Commonwealth of Virginia
State Corporation Commission

Bell Atlantic
OSS Evaluation Project
Master Test Plan

Draft

Version 1.0

Submitted by:

KPMG Consulting

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I. Document Control

A. Distribution

Distribution of the Virginia Master Test Plan will be handled directly by the State Corporation Commission.

B. Approved By

Table I-2: Approval List for Document

Person	Department	Date
Alex Skirpan	State Corporation Commission	

Table I-3: Version Control

Version	Date	Reason
1.0	March 20, 2000	Initial Draft Release

II. Introduction

A. Background

The Telecommunications Act of 1996 (the Act) requires Bell Atlantic-Virginia (BA-VA) to:

- Provide just, reasonable and nondiscriminatory access to its operations support systems (OSSs)
- Provide the documentation and support necessary for competitive local exchange carriers (CLECs) to access and use these systems
- Demonstrate that BA-VA's systems are operationally ready and meet prescribed performance standards

Compliance with these requirements will allow competitors to obtain pre-ordering information, submit service orders for resold services and unbundled network elements (UNEs), submit trouble reports and obtain billing information at a level deemed to be non-discriminatory when compared with BA-VA's retail operations.

BA-VA offers various systems, including both application-to-application interfaces and terminal-type/Web-based systems, which CLECs can use to access BA-VA's OSS in order to perform these tasks. The Virginia State Corporation Commission (SCC) has retained KPMG Consulting (KPMG) to assist it with assessing whether BA-VA is meeting these requirements.

B. Scope

This document describes the plan to evaluate BA-VA's OSSs, interfaces and processes that enable CLECs to compete with BA-VA for customers' local telephone service. In determining the breadth and depth of the test, all stages of the CLEC-ILEC relationship were considered. These include the following:

- Establishing the relationship
- Performing daily operations
- Maintaining the relationship

Further, each of the standard service delivery methods that Bell Atlantic makes available to CLECs in the State of Virginia - resale, UNE Platform (UNE-P) unbundled network elements (UNE) and enhanced extended links (EEL) – were included in the scope of the test.

The plan has been divided into three test families to organize and facilitate testing:

- Performance Metrics Review (PMR)
- Policies and Procedures Review (PPR)
- Transaction Validation and Verification (TVV)

Within each of the test families, the methods and processes to be applied to measure BA-VA's performance are described along with the specific points in the systems and processes where BA-VA performance will be evaluated. The results of the test will be compared against service quality metrics identified by the SCC for the purpose of this test and other measures and criteria as deemed appropriate by the SCC.

This plan also describes the development and application of scenarios to be used within the TVV test families in evaluating BA-VA's OSS and related support services. KPMG developed these scenarios to test the functionality of BA-VA's pre-ordering, ordering and provisioning (POP); maintenance and repair (M&R); and billing systems. The scenarios were designed to depict real-world situations that CLECs currently face or may face in the near future. The scenarios will be used to develop test cases that provide a detailed description of the transactions and introduce additional variables such as errors and supplements to further simulate real world transactions.

Military Style Test
This plan will adopt the military-style test philosophy, which suggests a "test until you pass" approach. This is to be in the best interest of all parties seeking an open, competitive market for all local services in the Commonwealth of Virginia.

The process works as follows:

- If a problem is encountered during the test, KPMG will inform the SCC and BA-VA by creating written Observations or Exceptions describing the problem and providing an assessment.

- An Observation will be created if KPMG determines that a test reveals one of BA-VA's practices, policies or systems characteristics might result in a negative finding in the final report.

- An Exception will be created if KPMG determines that a test reveals one of BA-VA's practices, policies, or systems characteristics is not expected to satisfy one or more of the evaluation criteria, and thus would result in a negative finding in the final report.

- Observation and Exception status will be discussed weekly by the SCC, KPMG and BA-VA. CLECs will be able to monitor the calls as observers, as well as ask only clarifying questions. The SCC will referee the appropriateness of the questions, if necessary.

- CLECs will be able to view Exceptions on the SCC web site as well as provide input informally to the SCC.

- Observations may or may not become Exceptions. Some Exceptions may not have been initially identified as Observations.

- BA-VA will respond to Observations verbally and to Exceptions in writing. These responses will describe either a clarification of the issue or BA-VA's intended fix(es) to the problem(s). The response will be posted on the SCC web site.

- KPMG will be responsible for determining if an Exception is resolved. If in responding to an Exception BA-VA has made a change to a process, system, or document, KPMG will retest as appropriate.

- If an Exception is not resolved, the cycle will continue to: a) iterate until closure is reached; b) no further action is warranted; or c) the SCC specifically exempts the Exception from further testing.

Because of the potential extended time involved in these activities, it may not always be possible or practical to retest all activities within the scope of this test. At the conclusion of this test, there may be some Exceptions that remain open. The SCC will consider the disposition of such items, if any.

C. Objective

The overall objective of this document is to provide a description of a comprehensive plan to test Bell Atlantic's OSSs, interfaces and processes. This master test plan shall be the basis by which individual tests can be developed and executed. The test results will help the SCC to determine whether BA-VA's provision of access to OSS functionality enables and supports CLEC entry in the local market. To meet these objectives, KPMG developed a test plan that is intended to provide adequate breadth and depth to evaluate the entire CLEC/ILEC relationship under real world conditions.

D. Audience

The audience for this document falls into two main categories:

1. Readers using this document during the testing process
2. Interested parties who have some stake in the result of the BA-VA OSS evaluation and wish to have insight into the evaluation effort

The primary user of this document is KPMG in its role as test manager. Others are the Virginia SCC, BA-VA, the CLECs, the Department of Justice (DOJ) and the Federal Communications Commission (FCC).

Test Manager

KPMG has overall responsibility for the management of the testing process described in this document. This document will be used by KPMG to guide the various parties involved in this testing effort.

Test Transaction Generator (TTG)

The TTG is the array of technologies, which enable transactions to be submitted to and received.

Virginia State Corporation Commission

The Virginia State Corporation Commission is responsible for providing input on additional tests, measures, or criteria that should be considered. KPMG will provide results and preliminary evaluation of the results to the SCC. The SCC is responsible for the final evaluation of the test results.

Bell Atlantic-Virginia

BA-VA will use this document to understand the testing framework in order to prepare its test bed. This document describes the requirements BA-VA must satisfy to prepare for and execute the tests.

The CLEC Community

The CLECs will use this document to understand the breadth and depth of the test. In addition, this document describes the elements required of the CLECs to prepare for their role in the tests.

Department of Justice

The Department of Justice may observe the process of developing, conducting and evaluating the tests.

The Federal Communications Commission

The Federal Communications Commission may observe the process of developing, conducting and evaluating the tests.

E. Assumptions

This section describes the assumptions made in the development of this Test Plan.

- The Web GUI interface is the only interface that will be evaluated for Maintenance and Repair.
- BA-VA will provide suitable resources in sufficient numbers to assist KPMG and any sub-contractors that KPMG may engage with the evaluation effort.
- BA-VA will provide access to appropriate documentation.
- BA-VA will provide the necessary resources, facilities and support to set up the work environment and the test bed required to execute the tests (e.g., office space; equipment; IDs; security access; customer accounts and addresses; and appropriate company codes).
- BA-VA will process test transactions as part of normal processing including the provisioning of some scenarios/test cases.
- BA-VA will provide the facilities required to execute the live scenarios.
- One or more CLEC will volunteer to participate and provide facilities required to execute those live scenarios necessitating CLEC participation.

- BA-VA and the CLECs will allow KPMG to observe retail and wholesale processes on-site during the evaluation effort.
- BA-VA and the CLECs will give KPMG access to historical data and current operational reports, as needed, to complete the evaluation.
- BA-VA will allow KPMG to inspect algorithms that may have a bearing on parity access, such as the algorithm used to manage trouble reports.
- BA-VA will maintain a stable environment for the duration of the evaluation.
- KPMG and any subcontractors will use publicly available documentation and support mechanisms to develop its interfaces.
- Regulatory, legal and confidentiality issues or concerns can be resolved without significant impact to either the intent of the tests, the ability to execute the tests, or the schedules for their execution.

