aggregated	**Total responses**	**436**	**87**
	Total on-time responses	**418**	**86**
	% On-time	**95.87%**	**98.85%**
UNE-P		**LSRLR/LSC**	**ERR**
24 Hours (UNE-P with less than 6 lines)	**Total responses**	**322**	**65**
	Total on-time responses	**313**	**62**
	% On-time	**97.20%**	**95.38%**

Table 1-12: Provisioning Completion Messages (PCM) Timeliness (Functional Evaluation)

Benchmark: 97% received on or before noon the next business day of CD	Count	%
Total PCM Received	953	
Total PCM Received on Time	924	96.96%
Total PCM Received Early	0	0.00%
Total PCM Received Late	29	3.04%
PCM late 1 business day	11	1.15%
PCM late 2 business days	4	0.42%
PCM late 3 business days	2	0.21%
PCM late 4 business days	5	0.52%
PCM late 5 business days	2	0.21%
PCM late 6 or more business days	5	0.52%

Notes:
1. KPMG Consulting applied the Carrier-to-Carrier Guideline PCM timeliness standard as the benchmark, which is defined as 97% received on or before noon the next business day of CD.
2. Verizon experienced an internal system condition that caused post-completion errors during its November 3, 2001 code release. The condition was corrected on November 14, 2001. As this appeared to be an isolated incident, KPMG Consulting removed PCMs received from November 3, 2001 to November 14, 2001 when analyzing PCM timeliness.

Figure 1-5: Provisioning Completion Messages (PCM) Response Timeliness (Functional Evaluation)

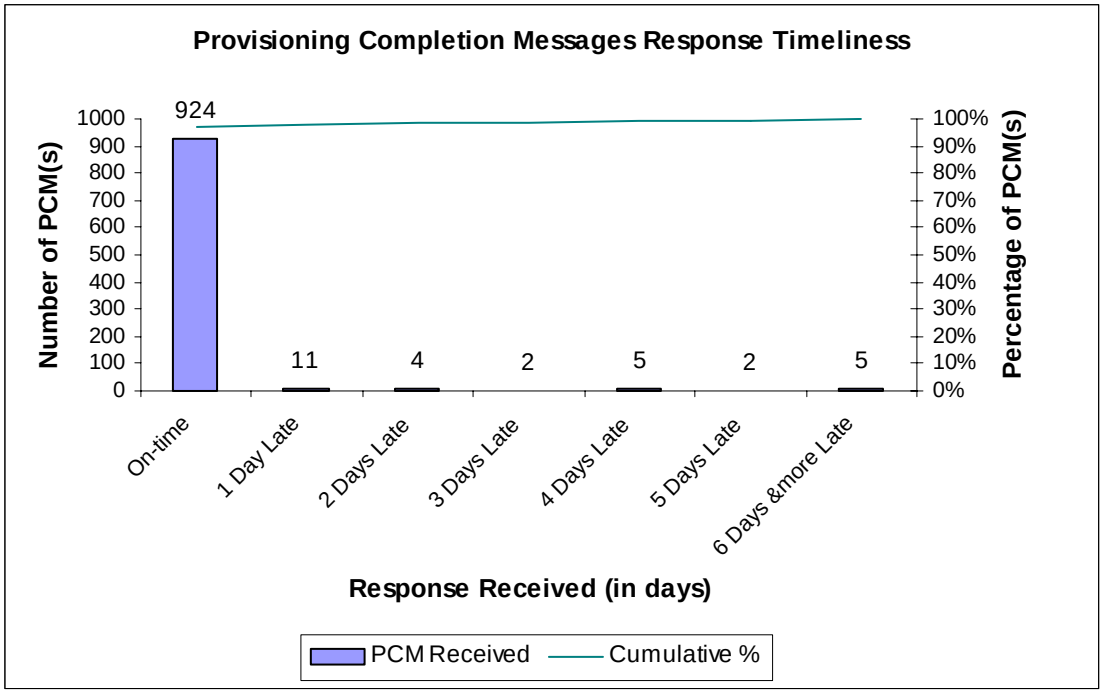


Table 1-13: Billing Completion Messages (BCM) Timeliness (Functional Evaluation)

Benchmark: 97% received on or before noon the next business day of CD	**Count**	**%**
Total BCM Received	953	
Total BCM Received on Time	934	98.01%
Total BCM Received Early	0	0.00%
Total BCM Received Late	19	1.99%
BCM late 1 business day	13	1.36%
BCM late 2 business days	1	0.10%
BCM late 3 business days	1	0.10%
BCM late 4 business days	1	0.10%
BCM late 5 business days	0	0.00%
BCM late 6 or more business days	3	0.31%

Notes:
1. KPMG Consulting applied the Carrier-to-Carrier Guideline BCM timeliness standard as the benchmark, which is defined as 97% received on or before noon the next business day of CD.
2. Verizon experienced an internal system condition that caused post-completion errors during its November 3, 2001 code release. The condition was corrected on November 14, 2001. As this appeared to be an isolated incident, KPMG Consulting removed BCMs received from November 3, 2001 to November 14, 2001 when analyzing BCM timeliness.

D. Test Results: POP Volume Performance Tests (TVV2)

1.0 Description

The POP Volume Performance Tests (TVV2) were designed to evaluate the relevant systems and processes associated with the Verizon Virginia (Verizon VA) pre-order and order processes. The objective of these tests was to validate the performance of the interfaces and systems at projected volumes.

The POP Volume Performance Tests examined Verizon VA's system responses and timeliness for pre-order and order transactions submitted using the LSOG4 Business Rules. The tests used projected transaction volumes for the June 2002 timeframe, simulating normal, peak, and stress volume conditions. The projected transaction volume was determined by analyzing historical Competitive Local Exchange Carrier (CLEC) ordering behavior, CLEC forecasts, and Verizon forecasts. The majority of orders transmitted during the test were limited to those that flow through Verizon VA's order processing systems without human intervention. The POP Volume Performance Tests included stand-alone pre-order and order transactions submitted concurrently with transactions for the POP Functional Evaluation (TVV1).

2.0 Methodology

This section describes the test approach and methodology used to execute the POP Volume Performance Tests.

2.1 Business Process Description

The POP Volume Performance Tests employed the same connectivity process used during the POP Functional Evaluation (TVV1). Both the Electronic Data Interchange (EDI) and Web Graphical User Interface (GUI) were tested using June 2002 projected volumes.

Figure 2-1 provides an overview of the Verizon EDI pre-ordering and ordering process. Figure 2-2 provides a system view of the Web GUI pre-ordering and ordering process.

Figure 2-1: EDI Pre-Order and Order Process

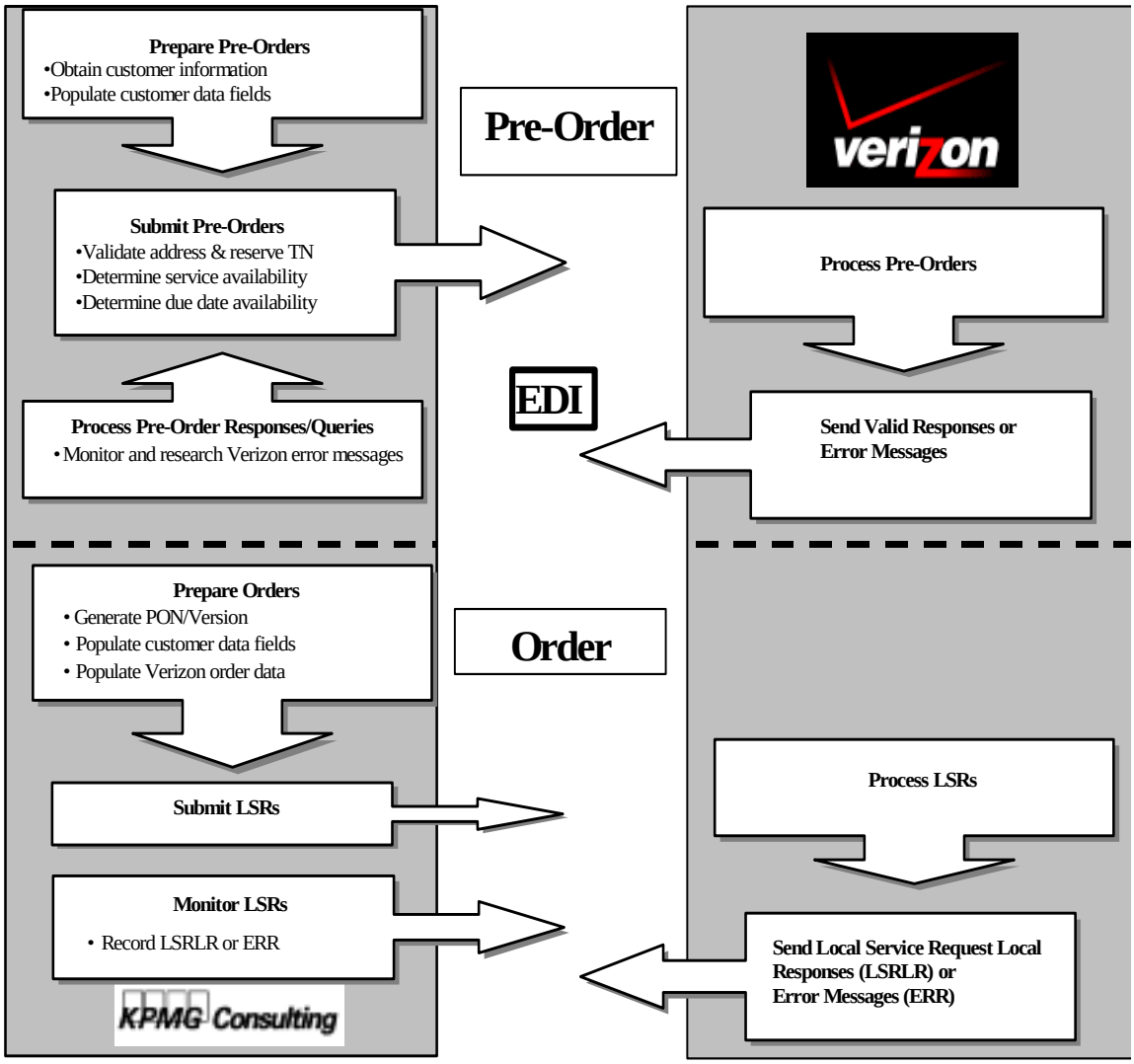
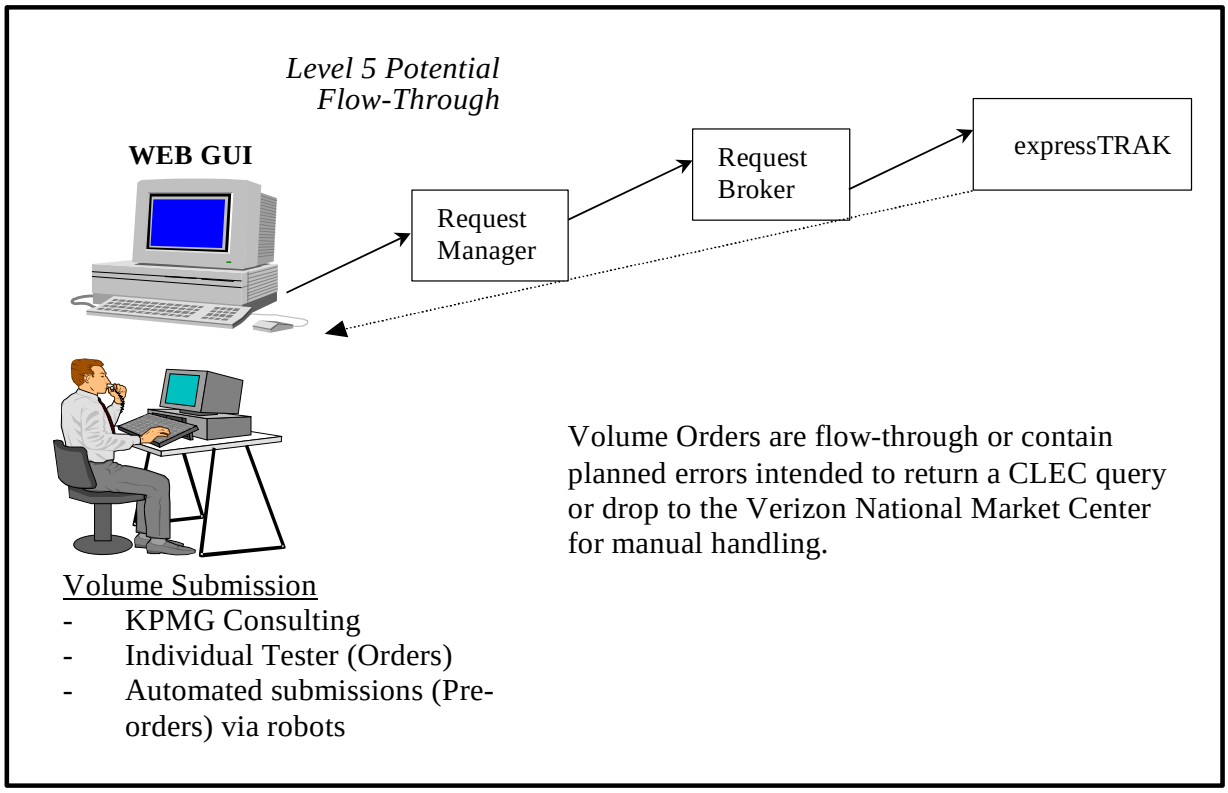


Figure 2-2: POP Volume Performance Tests Web GUI System View



2.2 Scenarios

The following tables list the pre-order and order scenarios used in this test.

Table 2-1: LSOG4 Volume Pre-order Test Scenarios

Activity	Residence	Business
Validate customer address (ADR)	X	X
Obtain Customer Service Record (CSR)		X
Obtain parsed Customer Service Record (parsed CSR)[37]	X	
Determine availability of desired due date (DDA)		X
Perform directory listing inquiry (DLR)		X
Determine if customer's loop is xDSL capable (LXR)	X	X
Inquire about product and service availability (PSA)	X	
Validate customer address; reserve TN (TNA)	X	

Table 2-2: LSOG4 Volume Resale Order Test Scenarios

Activity	Res. POTS	Bus. POTS
Migration from Verizon VA "as is"	X	
Migration from Verizon VA "as is" with minor changes	X	X
Feature changes to existing customer	X	
Disconnect (full and partial)	X	X

[37] Parsed CSR is not a valid transaction in the Verizon Web GUI.

Table 2-3: LSOG4 Volume Unbundled Network Elements-Platform (UNE-P) Order Test Scenarios

Activity	Res. POTS	Bus. POTS
Migration from Verizon VA "as is"	X	X
Migration from Verizon VA "as specified"		X
Feature changes to existing customer		X
Disconnect (full and partial)	X	X
Convert from Resale to UNE-P	X	X

Table 2-4: LSOG 4 Volume UNE-Loop Order Test Scenarios

Activity	Res. Analog Loop	Bus. Analog Loop
Migration from Verizon VA "as specified"		X
Disconnect (full and partial)	X	X
Convert from Resale to UNE-Loop	X	

2.3 Test Targets & Measures

The test targets for this test were Verizon VA's pre-order and order systems, including the EDI and Web GUI interfaces. Included in the test targets were the following processes and sub-processes:

- Submit Web GUI transactions; and
  - Submit pre-orders;
    - Send pre-order transaction;
    - Verify receipt of pre-order response;
    - Verify receipt of pre-order error response; and
    - Receive and match response.
  - Submit orders; and
    - Transmit LSR;
    - Receive acknowledgment of request (ACK);
    - Receive Local Service Confirmation (LSC) or Error Message (ERR); and
    - Verify receipt of response.
  - Submit errors.
    - Send error in order or pre-order transaction;

- Receive ACK; and
- Receive pre-order error response or ERR and verify receipt of response.

- Submit EDI transactions.
  - Submit pre-orders;
    - Send pre-order transaction;
    - Verify receipt of pre-order response;
    - Verify receipt of pre-order error response; and
    - Receive and match response.
  - Submit orders; and
    - Transmit LSR;
    - Receive ACK;
    - Receive Local Service Request Local Response (LSRLR) or ERR; and
    - Verify receipt of response.
  - Submit errors.
    - Send error in order or pre-order transaction;
    - Receive ACK; and
    - Receive pre-order error response or ERR and verify receipt of response.

2.4 Data Sources

The data collected for the test included the Verizon Resale Handbooks (September 2001), the Verizon CLEC Handbooks (March 2001), the Verizon EDI user guides for pre-order inquiries and orders, the Verizon LSOG4 Pre-Order Business Rules, and the Verizon LSOG4 Order Business Rules. Also used were CLEC and Verizon transaction forecasts and historical order volumes.

KPMG Consulting projected transaction volume levels for June 2002 based on historical volumes and trends, CLEC forecasts, and Verizon forecasts. Volumes submitted for normal testing were determined from this projection. Peak transactions were submitted on a graduated schedule, beginning at 125% of the normal hourly submission rates and rising to 150% during the peak hours of the day (1 p.m. to 5 p.m.). The stress test covered a four-hour period. Stress test hourly volumes were derived from the normal schedule by multiplying the maximum hour of normal volume testing by 150%, 160%, 170%, and 175%, respectively.

2.5 Evaluation Methods

Pre-order and order scenarios tested were drawn from the scenarios defined in Appendix A of the Master Test Plan (MTP). The scenarios outlined, at a high level, the specific products and services to be ordered and activity types to be requested. Using these test scenario descriptions, KPMG Consulting developed test cases for each scenario. Each test case contained a detailed description of the case and described order requirements, including the following: (i) customer type (business and residential), (ii) migration activity (partial and full migration),[38] (iii) disconnect, (iv) feature changes, (v) flow-through (FT) designation, and (vi) other information necessary to execute the test case.

Each test case was then used to generate distinct instances of pre-order and order transactions. Verizon VA provided test bed accounts against which pre-order and order transactions were placed. The pre-order and order transaction scenarios and test cases represented a range of service families (e.g., Plain Old Telephone Service (POTS)) executed against a variety of service delivery methods (e.g., Resale, UNE-P, UNE-Loop) and activity types (e.g., migration as is, migration as specified).

Both EDI and Web GUI transaction responses were evaluated for consistency with the pre-order and order business process flow, as described in Section 2.1. KPMG Consulting evaluated the accessibility and availability of each interface, as well as the presence, timeliness, accuracy, and completeness of responses received via EDI and the Web GUI.