F. Limitations

The purpose of this section is to describe some limitations of the testing effort. These limitations will be described in terms of what is to be tested and what conclusions can be drawn from the results.

- In some cases, certain order types, troubles and processes may not be practically tested by submitting transactions during a test of reasonable duration. Examples include orders with very long interval periods (such as the establishment of collocation arrangements) and high volumes of test provisioning transactions. Accordingly, the test may take the form of an interview, inspection, live orders review, review of historical performance or operational reports, or some other method that will capture the performance of BA-VA with respect to the order types and processes in question. The Test Family Test Plans will identify the tests that can be executed live and those that must be executed by other means. Long interval tests that prove to have no alternative test methods that foreshorten the test will be referred, with a recommendation for disposition, to the SCC. The SCC will make the final decision regarding the disposition of such tests.
- Operational, time and resource constraints make it impossible to construct a completely exhaustive test suite. Significant effort has been expended to clearly portray the scope of the proposed suite and it is believed this suite does provide both extensive and sufficient coverage. Provision has been made in the plan to amend or extend the test if, in the judgment of the SCC, an amendment or extension is deemed justifiable.
- It is not practical nor desirable to execute certain live tests that would disrupt service to BA-VA or CLEC customers. An example would be a Maintenance and Repair test that requires an equipment failure. BA-VA performance for these test cases will be evaluated by other means. The Test Family Evaluation Plans will identify the tests that can be executed live and those that must be executed by other means.

G. Document Structure

This section describes the structure of the document. It includes a table that lists each major section number along with a brief description.

Table II-1 Document Overview

Sect. No.	Section	Content
I	Document Control	Identifies document distribution and necessary approvals.
II	Introduction to the Document	Documents project background, scope and objectives, assumptions and limitations. Includes who should read the document and how it is structured.
III	Test Plan Framework	Describes the methodologies for testing Bell Atlantic's systems, interfaces and processes. Includes how testing is segmented and organized, testing components, entrance and exit criteria, data acquisition and tracing.
IV	Performance Metrics Review Test Section	Describes the methods and procedures for evaluating BA-VA's data collection, transfer and processing into its performance metrics.
V	Policies and Procedures Review Test Section	Describes the methods and procedures for evaluating BA-VA Wholesale business rules.
VI	Transaction Verification and Validation Test Section	Describes the methods and procedures for verifying and validating BA-VA's core systems through a series of transaction tests.
Appendix A	Test Scenarios	Describes the scenarios to be used in this test.
Appendix B	Normal and Peak Volumes Test Section	Describes the volumes to be used in testing.
Appendix C	Statistical Approach	Describes the statistical methods and tests used to determine whether parity exists.
Appendix D	Metrics Criteria	Lists metrics for process areas gathered from sources such as the Interim Guidelines.
Appendix E	References/Documents	References used in developing this document.
Appendix F	Glossary	Testing terms and definitions used in this document.

III. Test Plan Framework

The overall test of BA-VA's OSS is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces and processes that fall within the scope of the testing effort. In constructing a master test plan, many factors were considered, including the systems and processes to be tested, the measurement points and respective evaluation criteria and the necessary conditions required to stage a successful, efficient and objective test. Because of KPMG's experience in the New York, Pennsylvania and Massachusetts trials, there may be some portions of this test that can be expedited. To the extent KPMG determines that any of the testing completed for other jurisdictions is duplicative of any specific portion of this test plan, KPMG, with the approval of the SCC may rely on the results from the other jurisdictions rather than conducting duplicative testing.

In order to develop a comprehensive, complete and thorough test of BA-VA's OSSs, interfaces and processes, the master test plan framework was defined along five key dimensions:

- Test Domains
- Test Families
- Test Processes
- Test Scenarios
- Evaluation Criteria

The *test domains* provide a functional classification of the systems and processes to be tested. The *test families* organize the types of tests to be performed on the systems and processes. The *test processes* define the techniques, measures, inputs, activities and outputs of each component test. The *test scenarios* provide the contextual basis for testing by defining the transactions, products and other variables that must be considered and included during portions of the testing. *Evaluation criteria* serve as the basis for evaluation by defining the norms against which test results are compared.

These concepts are discussed in more detail in the following sections.

A. Test Domains

The areas subject to testing exist in four domains that mirror the major business functions performed by a telecommunications carrier:

- Pre-Order, Order and Provisioning (POP)
- Maintenance and Repair (M&R)
- Billing (BLG)
- Relationship Management and Infrastructure (RM&I)

These four domains correspond to the four respective business functions that comprise the BA-VA/CLEC relationship. The domains are useful in defining the areas to be tested and the specific tests to be conducted.

Pre-Order, Order and Provisioning Domain

This domain is comprised of the systems, processes and other operational elements associated with BA-VA's support for Pre-Ordering, Ordering and Provisioning activities for wholesale services and unbundled network elements.

Maintenance and Repair Domain

This domain is comprised of the systems, processes and other operational elements associated with Bell Atlantic's support for Wholesale Maintenance and Repair activities.

Billing Domain

This domain is comprised of the systems, processes and other operational elements associated with BA-VA's support for Wholesale Billing and transfer of customer usage data to the CLECs.

Relationship Management & Infrastructure Domain

This domain is comprised of the systems, processes and other operational elements associated with BA-VA's establishment and maintenance of business relationships with the CLECs.

In the POP, M&R and Billing domains, the tests are defined to evaluate functionality, procedures and management practices and to determine compliance with prescribed measurements, which can form the basis for comparing these operational areas with parallel systems and processes supporting Bell Atlantic's retail operations.

B. Test Families

The areas subject to testing have been organized into three test families that are composed of tests that require similar methods of evaluation. The three test families are:

- Performance Metrics Review
- Processes and Procedures Review
- Transaction Verification and Validation

These three test families are useful in organizing the areas to be tested and the specific tests to be conducted. The Performance Metrics Review (PMR) test family will review the data collection and reporting functions performed by BA-VA, while the Processes and Procedures Review (PPR) test family will review BA-VA's wholesale business processes and management practices. The Third test family, Transaction Verification and Validation (TVV) will be comprised of transaction-based tests.

Within each of these test families, specific test targets have been identified for testing. The POP, Billing and M&R domains will be addressed in each of the test families. RM&I will be addressed completely within the PPR test family. The relationship between the test families and test domains is shown below.

Figure III-5: Domain/Test Family Matrix

	POP	Billing	M&R	RM&I
PMR	X	X	X	
PPR	X	X	X	X
TVV	X	X	X	

C. Test Processes

Within each of the three test families, specific test processes to be executed have been defined.

In general, two kinds of tests have been developed:

- Transaction-Driven System Analysis
- Operational Analysis

1.0 Transaction-Driven System Analysis

Tests utilizing transaction-driven system analysis rely on initiation of transactions, tracking of transaction progress and analysis of transaction completion results to evaluate a system under test. Transaction-driven system analysis requires defining several key facets of testing, including the data sources (e.g., CLEC live data, BA-VA historical data), the system components under test (e.g., application-to-application interfaces, graphical user interfaces) and volumes (e.g., normal, stress).

The transactions, or test instances, to be used in each transaction-driven system analysis test will be derived from higher level sets of one or more transactions called test cases, which in turn have been developed from test scenarios. See the Scenario section below for additional discussion. Many transaction-driven tests utilize a Test Transaction Generator (TTG) to facilitate testing.

Test Transaction Generator

The TTG provides the capability to generate the full suite of real world test cases by submitting transactions via BA-VA's wholesale transaction interfaces and collecting information about the response times, intervals and other compliance measures.

The TTG will generate and submit the required number of transactions to test the expected normal and stress volumes, ensure the processing of the full breadth of transactions during the test period and repeat test cases in the required volumes in a controlled test environment. A work center will be assembled to provide for interactive processing, such as handling errors, exceptions and re-submittals. This work center will also submit manual transactions to BA-VA and await responses.