Volume Performance Tests

KPMG Consulting submitted pre-order and order transactions over a four-day period. Normal volume test days were conducted on October 30, 2001 and November 6, 2001. A peak test was conducted on November 14, 2001, and a stress test was conducted on November 20, 2001. Transactions were analyzed for trends relative to time of day and service delivery method. KPMG Consulting collected and evaluated the timestamps associated with outgoing EDI and Web GUI pre-order and order submissions, as well as the timestamps associated with incoming EDI and Web GUI responses.

Orders were transmitted using Verizon VA's training mode to allow multiple orders to be sent for the same account without exhausting the test bed. In training mode, LSRs are handled by Verizon with the same processes and procedures as orders sent by actual CLECs, with the exception that they are not provisioned. Training mode uses specific company code identifiers that can be trapped by Verizon's systems and blocked from being provisioned.

[38] A full migration converts all of a customer's lines to a new service provider. A partial migration converts some lines to a CLEC and retains at least one line with Verizon VA.

The expressTRAK[39] service order processing system processes orders in real-time. In expressTRAK training mode, once an order has been processed, a "cancel" transaction is issued in real-time to put the account back to its original state so that it can be reused for multiple transactions. Therefore, LSRs were submitted against a single account with at least 20 minutes between transactions, to allow time for Verizon VA's systems to automatically reset the account to its initial state after each LSR is processed. Furthermore, since LSRs are not processed by expressTRAK during Service Order Processor (SOP) downtime,[40] orders submitted during this timeframe did not reuse an account until the end of SOP downtime.

The majority of orders transmitted were FT orders, which required no human intervention by Verizon VA. In addition, a limited number of non-flow-through (NFT) transactions were sent in training mode. These orders were a combination of order types not expected to flow through, which were not expected to receive responses,[41] and intentional errors, which produced ERRs.

The POP Volume Performance Tests forecast of future transaction volumes encompasses order activity in the entire Verizon East territory, for which the front-end interfaces and gateways are common. However, only the Maryland, District of Columbia, Virginia, and West Virginia (MDVW) total volume is expected to enter the expressTRAK service order processing system. KPMG Consulting submitted MDVW transaction volumes using Virginia test bed accounts provided by Verizon VA. To achieve the desired throughput for the POP Volume Performance Tests, KPMG Consulting submitted, in addition to MDVW transactions, pre-designed error requests using existing Pennsylvania test bed accounts to simulate volumes outside of the MDVW area. The planned error requests were designed to stress only the common front-end interfaces and gateways and were not evaluated for response timeliness.

The POP Volume Performance Tests were conducted in the following three phases:

1) Two normal volume days were run using projected daily volumes for June 2002. EDI transactions were submitted over a 24-hour period. Web GUI transactions were submitted between the hours of 9 a.m. and 6 p.m. Any order (LSR) submitted during SOP downtime (12 a.m. to 6 a.m.) was expected to receive an LSRLR or ERR within two hours after the end of SOP downtime. For example, an LSR submitted at 1 a.m. was expected to receive an LSRLR or ERR on or before 8 a.m.

[39] ExpressTRAK applies to accounts in Maryland, District of Columbia, Virginia, and West Virginia (MDVW).

[40] 12 a.m. to 6 a.m., as defined in the Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000.

[41] Verizon National Market Center (NMC) representatives were instructed not to process transactions submitted in training mode.

2) The peak test used volumes up to 150% of the normal volume test. EDI transactions were submitted over one 18-hour period. SOP downtime hours were excluded from the peak test due to testing limitations of the Virginia test bed and of the expressTRAK system.[42] Web GUI transactions were submitted between the hours of 9 a.m. and 6 p.m.
3) The stress test used volumes increasing from 150% to 175%[43] of the highest normal volume hour. Transactions were submitted via EDI and the Web GUI over a single four-hour period (1 p.m. to 5 p.m.).

All test days used the same set of test scenarios. A limited number of pre-order and order transactions were submitted with error conditions to test how Verizon VA's systems handled such transactions under increased volume conditions.

For each volume day, the planned pre-order and order transactions were distributed throughout the testing window based on Verizon's reported hourly order distribution. Each transaction was then assigned an interface (EDI or Web GUI) through which it was to be submitted. Product delivery types (e.g., UNE-P), pre-order request types, and interface assignments were distributed in accordance with forecasts.

As pre-order and order volume transactions were submitted, responses were returned and recorded. A transaction was deemed complete if one of the following was received: a pre-order response, an LSRLR, an LSC, or an ERR. Some transactions submitted with intentional errors were not expected to complete.

[42] Due to the limited number of Virginia test bed accounts and the restriction that each account may only be used once during SOP downtime, KPMG Consulting was unable to submit the desired Peak volume levels from 12 a.m. to 6 a.m. These hours were, therefore, excluded from Peak volume testing. However, since the accumulation of planned Peak volumes over these hours does not exceed the maximum hour of Stress volume testing, the exclusion of SOP downtime hours from Peak volume testing did not hinder the scope of the test.

[43] This percentage results in a maximum stress hour volume of 200% of the forecasted average business hour of the forecast timeframe (June 2002), which simulates the historical maximum deviation in volume from the average business hour volume in a sample month (August 2001).

KPMG Consulting measured EDI and Web GUI pre-order and order system availability during the two 24-hour periods of normal volume testing, the 18-hour period of peak volume testing, and the 4-hour period of stress volume testing. Transactions evaluated for pre-order and order system availability were limited to those submitted as part of the POP Volume Performance Tests, as described in Tables 2-1 through 2-4. The system was considered available for periods during which both the interface was functional, as evidenced by the submission of a transaction, and the associated backend systems were functional, as evidenced by the return of the appropriate response.[44] The system was considered unavailable for periods during which no transaction could be submitted due to interface inaccessibility, non-functionality, or when no response was received.[45] KPMG Consulting also reviewed Verizon VA system outage notices in order to compare reported outages to actual experience for accuracy and consistency.

2.6 Analysis Methods

The POP Volume Performance Tests included evaluation criteria developed by KPMG Consulting during the initial phase of the Verizon Virginia, Inc. OSS Evaluation Project. These evaluation criteria provided the framework of norms, standards, and guidelines for the POP Volume Performance Tests evaluation. The data collected were analyzed employing the evaluation criteria detailed in Section 3.1 below.

The POP Volume Performance Tests evaluation results are intended to reflect the KPMG Consulting pseudo-CLEC experience. KPMG Consulting applied the standards in the Virginia Carrier-to-Carrier Guidelines Performance Standards and Reports, dated August 11, 2000. When there was no standard in the Carrier-to-Carrier Guidelines, KPMG Consulting's professional judgment was applied to the evaluation criteria.

Results in Section 3.0 were calculated based on KPMG Consulting's external timestamps or other data points provided in transaction responses from Verizon VA. These timestamps are expected to differ in varying degrees from the measurement points reported by Verizon VA in the Carrier-to-Carrier Guidelines. KPMG Consulting measures the CLEC end-to-end response time while Verizon VA measures processing time within their environment. For those POP Volume Performance Tests evaluation criteria that do not map to the measurement points defined in the Carrier-to-Carrier metrics, KPMG Consulting assessed results based on an evaluation of potential CLEC impact.

[44] For the purpose of the system availability measurement, appropriate responses were the following: valid responses for pre-order inquiries and LSRLRs/LSCs for orders.

[45] Minimum period of two hours for orders; 10 minutes for pre-orders.

3.0 Results

This section identifies the evaluation criteria and test results.

3.1 Results Summary

The results of this test are presented in the table below. For each interface, presence of functionality (TVV2-3-1 through TVV2-4-3) was evaluated based on all transactions submitted. Only transactions using Virginia test bed accounts, representing MDVW volumes, were evaluated for system availability (TVV2-1-1 through TVV2-2-2), timeliness, accuracy, and completeness of response (TVV2-5-1 through TVV2-8-3). See Table 2-6 for additional detail.

Response timeliness results (TVV2-5-1 through TVV2-6-12) are based on the cumulative data from the normal and peak volume tests. The stress volume test results are reported separately.

Table 2-5: TVV2 Evaluation Criteria and Results

Test Reference	Evaluation Criteria	Result	Comments
Accessibility and Availability of Systems – Web GUI Volume Performance Test			
TVV2-1-1	Verizon VA systems are available for Web GUI pre-order processing.	Satisfied	Based on KPMG Consulting's experience, the Verizon VA Web GUI and associated backend systems were 100% available for pre-order processing over the four days of volume testing. Hours of evaluation were limited to those of the POP Volume Performance Tests. See Table 2-1 for pre-order transaction types submitted during the POP Volume Performance Tests.
TVV2-1-2	Verizon VA systems are available for Web GUI order processing.	Satisfied	Based on KPMG Consulting's experience, the Verizon VA Web GUI and associated backend systems were 100% available for order processing over the four days of volume testing. Hours of evaluation were limited to those of the POP Volume Performance Tests. See Tables 2-2 through 2-4 for order transaction types submitted during the POP Volume Performance Tests.