Further, the team responsible for the TTG will be required to document its ability to build, test and place in operation the functionality required to successfully process transactions utilizing BA-VA's documentation, account management, help desk and training support.

CLEC Involvement in Transaction Testing

CLECs operating in Virginia will be asked to volunteer to participate in certain portions of this test. The inclusion of selected CLEC live transactions provides an alternative test method for transactions which may not be practical to provide through the test transaction generator and further facilitates a more realistic depiction of real world production. CLEC participation will also be solicited to provide real test cases during the test period.

Use of CLEC live transactions allows for an element of blind testing and tracking performance in a "real-world" environment. It also provides a means to help control for "test bias." Use of these transactions will require extensive participation by KPMG either to observe the execution of the transactions in order to measure, audit, inspect and monitor progress and report results or otherwise verify and validate the observed results.

Additionally, some of the transaction types submitted by the TTG can only be properly executed with direct involvement from the CLECs. One category of such tests are those that include complex transactions involving physical CLEC facilities. For example, UNE orders involving LNP require a physical switch and an operational CLEC in order to be fully completed. Another category would be those tests requiring realistic customer data, such as address validation and directory listing inquiries.

Further, there are scenarios where in-progress live transactions cannot be obtained or are not practical to execute in a test environment. These will be evaluated utilizing historical information, if such data is provided by the CLECs. Historical transactions will be applied in those cases where the process has been stable for a sufficient length of time and where data can be validated by KPMG.

The successful execution of those portions of the test requiring CLEC participation is dependent on the extent of that participation. KPMG will meet with those CLECs who volunteer to participate to mutually agree on the nature and extent of the participation.

Additionally, KPMG plans to host regular meetings with interested CLECs to address questions and keep them apprised of the project status.

2.0 Operational Analysis

Tests utilizing operational analysis focus on the form, structure and content of the business process under study. This test method will be used to evaluate day-to-day operations and operational management practices, including policy development, procedural development and procedural change management. Operational analysis validates and verifies the results of a process to determine that the process functioned correctly and according to documentation and expectations. Operational analysis also tests compliance by reviewing management practices and operating procedures against legal, statutory and other requirements.

D. Test Scenarios

Based on KPMG's industry experience, the knowledge gained from tests in other states and a review of the available BA-VA offerings in Virginia, KPMG has developed a representative set of test scenarios.

The test scenarios are high-level descriptions of realistic situations in which CLECs purchase wholesale services and network elements from BA-VA to be resold or repackaged to the CLEC's end-user customer on a retail basis. The key principles applied in generating the scenarios included: (1) emulating real world coverage mix and transaction types while (2) balancing the requirement for practical and reasonably executable transactions which would not unduly disrupt normal production or negatively affect customer service. In general, each test scenario describes a real-world situation that will be used to create test cases.

1.0 Scenario Purpose

Scenarios serve several key purposes. Scenarios help define the products, services and transactions that should be included for testing. In this regard, test scenarios provide the guidance and framework for developing "real world" test cases to simulate live production in a controlled test environment. The test cases provide the actual detailed instructions required to build individual transaction test instances.

These scenarios will be used to test functionality, performance and other attributes associated with the ability of CLECs to access information from BA-VA business processes and associated systems. Scenarios provide a way to bridge across test domains and families, thereby, facilitating both point-specific and end-to-end testing of various systems and processes and providing the breadth and depth of coverage of products and services to be tested.

2.0 Scenario Use

A list of the scenarios to be used in this test is provided in table form in Appendix A. CLECs operating in Virginia will have the opportunity to submit additional scenario ideas to KPMG for potential inclusion in the test. After consideration of these proposals and as directed by the SCC, KPMG may add some of these scenarios to Appendix A. Only the high-level scenarios and not the more detailed test cases or instances are listed in this document to assure that the test will be as blind as possible. In general, each scenario specifies a high-level description of a transaction situation. For example, one scenario is to send an order to change features for an existing CLEC Resale business POTS customer.

The scenarios are used to generate specific test cases. The test cases represent variations on the basic scenario. For example, from the example scenario mentioned above, there could be several test cases:

- Delete Call Waiting and add Caller ID to each line of a ten-line business customer with sequential hunting among the lines
- Add hunting to a five-line business customer account and then cancel the order after two days

- Remove hunting from a seven-line business customer and then supplement the order three days later to remove Call Waiting from the auxiliary lines
- Introduce a specific intentional error in the order and then supplement to correct the error

Detailed test instances will be generated from these test cases. Test instances represent a set of transactions described by a test case for a specific customer account. For example, a test case might specify, "migrate a two-line business customer from Bell Atlantic to a CLEC and add call waiting on the primary line." A test instance would perform the necessary pre-ordering inquiries and send an order to accomplish this activity for a specific two-line business customer account. In general, KPMG plans to transmit several test instances for each of the test cases.

For functionality testing, volumes of test instances will be assigned to each of the test cases based, in part, on a determination of the sufficiency of sample sizes to determine compliance with appropriate Performance Metrics. (The method for determining the appropriate Performance Metrics that will be used in this test is described in Appendix D.) However, for practical reasons it is expected that transactions of greater complexity will tend to be executed in smaller volumes. Other considerations that will be taken into account in determining test volumes will be assurance of sufficient samples by customer type (residence vs. business) and by service delivery method. In addition, KPMG may determine based on experience in other jurisdictions and further analysis of CLEC forecasts and experience in Virginia to add additional volumes to certain scenarios.

For volume testing, normal expected volumes will then be assigned to a selected set of the test cases based on expected future real world production. Volume testing conducted as part of this test will be based on level of demand projections that are reasonably foreseeable in a competitive market. Individual test instances that match the test cases will be generated based on the volume that has been assigned. In addition, for pre-ordering and ordering, a stress volume test will be conducted to test the capacity and identify potential choke points of the interfaces. Stress volumes will be assigned to a subset of the test case types based on some multiplier of the normal expected volumes.

E. Evaluation Criteria

Measures and the corresponding evaluation criteria provide the basis for conducting tests. Evaluation criteria are the norms, benchmarks, standards and guidelines used to evaluate measures identified for testing. Evaluation criteria provide a framework for the scope of tests, the types of measures that must be taken during testing and the approach necessary for analyzing results. There are four types of evaluation criteria:

Table III-1: Evaluation Criteria

Evaluation Criteria Type	Description	Examples
Quantitative	These criteria set a threshold for performance where a numerical range of values is possible, such as response time.	System response time is four seconds or less.
Qualitative	These criteria set a threshold for performance	Documentation defining daily usage

Evaluation Criteria Type	Description	Examples
	where a range of quality values is possible, such as level of customer satisfaction.	feeds is adequate.
Parity	These are criteria that require two measurements to be developed and compared, such as whether external response time is at least as good as internal response time.	CLEC transaction time no greater than BA-VA Retail transaction time.
Existence	These are criteria where only two possible test results can exist (e.g., true/false, presence/absence), such as whether a document exists or not.	Documentation defining daily usage feeds exists.

The evaluation criteria to be applied in the overall test effort are based largely on the legal and regulatory requirements for functionality and performance applicable to BA-VA's OSS. Overall, evaluation criteria are derived from three types of sources, as shown below.

Table III-2: Sources of Evaluation Criteria

Evaluation Criteria Source Types	Description
Legal and Regulatory Requirements	Requirements specified by statute and regulation, such as FCC orders, court orders, SCC regulations, federal and state statutes and other binding requirements resulting from judicial or governmental proceedings.
Consensus Requirements	Norms, benchmarks and standards developed by any formal consensus proceedings.
Good Management Practices (GMP)	Widely recognized standards and guidelines promulgated by sanctioned industry and governmental organizations and other bodies (e.g., industry forums such as the Ordering and Billing Forum, the Telecommunications Industry Forum and Committee T1); also includes benchmarks, performance goals and guidelines derived from industry and topic area experts, BA-VA and CLEC performance targets, publications, academic journals and other sources.

F. Test Process Elements

For every test defined within each test family, the test process includes the following:

- Test description
- Test targets and scope
- Measures to be used
- Scenarios to be applied
- Inputs, activities and outputs
- Entrance and exit criteria

Several key test process elements are described in the following sections. Each test process specifies the evaluation techniques used to capture and analyze information developed during testing and the evaluation measures used to conduct testing.

1.0 Entrance Criteria

Entrance criteria are those requirements that must be met before individual tests can commence. Global entrance criteria, which apply to every individual test (except where noted otherwise), include the following:

1. **The Test Plan has been approved.**

   The SCC must approve the Test Plan.

2. **All legal dependencies have been resolved.**

   Any pending legal and regulatory proceedings that impact the ability to perform the test must be concluded in a manner that allows testing to proceed. Any necessary legal or regulatory approvals must be secured.

3. **The SCC has adopted a set of test metrics.**

   The SCC has ordered KPMG Consulting to produce a proposed set of metrics to be used during the Virginia test. These test metrics will be based on KPMG's metrics experience in other jurisdictions. The metrics proposed by KPMG will be released to the SCC, BA-VA and the CLECs for their comments. The SCC will adopt the final version of the test metrics.

4. **All required BA-VA interface capabilities must be operationally ready.**

   Electronic interfaces to all OSS access functions of Pre-Ordering, Ordering, Provisioning, Maintenance and Repair and Billing must be fully tested and operational. All GUI interface capabilities must be operational.

5. **For transaction tests to begin, the Test Transaction Generator must be operationally ready.**

   The TTG will be developed by KPMG based on publicly available BA-VA specifications and documentation. The successful operation of the TTG will demonstrate the feasibility of developing, testing and operating the CLEC side of the OSS interface based upon documentation supplied by BA-VA.

6. **CLEC facilities and personnel are available to support the CLEC elements of the Test Plan.**

   CLECs will use the Test Plan to prepare their organization for the relevant tests. This could include the designation of appropriate on-site working space and equipment for the testers, the training of necessary personnel and any other appropriate measures in order to facilitate test implementation. Since CLEC participation is voluntary, insufficient involvement by CLECs might necessitate elimination of certain elements of the plan.

7. **KPMG has reviewed relevant source documentation from other tests in the Bell Atlantic serving region.**

KPMG will review interview reports, summaries and walkthrough reports from other tests in the Bell Atlantic serving region where appropriate. This step will provide testers with background information on business functions, which are the same in VA and other states from which test results exist. This review is one element in the test of BA-VA's systems, processes and procedures.

In addition to these global entrance criteria, test-specific entrance criteria, where applicable, are defined within each test.

Table III-3 Global Entrance Criteria

Criteria	Responsible Party
The Test Plan has been approved.	SCC
All legal dependencies have been resolved.	BA-VA
Resolutions to legal dependencies approved.	SCC
Test metrics have been adopted	SCC and KPMG
All required BA-VA interface capabilities must be operationally ready.	BA-VA
Test Transaction Generator must be operationally ready.	KPMG
CLEC facilities and personnel are available to support the CLEC elements of the Test Plan.	CLEC
KPMG has reviewed relevant source documentation from other tests in the BA-VA serving region.	KPMG

2.0 Exit Criteria

Exit criteria are the requirements that must be met before the tests defined in the Test Plan can be concluded.

1. **All required test activities must be completed.**

   For each test, all fact finding and analysis activities must be completed. All results and test methodologies have been documented.

2. **All change control, verification and confirmation steps have been completed.**

   The results of test activities must be documented and reviewed for accuracy. Any results that require clarification or follow-up are confirmed.

   In addition to these global exit criteria, test-specific exit criteria, where applicable, are defined within each test.

Table III-4 Exit Criteria

Criteria	Responsible Party
All required test activities must be completed.	KPMG
All change control, verification and confirmation steps have been completed.	KPMG

3.0 Evaluation Techniques

Each test relies on one or more techniques to collect and record measurements and analyze the results. The five types of techniques defined for this test are described in the chart below.

Table III-5: Evaluation Techniques

Technique	Description
Transaction Generation	Transaction generation is the use of live, historical and/or generated data that is executed through the system under review. The results of this test are evaluated for quality.
Report Review	Review and analysis of historical data, reports, metrics and other information in order to assess the effectiveness of a particular system or business function. This includes performance measurement reports and other management reports.
Inspection	Physical review of process activities and products including site visits, walk-throughs, read-throughs and work center observations.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
Document Review	Compilation and review of books, manuals and other publications related to the process and system under study.

IV. Performance Metrics Review Test Family

A. Purpose

The purpose of this section is to define the specific tests to be undertaken in evaluating the systems, processes and other operational elements associated with Bell Atlantic's support for the required Performance Metrics.

B. Organization

The Performance Metrics Review is organized into four test target areas, which represent the key focus areas for testing in this domain. The Performance Metrics scope section contains a series of tables that identify the specific tests to be associated with each target test area. The tables are organized based upon subject test matter. For the Virginia test, it is the understanding of KPMG Consulting that the SCC will approve a base set of test metrics which may be a result of input from KPMG Consulting's experience with other OSS tests. These test metrics will be used unless finalized metrics are provided in a reasonable time frame for the Virginia testing activities. BA-VA will report the Metric values during the testing period by following the test metrics identified for the test and approved by the SCC.

The subsequent section, Performance Metrics Review "Test Process," provides additional information and tables that further define the testing approach, inputs, outputs as well as entrance and exit criteria.

C. Scope

The Performance Metrics Review test family comprises four test target areas, representing the important and generally distinct areas of metrics-related efforts undertaken by BA-VA. The four test target areas are:

- Standards & Definitions
- Data Processing
- Data Retention
- Calculation & Reporting

The test processes described below address these test areas. Each test process is further broken down into a number of discrete sub processes.

D. Test Process

Five tests have been designed to address the four test target areas. The organization of these tests is as follows:

PMR1: Metrics Standards and Definitions Documentation Verification and Validation Review

PMR2: Data Collection and Storage Verification and Validation Review

PMR3: Metrics Calculation and Reporting Verification and Validation Review

PMR4: Metrics Data Filtering and Integrity Verification and Validation Review

PMR5: Metrics Change Management Verification and Validation Review

The four test target areas and five metrics tests will review the performance metrics that BA-VA will be reporting. Test metrics recommended by KPMG and approved by the SCC will be used in the Virginia test. In the event that finalized metrics are provided by the SCC before the start of the Virginia test, these metrics will be used for the test. Once a set of metrics for purposes of the test are finalized by the SCC, they will be listed in Appendix D.

These tests will involve an investigation of the processes both for data management and for CLEC and Retail metrics generation and reporting. They will also involve an examination of both live industry data and, where applicable, data from the test transactions performed by KPMG.

1.0 Test PMR1: Metrics Standards and Definitions Documentation Verification and Validation Review

1.1 Description

This test evaluates the state of the documentation of metrics definitions and standards and the overall policies and practices for documenting these definitions and standards. This would include the documentation of and the documentation policies and practices associated with both CLEC measurements and, for standards that involve retail analogs, retail measurements. This test will rely on checklists, document reviews and inspections.

1.2 Objectives

The objectives of this test are to determine the adequacy and completeness of the documentation of performance metrics definitions and standards and the key procedures for documenting and publicizing standards and definitions for performance metrics.

1.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

1.4 Test Scope

Table IV-1 Test Scope: Metrics Standards and Definitions Documentation Verification and Validation Review

Target Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Standards & Definitions	Documentation of Metrics Definitions	Adequacy and completeness of Metrics Definitions	Inspection Document review Report review	Qualitative
Standards & Definitions	Distribution of Metrics Definitions	Adequacy and completeness of the distribution of the Metrics Definitions	Inspection Document review Report review	Qualitative
Standards & Definitions	Documentation of Standards	Adequacy and completeness of Standards	Inspection Document review Report review	Qualitative
Standards & Definitions	Distribution of Standards	Adequacy and completeness of the distribution of the Standards	Inspection Document review Report review	Qualitative

1.5 Scenarios

This test does not rely on scenarios.