Test Reference	Evaluation Criteria	Result	Comments
Accessibility and Availability of Systems – EDI Volume Performance Test			
TVV2-2-1	Verizon VA systems are available for EDI pre-order processing.	Satisfied	Based on KPMG Consulting's experience, the Verizon VA EDI and associated backend systems were 100% available for pre-order processing over the four days of volume testing. Hours of evaluation were limited to those of the POP Volume Performance Tests. See Table 2-1 for pre-order transaction types submitted during the POP Volume Performance Tests.
TVV2-2-2	Verizon VA systems are available for EDI order processing.	Satisfied	Based on KPMG Consulting's experience, the Verizon VA EDI and associated backend systems were 100% available for order processing over the four days of volume testing. Hours of evaluation were limited to those of the POP Volume Performance Tests. See Tables 2-2 through 2-4 for order transaction types submitted during the POP Volume Performance Tests.

Test Reference	Evaluation Criteria	Result	Comments
Presence of Functionality – Web GUI Volume Performance Test			
TVV2-3-1	Verizon systems provide responses to transaction requests submitted via the Web GUI.	Satisfied	Verizon systems provided responses to transaction requests submitted via the Web GUI. Results received during the four volume test days are the following: 98.58% of the 3,514 pre-orders submitted received responses, which satisfied the KPMG Consulting benchmark of 95%. 99.27% of the 1,789 LSRs submitted expecting responses received LSCs or ERRs, which satisfied the KPMG Consulting benchmark of 95%. See Table 2-1 for pre-order transaction types and Tables 2-2 through 2-4 for order transaction types submitted during the POP Volume Performance Tests. See Table 2-6 for disaggregated LSR transaction details by test bed account jurisdiction. See Tables 2-7 through 2-10 for detailed results of the pre-orders and orders submitted and the responses received during the POP Volume Performance Tests.
TVV2-3-2	Verizon systems provide required Web GUI pre-order functionality.	Satisfied	Verizon systems provided required Web GUI functionality to process the pre-order transaction types evaluated during the course of this test. See Table 2-1 for pre-order transaction types submitted during the POP Volume Performance Tests.
TVV2-3-3	Verizon systems provide required Web GUI order functionality.	Satisfied	Verizon systems provided required Web GUI functionality to process the order transaction types evaluated during the course of this test. See Tables 2-2 through 2-4 for order transaction types submitted during the POP Volume Performance Tests.

Test Reference	Evaluation Criteria	Result	Comments
Presence of Functionality – EDI Volume Performance Test			
TVV2-4-1	Verizon systems provide responses to transaction requests submitted via EDI.	Satisfied	Verizon systems provided responses to transaction requests submitted via EDI. Results received during the four volume test days are the following: 99.93% of the 150,533 pre-orders submitted received responses, which satisfied the KPMG Consulting benchmark of 95%. 99.99% of the 59,284 LSRs submitted received ACKs, which satisfied the KPMG Consulting benchmark of 95%. 99.15% of the 59,079 LSRs submitted expecting responses received LSRLRs or ERRs, which satisfied the KPMG Consulting benchmark of 95%. See Table 2-1 for pre-order transaction types and Tables 2-2 through 2-4 for order transaction types submitted during the POP Volume Performance Tests. See Table 2-6 for disaggregated LSR transaction details by test bed account jurisdiction. See Tables 2-11 through 2-18 for detailed results of the pre-orders and orders submitted and the responses received during the POP Volume Performance Tests.
TVV2-4-2	Verizon systems provide required EDI pre-order functionality.	Satisfied	Verizon systems provided required EDI functionality to process the pre-order transaction types evaluated during the course of this test. See Table 2-1 for pre-order transaction types submitted during the POP Volume Performance Tests.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-4-3	Verizon systems provide required EDI order functionality.	Satisfied	Verizon systems provided required EDI functionality to process the order transaction types evaluated during the course of this test. See Tables 2-2 through 2-4 for order transaction types submitted during the POP Volume Performance Tests.
Timeliness of Response – Web GUI Volume Performance Test			
TVV2-5-1	Verizon VA systems provide timely Address Validation (ADR) pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided timely ADR pre-order responses via the Web GUI. The average response time observed by KPMG Consulting for ADRs during the normal and peak volume days was 11.12 seconds, which satisfied the ADR pre-order timeliness standard of 12.28 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for ADRs was 6.96 seconds. See Tables 2-7 to 2-8 for additional detail.
TVV2-5-2	Verizon VA systems provide timely Customer Service Record (CSR) pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided timely CSR pre-order responses via the Web GUI. The average response time observed by KPMG Consulting for CSRs during the normal and peak volume days was 7.05 seconds, which satisfied the CSR pre-order timeliness standard of 8.27 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for CSRs was 3.62 seconds. See Tables 2-7 to 2-8 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-5-3	Verizon VA systems provide timely Due Date Availability (DDA) pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided timely DDA pre-order responses via the Web GUI. The average response time observed by KPMG Consulting for DDAs during the normal and peak volume days was 8.35 seconds, which satisfied the DDA pre-order timeliness standard of 8.71 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for DDAs was 5.27 seconds. See Tables 2-7 to 2-8 for additional detail.
TVV2-5-4	Verizon VA systems provide timely xDSL Loop Qualification (LXR) pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided timely LXR pre-order responses via the Web GUI. The average response time observed by KPMG Consulting for LXRs during the normal and peak volume days was 11.60 seconds, which satisfied the LXR pre-order timeliness standard of 20.41 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for LXRs was 8.03 seconds. See Tables 2-7 to 2-8 for additional detail.
TVV2-5-5	Verizon VA systems provide timely Product and Service Availability (PSA) pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided timely PSA pre-order responses via the Web GUI. The average response time observed by KPMG Consulting for PSAs during the normal and peak volume days was 18.12 seconds, which satisfied the PSA pre-order timeliness standard of 24.97 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for PSAs was 15.11 seconds. See Tables 2-7 to 2-8 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-5-6	Verizon VA systems provide timely Telephone Number Availability and Reservation (TNA) pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided timely TNA pre-order responses via the Web GUI. The average response time observed by KPMG Consulting for TNAs based on a limited one-hour retest was 11.42 seconds, which satisfied the TNA pre-order timeliness standard of 14.43 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for TNAs was 7.53 seconds. See Tables 2-7 to 2-8 for additional detail.
TVV2-5-7	Verizon VA systems provide timely pre-order error messages via the Web GUI.	Satisfied	Verizon VA systems provided timely pre-order error messages via the Web GUI. The average response time observed by KPMG Consulting for pre-order error messages during the normal and peak volume days was 7.24 seconds, which satisfied the pre-order error message timeliness standard of 7.28 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for pre-order error messages was 3.71 seconds. See Tables 2-7 to 2-8 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-5-8	Verizon VA systems provide timely Local Service Confirmations (LSC) in response to FT LSRs submitted via the Web GUI.	Satisfied	Verizon VA systems provided timely LSCs in response to FT LSRs submitted via the Web GUI. FT-eligible LSRs submitted via the Web GUI during volume testing yielded the following timeliness results: 99.79% of 471 LSCs during the normal and peak volume days were received within two hours of transmitting LSRs via the Web GUI, which satisfied the standard for LSC timeliness, found in the Carrier-to-Carrier Guidelines, of 95% of responses returned within two hours. The LSC average response time was 2.40 minutes during the normal and peak volume days. 100% of 91 LSCs during the stress volume test were received within two hours of transmitting LSRs via the Web GUI. The LSC average response time was 1.30 minutes during the stress volume test. See Table 2-9 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-5-9	Verizon VA systems provide timely Error Messages (ERR) in response to FT LSRs submitted via the Web GUI.	Satisfied	Verizon VA systems provided timely ERRs in response to FT LSRs submitted via the Web GUI. FT-eligible LSRs submitted via the Web GUI during volume testing yielded the following timeliness results: 100% of 23 ERRs during the normal and peak volume days were received within two hours of transmitting LSRs via the Web GUI, which satisfied the standard for ERR timeliness, found in the Carrier-to-Carrier Guidelines, of 95% of responses returned within two hours. The ERR average response time was 0.36 minutes during the normal and peak volume days. 100% of 15 ERRs during the stress volume test were received within two hours of transmitting LSRs via the Web GUI. The ERR average response time was 0.52 minutes during the stress volume test. See Table 2-10 for additional detail.
Timeliness of Response – EDI Volume Performance Test			
TVV2-6-1	Verizon VA systems provide timely Address Validation (ADR) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely ADR pre-order responses via EDI. The average response time observed by KPMG Consulting for ADRs during the normal and peak volume days was 6.40 seconds, which satisfied the ADR pre-order timeliness standard of 9.28 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for ADRs was 25.46 seconds.[46] See Tables 2-11 to 2-15 for additional detail.

[46] The ADR average response time was impacted by long responses times in the last half hour of the stress volume test.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-2	Verizon VA systems provide timely Customer Service Record (CSR) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely CSR pre-order responses via EDI. The average response time observed by KPMG Consulting for CSRs during the normal and peak volume days was 3.76 seconds, which satisfied the CSR pre-order timeliness standard of 5.27 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for CSRs was 23.04 seconds.[47] See Tables 2-11 to 2-15 for additional detail.
TVV2-6-3	Verizon VA systems provide timely parsed Customer Service Record (parsed CSR) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely parsed CSR pre-order responses via EDI. The average response time observed by KPMG Consulting for parsed CSRs during the normal and peak volume days was 3.24 seconds, which satisfied the parsed CSR pre-order timeliness standard of 11.27 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for parsed CSRs was 21.50 seconds.[48] See Tables 2-11 to 2-15 for additional detail.

[47] The CSR average response time was impacted by long responses times in the last half hour of the stress volume test.