1.6 Test Approach

1.6.1 Inputs

1. BA-VA Metrics Development Documentation
2. BA-VA Metrics Definition Documentation, other procedural and technical documentation (e.g., BA-VA technical documentation on the calculation of Metrics)
3. Evaluation checklists
4. Interview guides

1.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

1.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

1.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

2.0 Test PMR2: Data Collection and Storage Verification and Validation Review

2.1 Description

This test evaluates key policies and practices for collecting and storing raw and filtered data necessary for the creation of performance metrics. The procedures for data used in the calculation of the metrics will be included. This test will rely on checklists and inspections.

2.2 Objectives

The objectives of this test are to determine the adequacy and completeness of key policies and procedures for collecting and storing performance metrics data.

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

2.4 Test Scope

Table IV-2 Test Scope: Data Collection and Storage Verification and Validation Review

Target Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Data Processing	Collection policies & procedures for CLEC and retail data	Adequacy and completeness of collection policies and procedures	Inspection Document review Report review	Qualitative
Data Processing	Identification of collection points	Applicability of and measurability from control points	Inspection Document review Report review	Qualitative
Data Processing	Existence of collection tools	Adequacy and scalability of data collection tools	Inspection Document review Report review	Qualitative
Data Processing	Internal Controls	Adequacy and completeness of the internal control process	Inspection Document review Report Review	Qualitative
Data Retention	Storage policies & procedures for CLEC and retail data	Adequacy and completeness of storage policies and procedures	Inspection Document review Report review	Qualitative
Data Retention	Identification of storage sites	Applicability of and measurability from control points	Inspection Document review Report review	Qualitative
Data Retention	Existence of storage tools	Adequacy and scalability of data storage tools	Inspection Document review Report review	Qualitative
Data Retention	Internal Controls	Adequacy and completeness of the internal control process	Inspection Document review Report Review	Qualitative

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

2.6.1 Inputs

1. BA-VA Information Systems Policies and Processes documentation
2. BA-VA Metrics Definition documentation
3. Other procedural and technical documentation
4. Evaluation checklists
5. Interview guides

2.6.2 Activities

1. Gather information
2. Review collection and storage policies and procedures for both CLEC data and data used in calculations of retail analogs
3. If deemed necessary, perform walkthrough of BA-VA facilities that are relevant to the production of performance measurements
4. Perform interviews and documentation reviews
5. Complete evaluation checklists and interview summaries
6. Develop and document findings

2.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

2.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

3.0 Test PMR3: Metrics Calculation and Reporting Verification and Validation Review

3.1 Description

This test evaluates the processes used to calculate and report performance metrics and retail analogs. The test will rely on re-calculating CLEC metrics and retail analogs and reconciling discrepancies to verify and validate the production of metrics values. The test will use both retrospective data and data collected by KPMG and BA-VA from the execution of transactions. This test will also analyze the consistency between the definition documentation and the procedures used for calculating metrics. The test will rely on checklists, document reviews, inspections and computer programming.

3.2 Objectives

The objectives of this test are to determine the accuracy of recent metrics calculations and to verify that the metrics are consistent with BA-VA documentation.

3.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

3.4 Test Scope

Table IV-3 Test Scope: Metrics Calculations and Reporting Verification and Validation Review

Target Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Calculation and Reporting	Accuracy of metrics calculations and reports	Ability to recreate calculations of metrics values and retail analogs	Calculation	Quantitative
Calculation and Reporting	Documentation	Consistency between definition documents and BA-VA metrics calculations	Document review	Qualitative

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

3.6.1 Inputs

1. BA-VA definitions and standards as verified by PMR1
2. BA-VA target databases as verified and validated by PMR2
3. BA-VA Metrics Definition documentation
4. Other procedural and technical documentation that may be appropriate
5. Evaluation checklists
6. Interview guides

3.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Gather data
5. Recreate performance metrics from target data
6. Develop and document findings

3.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Completed performance metrics calculations
3. Summary report

3.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

4.0 Test PMR4: Metrics Data Filtering and Integrity Verification and Validation Review

4.1 Description

This test evaluates the overall policies and practices for processing the data used by BA-VA in the production of the reported performance metrics. This test will rely on document reviews, inspections and sampling of partially converted data. Both CLEC and retail data will be included in the test. In addition, both retrospective data and data derived from the transactions submitted by KPMG will be included.

4.2 Objectives

The objective of this test is to determine the integrity of key procedures for processing the data necessary for the production of performance metrics.

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Completion of PMR3	KPMG

4.4 Test Scope

Table IV-4 Test Scope: Metrics Data Filtering and Integrity Verification and Validation Review

Test Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Data Processing and Retention	Transfer of data from point(s) of collection	Accuracy of the data transfer process	Inspection Document review	Quantitative
Data Processing and Retention	Conversion of data from raw to processed form	Accuracy of the conversion policies and procedures	Inspection Document review	Quantitative
Data Processing and Retention	Internal Controls	Adequacy completeness of the internal control process	Inspection Document review Report review	Qualitative

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

4.6.1 Inputs

1. BA-VA Metrics Documentation
2. Other procedural and technical documentation that may be appropriate
3. Evaluation checklists
4. Interview guides

4.6.2 Activities

1. Gather documentation
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Gather sample of data
5. Analyze data
6. Evaluate BA-VA raw data
7. Develop and document findings

4.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

4.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

5.0 Test PMR5: Metrics Change Management Verification and Validation Review

5.1 Description

This test evaluates the overall policies and practices for managing the change of the standards and definitions in the BA-VA metrics. This evaluation is conducted by analyzing the calculation of the metrics and the communication of metric changes to the SCC and the CLECs. This will include policies and practices associated with both CLEC and, where the standards are retail analogs, retail measurements. This test will rely on checklists, document reviews and inspections.

5.2 Objectives

The objectives of this test are to determine the adequacy and completeness of key procedures for developing, conducting, monitoring and publicizing change management of the performance metrics.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	SCC
Interview guides	SCC

5.4 Test Scope

Table IV-5 Test Scope: Metrics Change Management Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Change Management	Developing Change Proposals	Completeness and consistency of change development process	Inspection Document review Report review	Qualitative
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	Inspection Document review Report review	Qualitative
	Implementing Change	Completeness and consistency of change implementation process	Inspection Document review Report review	Qualitative
	Intervals	Reasonableness of change interval	Inspection Document review Report review	Qualitative
	Documentation	Timeliness of documentation updates	Inspection Document review Report review	Qualitative
	Tracking Change Proposals	Adequacy and completeness of change management tracking process	Inspection Document review Report review	Qualitative

The SCC will determine the notification process for Metrics changes that will be followed. This process will include CLEC notification.

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

5.6.1 Inputs

1. BA-VA Metrics Change Management Policies and Procedures Documentation.
2. Other procedural and technical documentation that may be appropriate
3. Evaluation checklists
4. Interview guides

5.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

5.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

5.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

V. Processes and Procedures Review Test Family

A. Purpose

The purpose of this section is to define the specific tests to be undertaken in evaluating the systems, processes and other operational elements associated with BA-VA's establishment and maintenance of business relationships with the CLECs. Areas to be evaluated include the provisioning of on-going operational support to CLECs in a manner both adequate to CLEC business needs and comparable to that provided to BA-VA Retail Operations.

B. Organization

The Processes and Procedures Review "Scope" section contains a series of tables that identify the types of tests to be associated with each Target Test Area and are organized based upon test subject matter.

The subsequent section, Processes and Procedures Review "Test Process," provides additional information and tables that further define the testing approach, inputs, outputs as well as entrance and exit criteria. The tests are grouped to enable an efficient overall test procedure.

C. Scope

The Processes and Procedures Review Test family is comprised of Target Test Areas representing important and generally distinct areas of effort undertaken by BA-VA to establish and subsequently support CLECs. These Target Test Areas include:

- Change Management
- CLEC Training
- Account Establishment & Management
- Forecasting
- Interface Development
- Network Design, Collocation and Interconnection Planning
- Domain Specific Process Reviews

Each Target Test Area is further broken down into a number of increasingly discrete Process and Sub Process Areas that serve to identify the particular area of interest under test.