[48] The parsed CSR average response time was impacted by long responses times in the last half hour of the stress volume test.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-4	Verizon VA systems provide timely Due Date Availability (DDA) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely DDA pre-order responses via EDI. The average response time observed by KPMG Consulting for DDAs during the normal and peak volume days was 5.59 seconds, which satisfied the DDA pre-order timeliness standard of 5.71 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for DDAs was 24.20 seconds.[49] See Tables 2-11 to 2-15 for additional detail.
TVV2-6-5	Verizon VA systems provide timely Directory Listing Request (DLR) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely DLR pre-order responses via EDI. The average response time observed by KPMG Consulting for DLRs during the normal and peak volume days was 4.55 seconds, which satisfied the DLR pre-order timeliness benchmark of 10.00 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for DLRs was 48.16 seconds.[50] KPMG Consulting applied a benchmark of 10.00 seconds for DLR pre-order responses, for which there is no standard identified in the Carrier-to-Carrier guidelines. See Tables 2-11 to 2-15 for additional detail.

[49] The DDA average response time was impacted by long responses times in the last half hour of the stress volume test.

[50] The DLR average response time was impacted by long responses times in the last half hour of the stress volume test.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-6	Verizon VA systems provide timely xDSL Loop Qualification (LXR) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely LXR pre-order responses via EDI. The average response time observed by KPMG Consulting for LXRs during the normal and peak volume days was 8.66 seconds, which satisfied the LXR pre-order timeliness standard of 17.41 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for LXRs was 30.09 seconds.[51] See Tables 2-11 to 2-15 for additional detail.
TVV2-6-7	Verizon VA systems provide timely Product and Service Availability (PSA) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely PSA pre-order responses via EDI. The average response time observed by KPMG Consulting for PSA during the normal and peak volume days was 14.79 seconds, which satisfied the PSA pre-order timeliness standard of 21.97 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for PSAs was 36.07 seconds.[52] See Tables 2-11 to 2-15 for additional detail.

[51] The LXR average response time was impacted by long responses times in the last half hour of the stress volume test.

[52] The PSA average response time was impacted by long responses times in the last half hour of the stress volume test.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-8	Verizon VA systems provide timely Telephone Number Availability & Reservation (TNA) pre-order responses via EDI.	Satisfied	Verizon VA systems provided timely TNA pre-order responses via EDI. The average response time observed by KPMG Consulting for TNAs during a limited one-hour retest was 7.67 seconds, which satisfied the TNA pre-order timeliness standard of 11.43 seconds. See Tables 2-11 to 2-15 for additional detail.
TVV2-6-9	Verizon VA systems provide timely pre-order error messages via EDI.	Satisfied	Verizon VA systems provided timely pre-order error messages via EDI. The average response time observed by KPMG Consulting for pre-order error messages during the normal and peak volume days was 3.76 seconds, which satisfied the pre-order error message timeliness standard of 4.28 seconds. During the stress portion of the test, the average response time observed by KPMG Consulting for pre-order error messages was 25.17 seconds.[53] See Tables 2-11 to 2-15 for additional detail.

[53] The pre-order error message average response time was impacted by long responses times in the last half hour of the stress volume test.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-10	Verizon VA systems return timely Functional Acknowledgments (ACK) via EDI.	Satisfied	Verizon VA systems returned timely ACKs via EDI. LSRs submitted via EDI during volume testing yielded the following results: 99.88% of 14,432 ACKs during the normal and peak volume days were received within two hours of transmitting LSRs via EDI. This response rate satisfied the standard for ACK timeliness, found in the Carrier-to-Carrier Guidelines, of 95% of responses returned within two hours. The ACK average response time was 3.67 minutes during the normal and peak volume days. 100% of 3,742 ACKs during the stress volume test were received within two hours of transmitting an LSR via EDI. The ACK average response time was 0.14 minutes during the stress volume test. See Table 2-16 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-11	Verizon VA systems provide timely Local Service Request Local Responses (LSRLR) in response to FT LSRs submitted via EDI.	Satisfied	Verizon VA systems provided timely LSRLRs in response to FT LSRs submitted via EDI. FT-eligible LSRs submitted via EDI during volume testing yielded the following results: 98.93% of 13,647 LSRLRs during the normal and peak volume days were received within two hours of transmitting LSRs via EDI. This response rate satisfied the standard for LSRLR timeliness, found in the Carrier-to-Carrier Guidelines, of 95% of responses returned within two hours. The LSRLR average response time was 8.02 minutes during the normal and peak volume days. 100% of 3,548 LSRLRs during the stress volume test were received within two hours of transmitting LSRs via EDI. The LSRLR average response time was 1.82 minutes during the stress volume test. See Table 2-17 for additional detail.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-6-12	Verizon VA systems provide timely Error Messages (ERR) in response to FT LSRs submitted via EDI.	Satisfied	Verizon VA systems provided timely ERRs in response to FT LSRs submitted via EDI. FT-eligible LSRs submitted via EDI during volume testing yielded the following results: 98.86% of 351 ERRs during the normal and peak volume days were received within two hours of transmitting LSRs via EDI. This response rate satisfied the standard for ERR timeliness, found in the Carrier-to-Carrier Guidelines, of 95% of responses returned within two hours. The ERR average response time was 8.93 minutes during the normal and peak volume days. 99.25% of 133 ERRs during the stress volume test were received within two hours of transmitting LSRs via EDI. The ERR average response time was 5.51 minutes during the stress volume test. See Table 2-18 for additional detail.
Accuracy and Completeness of Response – Web GUI Volume Performance Test			
TVV2-7-1	Verizon VA systems provide clear, accurate, and complete pre-order responses via the Web GUI.	Satisfied	Verizon VA systems provided clear, accurate, and complete pre-order responses via the Web GUI. A sample of 140 pre-order responses was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Pre-Order Business Rules. The fields required by the Verizon LSOG4 Pre-Order Business Rules were present and the data were populated correctly.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-7-2	Verizon VA systems provide clear, accurate, and complete Local Service Confirmations (LSC) via the Web GUI.	Satisfied	Verizon VA systems provided clear, accurate, and complete LSCs via the Web GUI. A sample of 140 LSCs was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.
TVV2-7-3	Verizon VA systems provide clear, accurate, and complete Error Messages (ERR) via the Web GUI.	Satisfied	Verizon VA systems provided clear, accurate, and complete ERRs via the Web GUI. A sample of 38 ERRs was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.
Accuracy and Completeness of Response – EDI Volume Performance Test			
TVV2-8-1	Verizon VA systems provide clear, accurate, and complete pre-order responses via EDI.	Satisfied	Verizon VA systems provided clear, accurate, and complete pre-order responses via EDI. A sample of 177 pre-order responses was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Pre-Order Business Rules. The fields required by the Verizon LSOG4 Pre-Order Business Rules were present and the data were populated correctly.
TVV2-8-2	Verizon VA systems provide clear, accurate, and complete Local Service Request Local Responses (LSRLR) via EDI.	Satisfied	Verizon VA systems provided clear, accurate, and complete LSRLRs via EDI. A sample of 140 LSRLRs was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.

Test Reference	Evaluation Criteria	Result	Comments
TVV2-8-3	Verizon VA systems provide clear, accurate, and complete Error Messages (ERR) via EDI.	Satisfied	Verizon VA systems provided clear, accurate, and complete ERRs via EDI. A sample of 140 ERRs was examined for clarity, completeness, and accuracy relative to the Verizon LSOG4 Order Business Rules. The fields required by the Verizon LSOG4 Order Business Rules were present and the data were populated correctly.

3.2 Additional Data

Table 2-6: Disaggregation of LSRs Submitted by Test Bed Account Jurisdiction

	Web GUI		EDI		Total
	LSRs submitted by Test Bed Account Jurisdiction				
	Virginia	Non-MDVW	Virginia	Non-MDVW	
Normal Day-1	188	261	3,510	4,846	8,805
Normal Day-2	189	261	3,509	4,844	8,803
Peak	118	327	7,413	19,814	27,672
Sub-Total 1	**495**	**849**	**14,432**	**29,504**	**45,280**
Stress	107	338	3,742	11,606	15,793
Sub-Total 2	**602**	**1,187**	**18,174**	**41,110**	**61,073**
Total Submitted	1,789		59,284		61,073
Expected Non-Responses	0		205		205
Total Expected Responses	**1,789**		**59,079**		**60,868**

Notes:
1. Some LSRs submitted with intentional errors were not expected to receive responses.
2. MDVW transaction volumes were submitted using Virginia test bed accounts.
3. Normal Day-1 and Normal Day-2 transactions were submitted over a 24-hour period.
4. Peak transactions were submitted over an 18-hour period.
5. Stress transactions were submitted over a four-hour period.

Table 2-7: Web GUI Pre-Order Response Timeliness: Volume Evaluation – Combined Results for Normal and Peak Days

Query Type	Number of Responses	Connect Time (seconds)			Average Connect Time (seconds)	Process Time (seconds)	Average Response Time (seconds)	
		Normal Day 1	Normal Day 2	Peak			Standard	KPMG Consulting
Erred Responses	284	8.13	N/A	3.93	6.14	1.10	7.28	7.24
Non-erred Responses	2,293							
ADR	446	9.63	6.72	4.99	7.15	3.97	12.28	11.12
CSR	151	N/A	6.00	N/A	6.00	1.05	8.27	7.05
DDA	421	7.79	5.71	3.80	5.90	2.45	8.71	8.35
LXR	437	9.03	6.27	4.30	6.60	5.00	20.41	11.60
PSA	404	8.38	6.12	4.78	6.27	11.85	24.97	18.12
TNA	434	9.45	6.19	4.70	6.86	4.56	14.43	11.42
Total Responses Received	2,577							
Time-Outs	0							
Non-Responses	37							
Total Pre-orders Submitted	2,614							

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. With the exception of the TNA standard, all standards are derived by adding seven seconds to the Verizon VA EnView retail averages on the three test days. The TNA standard is derived by adding seven seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR on the three test days, as proposed by the Virginia Metrics Collaborative.
3. Connect time is defined as the time from which the pre-order transaction is submitted via the Web GUI to the time it is received by Verizon. Process time is defined as the time from which the transaction is received by Verizon to the time the response is received by the sender. Average response times for each pre-order transaction type are calculated by summing the average connect time measured during the three test days and the process time measured during a limited calibration period.
4. TNA process time was measured during a limited one-hour retest, in which 150% of the maximum normal hour volume was submitted. TNA transactions were submitted requesting multiple types of telephone numbers from multiple wire centers with the address unit information populated in the CUSTUNITTYP and CUSTUNITVAL fields, to better represent the actual CLEC environment. The original volume test was conducted without these conditions.
5. The normal day-1 volume test was run on October 30, 2001; the normal day-2 volume test was run on November 6, 2001; and the peak volume test was run on November 14, 2001.
6. N/A = Not Applicable.

Table 2-8: Stress Day Web GUI Pre-Order Response Timeliness: Volume Evaluation

Query Type	Number of Responses	Average Connect Time (seconds)	Processing Times (seconds)	Average Response Time (seconds)
				KPMG Consulting
Erred Responses	41	2.61	1.10	3.71
Non-erred Responses	846			
ADR	148	2.99	3.97	6.96
CSR	107	2.57	1.05	3.62
DDA	148	2.82	2.45	5.27
LXR	148	3.03	5.00	8.03
PSA	149	3.26	11.85	15.11
TNA	146	2.97	4.56	7.53
Total Count	887			
Time-Outs	0			
No Response	13			
Total Pre-Orders Submitted	900			

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. Average response times for each pre-order transaction type are calculated by summing the average connect time measured during the stress test and the process time measured during a limited calibration period.
3. The average TNA response time result for the stress test is based on the process time measured during a limited one-hour retest (see Table 2-7, Note 4).
4. The stress volume test was run on November 20, 2001.

Table 2-9: Web GUI LSC Response Timeliness for Verizon Virginia LSRs: Volume Evaluation

Test Day	Total LSRs Submitted Through Virginia	LSRs Submitted Expected to Receive LSCs	LSC			
			Number Received	Number On-Time	Percent On-Time	Average Response Time (minutes)
Normal Day-1	188	179	179	179	100%	2.02
Normal Day-2	189	180	180	179	99.44%	3.61
Peak	118	113	112	112	100%	1.06
Sub-Total	**495**	**472**	**471**	**470**	**99.79%**	**2.40**
Stress	107	92	91	91	100%	1.30
Total	**602**	**564**	**562**	**561**	**99.82%**	**2.22**

Notes:
1. The number of LSRs submitted expected to receive LSCs does not include intentional errors submitted.
2. Per the Carrier-to-Carrier Guidelines, an LSC is considered on-time if it is received within 120 minutes of the submission of the corresponding LSR.
3. Response times are depicted in minutes.

Table 2-10: Web GUI ERR Response Timeliness for Verizon Virginia LSRs: Volume Evaluation

Test Day	Total LSRs Submitted Through Virginia	LSRs Submitted Expected to Received ERRs	ERR			
			Number Received	Number On-Time	Percent On-Time	Average Response Time (minutes)
Normal Day-1	188	9	9	9	100%	0.37
Normal Day-2	189	9	9	9	100%	0.36
Peak	118	5	5	5	100%	0.35
Sub-Total	**495**	**23**	**23**	**23**	**100%**	**0.36**
Stress	107	15	15	15	100%	0.52
Total	**602**	**38**	**38**	**38**	**100%**	**0.42**

Notes:
1. Per the Carrier-to-Carrier Guidelines, an ERR is considered on-time if it is received within 120 minutes of the submission of the corresponding LSR.
2. Response times are depicted in minutes.

Table 2-11: EDI Pre-Order Response Timeliness: Volume Evaluation – Combined Results for Normal and Peak Days

Query Type	Number of Responses	Range of Response Time (seconds)		Average Response Time (seconds)	
		Min	Max	Standard	KPMG Consulting
Erred Responses	832	1	15	4.28	3.76
Non-erred Responses	105,626				
ADR	26,934	2	33	9.28	6.40
CSR	52,705	1	311	5.27	3.76
Parsed CSR	15,403	1	26	11.27	3.24
DDA	945	3	17	5.71	5.59
DLR	259	2	9	N/A	4.55
LXR	8,228	3	39	17.41	8.66
PSA	428	12	28	21.97	14.79
TNA	724	4	43	11.43	7.67
Total Count	106,458				
Time-Outs	416				
Non-Responses	101				
Responses Excluded from Timeliness Analysis	4,712				
Total Pre-Orders Submitted	111,687				

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. Per the Carrier-to-Carrier Guidelines, pre-order transactions which occurred between 10 p.m. and 6 a.m. during normal and peak volume testing were excluded from response timeliness analysis.
3. With the exception of the parsed CSR and TNA standards, all standards are derived by adding four seconds to the Verizon VA EnView retail averages on the three test days. The parsed CSR standard is derived by adding 10 seconds to the Verizon VA EnView retail average on the three test days. The TNA standard is derived by adding four seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR on the three test days, as proposed by the Virginia Metrics Collaborative.
4. The average TNA response time of 7.67 was the result of a limited one-hour retest, in which 45 EDI transactions were submitted and consisted of 150% of the maximum normal hour volume. TNA transactions were submitted requesting multiple types of telephone numbers from multiple wire centers with the address unit information populated in the CUSTUNITTYP and CUSTUNITVAL fields, to better represent the actual CLEC environment. The original volume test was conducted without these conditions, which resulted in an average TNA response time of 14.00 seconds during the normal and peak volume days. The total number of TNA responses listed (724) reflects the original volume test numbers.
5. N/A = Not Applicable. There is no standard identified in the Carrier-to-Carrier Guidelines for this query type.

Table 2-12: Normal Day-1 EDI Pre-Order Response Timeliness: Volume Evaluation

Query Type	Number of Responses	Range of Response Time (seconds)		Average Response Time (seconds)	
		Min	Max	Standard	KPMG Consulting
Erred Responses	159	2	12	4.15	3.37
Non-erred Responses	20,042				
ADR	5,074	2	25	8.89	5.64
CSR	9,975	1	50	5.30	3.40
Parsed CSR	2,935	1	26	11.30	2.87
DDA	141	3	16	5.64	4.67
DLR	126	2	9	N/A	4.50
LXR	1,509	3	28	16.98	7.64
PSA	141	12	24	23.36	14.38
TNA	141			9.98	
Total Count	20,201				
Time-Outs	29				
Non-Responses	24				
Responses Excluded from Timeliness Analysis	1,332				
Total Pre-Orders Submitted	21,586				

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. Per the Carrier-to-Carrier Guidelines, pre-order transactions which occurred between 10 p.m. and 6 a.m. during normal volume testing were excluded from response timeliness analysis.
3. With the exception of the parsed CSR and TNA standards, all standards are derived by adding four seconds to the Verizon VA EnView retail averages on the test day. The parsed CSR standard is derived by adding 10 seconds to the Verizon VA EnView retail average on the test day. The TNA standard is derived by adding four seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR on the test day, as proposed by the Virginia Metrics Collaborative.
4. The average TNA response time was measured during a limited one-hour retest (see Table 2-11, Note 4).
5. N/A = Not Applicable. There is no standard identified in the Carrier-to-Carrier Guidelines for this query type.
6. The normal day-1 volume test was run on October 30, 2001.

Table 2-13: Normal Day-2 EDI Pre-Order Response Timeliness: Volume Evaluation

Query Type	Number of Responses	Range of Response Time (seconds)		Average Response Time (seconds)	
		Min	Max	Standard	KPMG Consulting
Erred Responses	159	1	6	4.38	3.42
Non-erred Responses	19,957				
ADR	5,032	2	22	9.49	6.26
CSR	9,953	1	311	5.51	3.48
Parsed CSR	2,918	1	7	11.51	2.92
DDA	140	3	16	5.73	5.57
DLR	133	2	8	N/A	4.59
LXR	1,499	3	38	17.41	8.56
PSA	141	12	21	22.12	14.68
TNA	141			11.86	
Total Count	20,116				
Time-Outs	60				
Non-Responses	76				
Responses Excluded from Timeliness Analysis	1,333				
Total Pre-Orders Submitted	21,585				

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. Per the Carrier-to-Carrier Guidelines, pre-order transactions which occurred between 10 p.m. and 6 a.m. during normal volume testing were excluded from response timeliness analysis.
3. With the exception of the parsed CSR and TNA standards, all standards are derived by adding four seconds to the Verizon VA EnView retail averages on the test day. The parsed CSR standard is derived by adding 10 seconds to the Verizon VA EnView retail average on the test day. The TNA standard is derived by adding four seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR on the test day, as proposed by the Virginia Metrics Collaborative.
4. The average TNA response time was measured during a limited one-hour retest (see Table 2-11, Note 4).
5. N/A = Not Applicable. There is no standard identified in the Carrier-to-Carrier Guidelines for this query type.
6. The normal day-2 volume test was run on November 6, 2001.