D. Test Process

The Processes and Procedures Review is comprised of nineteen tests. These tests are:

PPR1	Change Management Practices Verification and Validation Review
PPR2	Account Establishment & Management Verification and Validation Review
PPR3	System Administration Help Desk Review
PPR4	CLEC Training Verification and Validation Review
PPR5	Interface Development Verification and Validation Review
PPR6	Forecasting Verification and Validation Review
PPR7	Network Design Request, Collocation and Interconnection Planning Verification and Validation Review
PPR8	POP Manual Order Processing Evaluation
PPR9	POP Work Center Evaluation
PPR10	Provisioning Process Parity Evaluation
PPR11	Provisioning Coordination Performance Evaluation
PPR12	Billing Work Center/Help Desk Support Evaluation
PPR13	Billing Process Review: Daily Usage Feed Returns
PPR14	Billing Process Review: Daily Usage Production and Distribution
PPR15	Billing Process Review: Bill Production and Distribution
PPR16	M&R End-to-End Process Evaluation
PPR17	M&R Work Center Support Evaluation
PPR18	M&R Coordination Evaluation
PPR19	M&R Network Surveillance Support Evaluation

1.0 Test PPR1: Change Management Practices Verification and Validation Review

1.1 Description

This test evaluates the overall policies and practices for managing change in the procedures and systems necessary for establishing and maintaining effective BA-VA /CLEC relationships. This test will rely on checklists and inspections.

1.2 Objectives

The objectives of this test are to determine the adequacy and completeness of procedures for developing, publicizing, conducting and monitoring change management.

1.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

1.4 Test Scope

Table V-1 Test Target: Change Management Practices Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Change Management	Developing Change Proposals	Completeness and consistency of change development process	Inspection Document review Report review	Qualitative
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	Inspection Document review Report review	Qualitative
	Implementing Change	Completeness and consistency of change implementation process	Inspection Document review Report review	Qualitative
	Intervals	Reasonableness of change interval	Inspection Document review Report review	Qualitative
	Documentation	Timeliness of documentation and notification update	Inspection Document review Report review	Qualitative
	Tracking Change Proposals	Adequacy and completeness of change management tracking process	Inspection Document review Report review	Qualitative

1.5 Scenarios

This test does not rely on scenarios.

1.6 Test Approach

1.6.1 Inputs

1. Telecom Industry Services Change Management Process documentation
2. Other procedural and technical documentation
3. CLEC and Resale Handbook(s)
4. Evaluation checklists

5. Interview guides

1.6.2 Activities

1. Gather documentation
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

1.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

1.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

2.0 Test PPR2: Account Establishment & Management Verification and Validation Review

2.1 Description

This test evaluates BA-VA's policies and practices for establishing and managing CLEC account relationships. This test will rely on checklists, inspections, and reviews of historical data and measurements where available.

2.2 Objectives

The objectives of this test are to determine the adequacy, completeness and compliance with key procedures for developing, publicizing, conducting and monitoring account management.

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Provision of relevant historical data	BA-VA
Access to CLEC account management calls	CLEC

2.4 Test Scope

Table V-2 Test Target: Account Establishment & Management Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Establishing an Account Relationship	Staffing	Appropriate roles and responsibilities	Inspection Document review	Qualitative
		Capacity, coverage and account allocation	Inspection Document review	Qualitative
Maintaining an Account Relationship	Customer contact	Adequacy and completeness of procedures for responding to customer requests	Inspection Logging Report review	Qualitative
		Timeliness of response	Report review Logging	Quantitative
	Escalation	Adequacy and completeness of escalation procedures	Inspection Document review	Qualitative
	Routine and Urgent Customer Communications	Adequacy and completeness of communication and notification procedures	Inspection Document review	Qualitative
Documentation – CLEC and Resale Handbook(s)	Document development and distribution	Adequacy and completeness of CLEC and Resale Handbook(s) development and distribution procedures	Inspection Document review	Qualitative
	Document structure	Adequacy and completeness of CLEC and Resale Handbook(s) structure	Inspection Document review	Qualitative

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

2.6.1 Inputs

1. Telecom Industry Services Change Management Process document
2. CLEC and Resale Handbook(s)
3. Other procedural and technical documentation
4. Evaluation checklists
5. Data on the time it takes the account managers to respond to a CLEC call; data may be from manual logs or other data sources
6. Interview guides

2.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Determine and verify sample size, measurement and statistical approach
4. Compile results
5. Complete evaluation checklists and interview summaries
6. Develop and document findings

2.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

2.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

3.0 Test PPR3: System Administration Help Desk Functional Review

3.1 Description

This test is the process-oriented evaluation of the system administration help desk function. This test will rely on checklists, inspections and walk-throughs. It will include a review of the procedures in place to plan for and manage projected growth in help desk utilization.

3.2 Objectives

The objectives of this test are to:

- Determine completeness and consistency of overall system administration help desk process
- Determine whether the escalation procedure is correctly maintained, documented and published
- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining system administration help desk performance
- Ensure existence of reasonable security measures to ensure integrity of system administration help desk data and the ability to restrict access to parties with specific access permissions
- Ensure the overall help desk effort has effective management oversight
- Ensure responsibilities for performance improvement are defined and assigned
- Determine the extent to which procedures will accommodate and manage increases in transaction volumes and users

3.3 Entrance Criteria

Criteria	Responsible Party
Limited to Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides/questionnaire developed	KPMG
Interviewees identified and scheduled	BA-VA, KPMG
Availability of documentation identified as input	BA-VA, KPMG

3.4 Test Scope

Table V-3 Test Target: System Administration Help Desk Functional Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Process Help Desk Call	Resolution of user question, problem or issue	Completeness and consistency of process	Inspection Document review	Qualitative
Close Help Desk Call	Closure posting	Completeness and consistency of process	Inspection Document review	Qualitative
Status Tracking and Reporting	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative
Problem Escalation	User initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative
Security and Integrity	Data access controls	Security of process	Inspection Document review	Qualitative

Table V-3 Test Target: System Administration Help Desk Functional Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Process Management	General management practices	Completeness and consistency of operating management practices	Inspection Document review	Qualitative
	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

3.6.1 Inputs

1. Procedural documentation (such as internal help desk procedure manual)
2. CLEC and Resale Handbook(s)
3. Evaluation checklists
4. Interview guides
5. System technical documentation

3.6.2 Activities

1. Gather information
2. Perform walk-throughs and documentation reviews
3. Complete evaluation checklists
4. Conduct interviews with key personnel
5. Develop and document findings
6. Report negative observations to Help Desk

3.6.3 Outputs

1. Completed evaluation checklists

2. Interview summaries
3. Summary report

3.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

4.0 Test PPR4: CLEC Training Verification and Validation Review

4.1 Description

This test evaluates key aspects of BA-VA's training program for CLECs. This test will rely on checklists and inspections.

4.2 Objectives

The objectives of this test are to:

- Determine the existence and functionality of procedures for developing, publicizing, conducting and monitoring CLEC training
- Ensure the CLEC training effort has effective management oversight

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

4.4 Test Scope

Table V-4 Test Target: CLEC Training Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Training Program Development	Develop curriculum	Completeness of training curriculum and forums	Document review Inspection	Qualitative
		Adequacy of procedures to respond to information about training quality and utilization	Document review Inspection	Qualitative
		Adequacy of procedures to accept CLEC input regarding training curriculum	Document review Inspection	Qualitative
	Publicize training opportunities	Availability of information about training opportunities	Document review Inspection	Qualitative

Table V-4 Test Target: CLEC Training Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Training Program Quality Assurance	Attendance/ utilization tracking	Adequacy of process to track utilization and attendance of various training tools and forums	Document review Inspection	Qualitative
	Session effectiveness tracking	Adequacy of process to survey training recipients on effectiveness of training	Document review Inspection	Qualitative
	Instructor oversight	Adequacy of procedures to monitor instructor performance	Document review Inspection	Qualitative
Process Management	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

4.6.1 Inputs

1. Procedural documentation (such as training manuals)
2. CLEC and Resale Handbook(s)
3. Evaluation checklists
4. Interview guides

4.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

4.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

4.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

5.0 Test PPR5: Interface Development Verification and Validation Review

5.1 Description

This test evaluates key methods and procedures for developing and maintaining OSS interfaces which enable the BA-VA/CLEC relationship. These apply to interfaces such as Bell Atlantic's GUI interfaces, application-to-application interfaces and data transfer interfaces required for the following activities:

- Pre-Ordering
- Ordering
- Provisioning
- Billing
- Maintenance & Repair

This test will rely on checklists and inspections.