Table 2-14: Peak Day EDI Pre-Order Response Timeliness: Volume Evaluation

Query Type	Number of Responses	Range of Response Time (seconds)		Average Response Time (seconds)	
		Min	Max	Standard	KPMG Consulting
Erred Responses	514	2	15	4.32	3.98
Non-erred Responses	65,627				
ADR	16,828	2	33	9.47	6.67
CSR	32,777	1	27	4.99	3.96
Parsed CSR	9,550	1	23	10.99	3.45
DDA	664	3	17	5.77	5.79
DLR	0	N/A	N/A	N/A	N/A
LXR	5,220	3	39	17.83	8.99
PSA	146	12	28	20.44	15.28
TNA	442			12.46	
Total Count	66,141				
Time-Outs	327				
Non-Responses	1				
Responses Excluded from Timeliness Analysis	2,047				
Total Pre-Orders Submitted	68,516				

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. Per the Carrier-to-Carrier Guidelines, pre-order transactions which occurred between 10 p.m. and 6 a.m. during peak volume testing were excluded from response timeliness analysis.
3. With the exception of the parsed CSR and TNA standards, all standards are derived by adding four seconds to the Verizon VA EnView retail averages on the test day. The parsed CSR standard is derived by adding 10 seconds to the Verizon VA EnView retail average on the test day. The TNA standard is derived by adding four seconds to the sum of the Verizon VA EnView retail averages of TNA and ADR on the test day, as proposed by the Virginia Metrics Collaborative.
4. The average TNA response time was measured during a limited one-hour retest (see Table 2-11, Note 4).
5. N/A = Not Applicable. There is no standard identified in the Carrier-to-Carrier Guidelines for this query type.
6. The peak volume test was run on November 14, 2001.

Table 2-15: Stress Day EDI Pre-Order Response Timeliness: Volume Evaluation

Query Type	Number of Responses	Average Response Time (seconds)								
		1pm-2pm	2pm-3pm	Cumu-lative	3pm-4pm	Cumu-lative	4pm-4:30pm	Cumu-lative	4:30pm-5pm	Total Cumulative
Erred Responses	301	5.11	5.66	**5.39**	8.27	**6.41**	14.26	**7.38**	118.98	**25.17**
Non-erred Responses	38,267									
ADR	9,779	7.94	9.04	**8.51**	12.43	**9.90**	17.37	**11.05**	123.00	**25.46**
CSR	19,137	5.08	5.95	**5.53**	8.58	**6.61**	14.39	**7.80**	123.48	**23.04**
Parsed CSR	5,601	4.36	5.30	**4.85**	7.91	**5.93**	13.77	**7.21**	124.26	**21.50**
DDA	323	6.93	8.52	**7.75**	12.02	**9.25**	15.76	**10.41**	134.11	**24.20**
DLR	92	N/A	19.50	**19.50**	9.18	**9.62**	15.47	**11.03**	124.90	**48.16**
LXR	2,990	10.54	11.52	**11.05**	15.33	**12.56**	18.97	**13.45**	129.92	**30.09**
PSA	150	16.29	18.16	**17.27**	20.13	**18.27**	24.95	**19.39**	151.05	**36.07**
TNA	195									
Total Count	38,568									
Time-Outs	278									
Non-Responses	0									
Responses Excluded from Timeliness Analysis	0									
Total Pre-Orders Submitted	38,846									

Notes:

1. Per the Carrier-to-Carrier Guidelines, a valid response excludes Time-Outs or pre-order queries for which a response was not returned within 330 seconds.
2. In the last half hour of the four-hour stress test, KPMG Consulting experienced long response times for pre-order transactions submitted via EDI.
3. The average TNA response time was measured during a limited one-hour retest (see Table 2-11, Note 4).
4. The stress volume test was run on November 20, 2001.

Table 2-16: EDI ACK Response Timeliness for Verizon Virginia LSRs: Volume Evaluation

Test Day	Total LSRs Submitted Through Virginia	LSRs Submitted Expected to Receive ACKs	ACK			
			Number Received	Number On-Time	Percent On-Time	Average Response Time (minutes)
Normal Day-1	3,510	3,510	3,510	3,510	100%	0.09
Normal Day-2	3,509	3,509	3,509	3,509	100%	0.10
Peak	7,413	7,413	7,413	7,395	99.76%	7.05
Sub-Total	**14,432**	**14,432**	**14,432**	**14,414**	**99.88%**	**3.67**
Stress	3,742	3,742	3,742	3,742	100%	0.14
Total	**18,174**	**18,174**	**18,174**	**18,156**	**99.90%**	**2.94**

Notes:

1. Per the Carrier-to-Carrier Guidelines, an ACK is considered on-time if it is received within 120 minutes of the submission of the corresponding LSR.
2. Response times are depicted in minutes.

Table 2-17: EDI LSRLR Response Timeliness for Verizon Virginia LSRs: Volume Evaluation

Test Day	Total LSRs Submitted Through Virginia	LSRs Submitted Expected to Receive LSRLRs	LSRLR			
			Number Received	Number On-Time	Percent On-Time	Average Response Time (minutes)
Normal Day-1	3,510	3,334	3,271	3,270	99.97%	3.08
Normal Day-2	3,509	3,333	3,388	3,352	98.94%	5.74
Peak	7,413	7,042	6,988	6,879	98.44%	11.45
Sub-Total	**14,432**	**13,709**	**13,647**	**13,501**	**98.93%**	**8.02**
Stress	3,742	3,556	3,548	3,548	100%	1.82
Total	**18,174**	**17,265**	**17,195**	**17,049**	**99.15%**	**6.74**

Notes:

1. The number of LSRs submitted expected to receive LSRLRs does not include intentional errors submitted.
2. Per the Carrier-to-Carrier Guidelines, an LSRLR is considered on-time if it is received within 120 minutes of the submission of the corresponding LSR.
3. Response times are depicted in minutes.

Table 2-18: EDI ERR Response Timeliness for Verizon Virginia LSRs: Volume Evaluation

Test Day	Total LSRs Submitted Through Virginia	LSRs Submitted Expected to Receive ERRs	ERR			
			Number Received	Number On-Time	Percent On-Time	Average Response Time (minutes)
Normal Day-1	3,510	121	55	55	100.00%	1.24
Normal Day-2	3,509	121	55	54	98.18%	8.39
Peak	7,413	300	241	238	98.76%	10.81
Sub-Total	**14,432**	**542**	**351**	**347**	**98.86%**	**8.93**
Stress	3,742	162	133	132	99.25%	5.51
Total	**18,174**	**704**	**484**	**479**	**98.97%**	**7.99**

Notes:

1. Per the Carrier-to-Carrier Guidelines, an ERR is considered on-time if it is received within 120 minutes of the submission of the corresponding LSR.
2. Response times are depicted in minutes.

E. Test Results: Order "Flow Through" Evaluation (TVV3)

1.0 Description

The Order "Flow Through" Evaluation (TVV3) assessed the ability of mechanized orders, submitted via Electronic Data Interchange (EDI) or Verizon's Web Graphical User Interface (GUI), to flow from Competitive Local Exchange Carriers (CLEC) through the interface and into Verizon Virginia's (Verizon VA) ordering system without manual intervention. Orders eligible to flow through are defined in the following Verizon South documentation:

- Verizon Generic Flow-Through Ordering Scenarios Covering the Former Bell Atlantic Territories in DE, MD, NJ, PA, VA, WV, DC;[54]
- USOC In-Scope Table eTRAK Platform Products;[55] and
- USOC In-Scope Table eTRAK Resale Products.[56]

Only orders submitted by KPMG Consulting that were eligible to flow through were included in this evaluation. The list of order types eligible to flow through was updated during the testing period based on corresponding Verizon South documentation changes. These additions and deletions to the list of eligible flow-through (FT) orders were incorporated into the test.

Supplements and cancels designed to flow through were also submitted. KPMG Consulting monitored all eligible FT order transactions submitted during the POP Functional Evaluation (TVV1) to verify that the orders were processed in accordance with Verizon South FT documentation.

2.0 Methodology

This section summarizes the test methodology.

[54] The Verizon Generic Flow-Through Ordering Scenarios Covering the Former Bell Atlantic Territories in DE, MD, NJ, PA, VA, WV, DC was updated on the following dates: August 21, 2001, September 17, 2001, October 23, 2001, and December 20, 2001.