5.2 Objectives

The objectives of this test are to determine the adequacy and completeness of key methods and procedures for developing and maintaining interfaces.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

5.4 Test Scope

Table V-5 Test Target: Interface Development Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Developing Interfaces	Interface development methodology	Adequacy and completeness of interface development methodology	Inspection Document review Report review	Qualitative

Table V-5 Test Target: Interface Development Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Provision of interface specifications and related documentation	Adequacy and completeness of interface documentation distribution procedures	Inspection Document review Report review	Qualitative
	Configuration management processes and procedures	Adequacy, completeness and consistency of configuration management process	Inspection Document Review Report Review	Qualitative
Enabling and Testing Interfaces	Interface enabling and testing methodology	Adequacy and completeness of carrier-to-carrier interface enabling and testing procedures	Inspection Document review Report review	Qualitative
	Availability of test environments and technical support to CLECs	Availability and adequacy of functioning test environments, testing protocols, production cutover protocols and technical support for all supported interfaces	Inspection Document review Report review	Qualitative
	Interface enabling and testing support	Adequacy and completeness of interface enabling and testing procedural documentation	Inspection Document review Report review	Qualitative
Maintaining Interfaces	Release management	Adequacy and completeness of interface enhancement and software release management protocols	Inspection Document review Report review	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process for OSS gateways and interfaces	Inspection Document review Interview	Qualitative

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

5.6.1 Inputs

1. Telecom Industry Services documents related to standard OSS gateways and interfaces
2. Other procedural and technical documentation

3. CLEC and Resale Handbook(s)
4. Evaluation checklists
5. Interface development products as a result of change management efforts
6. Interview guides
7. BA-VA interface development methodology documentation

5.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings.

5.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

5.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

6.0 Test PPR6: Forecasting Verification and Validation Review

6.1 Description

This test verifies and validates key aspects of the BA-VA/CLEC forecasting process. This test will rely on checklists and inspections.

6.2 Objectives

The objectives of this test are to:

- Determine the existence and functionality of key procedures for developing, publicizing, conducting and monitoring forecasting efforts
- Ensure the overall forecasting effort has effective management oversight

6.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

6.4 Test Scope

Table V-6 Test Target: Forecasting Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Forecasting	Forecast development	Compliance with BA-VA documented forecasting procedures	Report review Inspection	Qualitative
	Forecast publication and confirmation	Availability of published forecast summaries	Report review Inspection	Existence

6.5 Scenarios

This test does not rely on scenarios.

6.6 Test Approach

6.6.1 Inputs

1. CLEC and Resale Handbook(s)
2. Evaluation checklists
3. Interview guides

6.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

6.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

6.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

7.0 Test PPR7: Network Design Request, Collocation and Interconnection Planning Verification and Validation Review

7.1 Description

This test evaluates BA-VA's policies and practices for collocation and network design related to establishing and maintaining CLEC ability to access unbundled network elements. This test will rely on checklists, interviews and inspections. (This test is not intended to examine interconnection for other purposes, such as an inter-exchange carrier's network-to-network level interconnection.)

7.2 Objectives

The objectives of this test are to:

- Determine whether CLECs have sufficient information and BA-VA technical support to adequately prepare for and implement network designs and collocations
- Determine whether collocation and network design processes are well structured and managed to produce intended results

7.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG

7.4 Test Scope

Table V-7 Test Target: Network Design Request, Collocation and Interconnection Planning Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Network design and collocation	Planning	Adequacy and completeness network design and collocation planning processes	Document review Inspection	Qualitative
	Project management	Adequacy and completeness of collocation project management procedures	Document review Report review Inspection	Qualitative
	Resources	Availability and adequacy of resources and qualified technical support to facilitate collocation activities	Document review Report review Inspection	Qualitative

Table V-7 Test Target: Network Design Request, Collocation and Interconnection Planning Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Testing and implementation	Adequacy and completeness of network design and collocation testing processes	Document review Report review Inspection	Qualitative

7.5 Scenarios

This test does not rely on scenarios.

7.6 Test Approach

7.6.1 Inputs

1. CLEC and Resale Handbook(s)
2. Other procedural and technical documentation
3. Evaluation checklists
4. Interview guides

7.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

7.6.3 Outputs

1. Completed evaluation checklists and interview summaries
2. Summary report

7.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

8.0 Test PPR8: POP Manual Order Processing Evaluation

8.1 Description

The POP Manual Order Processing Evaluation is a comprehensive review of the methods and procedures used to handle orders that have been manually submitted or require manual intervention by BA-VA during order processing. Operational analysis techniques will be used to conduct this test. This test will include a review of the procedures in place to plan for and manage projected growth in order processing.

8.2 Objective

The objective of this test is to validate the processes and procedures used to support manual submission of orders for service.

8.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Manual Orders Procedures and Documentation	KPMG
Interview checklist	KPMG
Process review checklist	KPMG
List of people to interview	BA-VA, KPMG

8.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the timeliness, consistency and accuracy of handling manual orders relating to BA-VA.

Table V-8 Test Target: Manual Order Processes

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Receive Orders for Manual Processing	Order Receipt and Logging	Completeness and consistency of process	Inspection Document review	Qualitative
Process Orders Manually	Entry of Order into SOP	Completeness and consistency of process	Inspection	Qualitative
Send Order Response	Delivery of error messages and queries	Completeness and consistency of reporting process	Inspection Document Review	Qualitative
	Delivery of confirmations and completions	Completeness and consistency of reporting process	Inspection Document Review	Qualitative
Status Tracking and Reporting	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative
Problem Escalation	User-initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative
Process Management	General management practices	Adequacy and completeness of processing management practices	Inspection Document review	Qualitative

Table V-8 Test Target: Manual Order Processes

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Performance measurement process	Adequacy and completeness of manual order processing performance management practices	Inspection	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative

8.5 Scenarios

Not Applicable

8.6 Test Approach

8.6.1 Inputs

1. Order handling procedures
2. System technical documentation
3. Interview checklist
4. Process review checklist
5. Personnel to conduct interviews

8.6.2 Activities

1. Review procedure documents
2. Interview BA-VA personnel
3. Complete process reviews
4. Create evaluation summary

8.6.3 Outputs

1. Completed process review checklists
2. Completed interview checklists
3. Evaluation summary

8.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

9.0 Test PPR9: POP Work Center Support Evaluation

9.1 Description

The POP Work Center Support Evaluation is a comprehensive operational analysis of the work center/help desk processes developed by BA-VA to provide support to CLECs with OSS questions, escalations, problems and issues related to pre-ordering, ordering and provisioning. Basic functionality, performance and escalation procedures will be evaluated. This test will include a review of the procedures in place to plan for and manage projected growth in POP work center support requirements.

9.2 Objectives

The objectives of this evaluation are to:

- Determine completeness and consistency of work center/help desk processes and responses
- Determine whether the escalation procedure is documented and known to work center agents and management
- Determine the accuracy and completeness of procedures for measuring work center/help desk performance
- Determine the extent to which procedures will accommodate and manage increases in transaction volumes and users

9.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Work Center/Help Desk Evaluation Checklist completed	KPMG
CLEC Problem Feedback Survey completed	KPMG
POP Problem Response Survey with standard questions completed	KPMG
Interview guides/questionnaire developed	KPMG
Interviewees identified and scheduled	BA-VA, KPMG
Availability of documentation identified as input	BA-VA, KPMG
Detailed Capacity Planning evaluation checklists completed	KPMG

9.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the timeliness, consistency and accuracy of handling work center and help desk activities related to pre-ordering, ordering and provisioning performed by BA-VA.