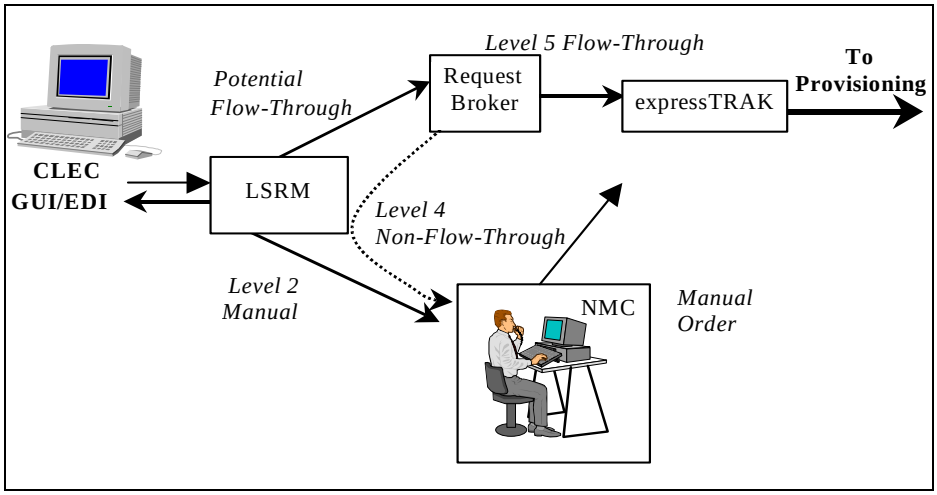
[55] USOC In-Scope Table eTRAK Platform Products, updated July 12, 2001.

[56] USOC In-Scope Table eTRAK Resale Products, updated July 27, 2001.

2.1 Business Process Description

Figure 3-1 illustrates the process and system flow for a wholesale, mechanized order from submission through service order generation.

Figure 3-1: LSR Transaction Process Overview



Local Service Requests (LSR) are submitted by a CLEC using common mechanized front-end interfaces: EDI and Verizon's Web GUI. These orders enter Verizon VA's systems through a gateway system known as Local Service Request Manager (LSRM). Once submitted electronically, the orders are tracked within LSRM using the unique Purchase Order Numbers (PON) specified by the CLEC.

As the orders pass through the different operations support systems (OSS), FT eligibility is determined based on the Verizon LSOG4 Order Business Rules. Orders are categorized as Level 2 (manual entry), Level 4 (minimal manual intervention), or Level 5 (complete FT), which are defined as follows:

- A Level 2 order enters LSRM and is routed to a Verizon VA Service Representative at the Verizon National Market Center (NMC) for manual entry into the expressTRAK service order processing system. A Level 2 order is not considered to be FT.
- A Level 4 order enters LSRM and is sent on to Request Broker (RB). RB identifies the order as requiring minimal manual intervention and routes the order to a Verizon VA Service Representative at the NMC, who completes processing of the request. A Lever 4 order is not considered to be FT.
- A Level 5 order flows through LSRM, RB, and expressTRAK without manual intervention. A Level 5 order is considered to be complete FT.

Some orders with potential Level 5 FT eligibility, according to Verizon South FT documentation, were determined by the algorithms of LSRM or RB not to be FT-eligible, based on one or more field entries submitted on the LSR. For example, Verizon South FT documentation might indicate that an order should flow through based on its order activity, but the inclusion of a non-flow-through (NFT) Universal Service Order Code (USOC) on the LSR would prohibit the order from being designated as Level 5. Such an order would instead be designated as Level 2 or Level 4. All valid orders, whether designated Level 2, Level 4, or Level 5, were processed by expressTRAK before being submitted to the provisioning system.

2.2 Scenarios

The Order "Flow Through" Evaluation examined test cases submitted as part of the POP Functional Evaluation (TVV1). Expected FT results for these test cases were determined using the publicly available Verizon South FT documentation. Table 3-1 lists the transaction types tested in the evaluation.

Table 3-1: TVV3 Transaction Scenarios Tested for Flow-Through

Scenario Description	Product			
	Resale	**UNE-P**	**UNE-Loop**	**UNE-EEL**
Migration from Verizon VA "as is"	X	X		
Migration from Verizon VA "as is" with minor changes	X			
Migration from Verizon VA "as specified"	X	X		
Migration from Verizon VA without number portability			X	
Stand-Alone Local Number Portability (LNP)			X	
Migration from Verizon VA with LNP			X	
New customer	X	X	X	
Directory listing change	X	X	X	
Add lines for an existing customer	X	X		
Feature changes for an existing customer	X	X		
Suspend and/or restore service		X		
Disconnect (full or partial)	X	X	X	X
Moves (inside or outside)	X	X		
Convert from Resale to Unbundled Network Elements-Platform (UNE-P)		X		
Convert from Resale to UNE-Loop			X	

Scenario Description	Product			
	Resale	**UNE-P**	**UNE-Loop**	**UNE-EEL**
Changes to the Billing Telephone Number (BTN)	X	X		

2.3 Test Targets & Measures

The test targets and measures used in this test included the following processes and sub-processes:

- Review and analyze Verizon South FT documentation for accuracy, completeness, and clarity; and
- Assess transaction FT behavior.
  - Assess order for Resale products and services for FT compliance;
  - Assess order for UNE-P products and services for FT compliance; and
  - Assess order for UNE-Loop products and services for FT compliance.

2.4 Data Sources

The data collected for the test included the following:

- Verizon Generic Flow-Through Ordering Scenarios Covering the Former Bell Atlantic Territories in DE, MD, NJ, PA, VA, WV, DC;
- USOC In-Scope Table eTRAK Platform Products;
- USOC In-Scope Table eTRAK Resale Products;
- Materials presented at Verizon Wholesale FT Workshops;
- KPMG Consulting TVV1 Test Cases; and
- Daily FT Reports generated by Verizon VA.

Verizon VA and KPMG Consulting used the following sources of information as a basis for this analysis:

- KPMG Consulting generated test transactions as part of POP Functional Evaluation (TVV1) with unique PONs and gathered data on these transactions, including the receipt of a Local Service Request Local Responses (LSRLRs) and/or error messages (ERRs).
- KPMG Consulting determined whether each test case instance was expected to flow through. This determination was based on the publicly available Verizon South FT documentation.
- Verizon VA generated daily reports from August 13, 2001 to December 14, 2001 that identified the FT status of transactions and transmitted these reports to KPMG Consulting.

2.5 Evaluation Methods

The evaluation process was composed of the following work steps:

- Review Verizon South FT documentation;
- Identify expected FT cases based on the Verizon South FT documentation;
- Develop a report and validation process to track transaction FT status;
- Submit transactions via EDI and GUI;
- Receive and analyze the Verizon VA actual FT report;
- Compare expected FT to actual FT outcome;
- Generate a set of reports providing data on expected, unexpected, and missing PONs;
- Identify and analyze unexpected results;
- Issue observations/exceptions when applicable;
- Monitor retests for unexpected results when a system fix or documentation change is issued by Verizon VA in response to an observation or exception; and
- Monitor Verizon FT South documentation changes.

2.6 Analysis Methods

The Order "Flow Through" Evaluation included a checklist of evaluation criteria developed by KPMG Consulting during the initial phase of the Verizon Virginia, Inc. OSS Evaluation Project. These evaluation criteria provided the framework of norms, standards, and guidelines for the Order "Flow Through" Evaluation.

Expected FT results were subject to change during the course of the Order "Flow Through" Evaluation. Some transactions identified with potential FT eligibility at the start of the test were, in fact, not eligible for Level 5 FT status, due to one or more of the following reasons:

- Verizon South FT documentation was updated;
- Transaction required an NFT USOC;
- Transaction required an NFT supplement to be issued;
- Test bed account not correctly provisioned prior to start of test; or
- Verizon VA system error.[57]

The data collected were analyzed employing the evaluation criteria detailed in Section 3.0 below.

[57] During the course of the test, KPMG Consulting identified cases where Verizon VA system errors caused some FT-eligible transactions to be processed as NFT. In response, Verizon VA implemented system fixes during the course of the Order "Flow Through" Evaluation. Subsequent transactions submitted for retest activity did flow through in accordance with published FT rules.

3.0 Results

This section identifies the evaluation criteria and test results. The results of this test are presented in the table below.

Table 3-2: TVV3 Evaluation Criteria and Results

Test Reference	Evaluation Criteria	Result	Comments
TVV3-1	Verizon VA order FT documentation is complete, accurate, and clear.	Satisfied	The order FT documentation is complete, accurate, and clear. KPMG Consulting evaluated publicly available documentation, including the following: ♦ Verizon Generic Flow-Through Ordering Scenarios Covering the Former Bell Atlantic Territories in DE, MD, NJ, PA, VA, WV, DC; ♦ USOC In-Scope Table eTRAK Platform Products; and ♦ USOC In-Scope Table eTRAK Resale Products.
TVV3-2	Verizon VA ordering systems process Resale transactions in accordance with published FT rules.	Satisfied	Verizon VA ordering systems processed Resale transactions in accordance with published FT rules. 100% of Resale transactions submitted as part of the POP Functional Evaluation (TVV1) flowed through as expected, according to Verizon South FT documentation.
TVV3-3	Verizon VA ordering systems process UNE-P transactions in accordance with published FT rules.	Satisfied	Verizon VA ordering systems processed UNE-P transactions in accordance with published FT rules. 100% of UNE-P transactions submitted as part of the POP Functional Evaluation (TVV1) flowed through as expected, according to Verizon South FT documentation.

Test Reference	Evaluation Criteria	Result	Comments
TVV3-4	Verizon VA ordering systems process UNE-Loop transactions in accordance with published FT rules.	Satisfied	Verizon VA ordering systems processed UNE-Loop transactions in accordance with published FT rules. 100% of UNE-Loop transactions submitted as part of the POP Functional Evaluation (TVV1) flowed through as expected, according to Verizon South FT documentation.

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