Table V-9 Test Target: POP Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Respond to Help Desk Call	Answer call	Completeness and consistency of process	Inspection	Qualitative
	Interface with user	Availability of user interface	Inspection	Qualitative
	Log call	Completeness of logged information Log is kept in appropriate media for appropriate interval	Document Review Inspection	Qualitative
Process Help Desk Call	Access to systems to observe user problems	Ability to access user records and transactions	Inspection	Qualitative
	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review	Qualitative
Close Help Desk Call	Log closure information	Completeness, consistency and timeliness of process	Inspection	Qualitative
Monitor Status	Track status	Accuracy and completeness of status tracking capability Availability of jeopardy notification	Inspection Document Review	Qualitative
	Report status	Completeness and consistency of reporting process Accessibility of status report	Inspection Document Review	Qualitative
Request Escalation	Manage escalations	Consistency and completeness of procedure	Document Review Inspection	Qualitative
Manage the Help Desk Process	Provide management oversight	Completeness and consistency of operating management practices	Inspection	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative

9.5 Scenarios

Not applicable

9.6 Test Approach

9.6.1 Inputs

1. Work Center/Help Desk Evaluation Checklist

2. Help Desk procedural documentation
3. Interview guides
4. Personnel to perform evaluation

9.6.2 Activities

1. Conduct work center/help desk evaluation using the Work Center/Help Desk Support Checklist
2. Review procedural and other documentation related to capacity planning
3. Conduct interviews with key personnel
4. Document findings
5. Report negative observations to Help Desk

9.6.3 Outputs

1. Completed Work Center/Help Desk Evaluation Checklist
2. Interview summaries
3. Summary Report

9.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

10.0 Test PPR10: Provisioning Process Parity Evaluation

10.1 Description

The Provisioning Process Parity Evaluation is a review of the processes, systems and interfaces that provide provisioning for CLEC and Reseller orders. The review will focus on these areas:

- Order interfaces
- Workflow definitions
- Workforce scheduling
- Memory administration
- Service activation
- Test and acceptance
- Exception handling
- Completion notices

The focus of the evaluation will be "downstream" interfaces from manual processing and the gateway system that serves as the interface to all order processing.

As appropriate, provisioning processes for different products and services will be evaluated separately. This will be required in those cases where the process and/or systems used for provisioning are different by product.

An operational analysis technique will be used to evaluate BA-VA's systems and processes for parity with the corresponding BA-VA Retail functions. It will consist of targeted interviews of key development and process-owner personnel along with structured reviews of processes, systems and interfaces documentation.

10.2 Objective

The objective of this evaluation is to determine the degree to which the provisioning environment supporting CLEC orders is at parity with internal BA provisioning for its own retail customers.

10.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Detailed Provisioning Process Parity Evaluation Checklist developed	KPMG
Required system documentation available	BA-VA
Provisioning process documentation available	BA-VA
Technical platforms specifications available	BA-VA
Database specifications available	BA-VA
Data communications and interfaces specifications available	BA-VA
Interview guide/questionnaire developed	KPMG
Interviewees identified and schedule developed	BA-VA, KPMG

10.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the level of parity provided by the BA-VA provisioning systems and processes to the CLECs.

Table V-10 Test Target: Provisioning Process Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Provisioning Process Parity	Order entry process (BA-VA internal)	Consistency and repeatability as compared to Retail	Inspection	Parity
	Workflow management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Workforce management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Service activation process	Consistency and repeatability as compared to Retail	Inspection	Parity

Table V-10 Test Target: Provisioning Process Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Service design process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Assignment process	Consistency and repeatability as compared to Retail	Inspection	Parity

10.5 Scenarios

Not Applicable

10.6 Test Approach

10.6.1 Inputs

1. Product and Service Process Flow Understanding (provides for understanding of complex versus simple services but does not conflict with traditional BA definition of products and services)
2. Applicable BA-VA provisioning process documentation
3. Interview guide/questionnaire
4. Interviewees (per process area)
   - Provisioning process owners
   - Provisioning process staff
   - User requirements project leader
5. Interview schedule
6. Detailed Provisioning Process Parity Evaluation Checklist
7. Appropriate System Documentation
8. Appropriate Methods and Procedures (determined via interviews)

10.6.2 Activities

1. Identify all process documentation needed for review
2. Identify relevant systems and interfaces
3. Identify all system documentation available for review
4. Conduct structured review of documentation using Provisioning Process Parity Evaluation Checklist
5. Conduct interviews using the interview guides and questionnaires
6. Inspect physical systems and communications environments

7. Document findings

10.6.3 Outputs

1. Completed Provisioning Process Parity Evaluation Checklist
2. Completed interview questionnaires
3. Interview Summaries
4. Summary Findings, Conclusions

10.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

11.0 Test PPR11: Provisioning Coordination Process Evaluation

11.1 Description

The POP Provisioning Coordination Process Evaluation is a review of the procedures, processes and operational environment used to support coordinated provisioning with CLECs.

The evaluation will address products and situations that require coordinated provisioning to minimize customer disruption. The requirement for coordination may come from either BA-VA policy or a CLEC request. An operational analysis test approach supplemented by case studies will be used to evaluate BA-VA 's Provisioning Coordination Processes.

11.2 Objective

The objectives of this evaluation are to:

- Determine completeness and consistency of provisioning coordination processes
- Determine whether the provisioning coordination processes are correctly documented, maintained and published
- Determine the accuracy, completeness and functionality of procedures for measuring, tracking, projecting and maintaining provisioning coordination processes performance
- Ensure the provisioning coordination processes have effective management oversight
- Ensure responsibilities for provisioning coordination processes performance improvement are defined and assigned

11.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
CLEC Case Study Request completed	KPMG
CLEC Case Study Monitoring Form completed	KPMG

Criteria	Responsible Party
Detailed Provisioning Coordination Process Checklist developed	KPMG
Interview Guide/Questionnaire developed	KPMG

11.4 Test Scope

The table below outlines the tests to evaluate the procedures and processes in place to support for joint provisioning of services by the CLEC and BA-VA.

Table V-11 Test Target: Provisioning Coordination Process

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Support Provisioning Coordination Process	Provision orders requiring coordination with CLECs	Availability of personnel, procedures and methods	Document Review	Existence
		Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Request coordination	Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Notification of provisioning schedule	Completeness and consistency of processes	Document Review, Inspection	Qualitative
		Timeliness of notification	Document Review, Inspection	Qualitative
	Coordinate provisioning	Completeness and consistency of operating management practice	Inspection	Qualitative
		Controllability, efficiency and reliability of process	Inspection	Qualitative
		Completeness of process improvement practices	Inspection	Qualitative

11.5 Test Approach

11.5.1 Inputs

1. CLEC Case Study Request
2. CLEC Case Study Monitoring Form
3. Provisioning Coordination Process Checklist
4. Interview Guide/Questionnaire

11.5.2 Activities

1. Send CLEC Case Study Requests to CLECs
2. Receive and compile CLEC case study input suggestions

3. Select and record case studies to monitor
4. Monitor case studies and record results on monitoring form
5. Conduct structured review of documentation using provisioning Coordination Process Checklist.
6. Conduct interviews with key process personnel using interview guide and questionnaire
7. Review coordinated provisioning case studies
8. Document findings

11.5.3 Outputs

1. CLEC Case Study submission and selection matrix
2. Completed CLEC Case Study Monitoring Forms
3. Completed Provisioning Coordination Process Checklist
4. Completed Interview Questionnaires
5. Interview Summaries
6. Summary Findings, Conclusions

11.6 Exit Criteria

Criteria	Responsible Party
All global exit criteria satisfied	See Table III-4

12.0 Test PPR12: Billing Work Center/Help Desk Support Evaluation

12.1 Description:

The Billing Work Center/Help Desk Support Evaluation is an operational analysis of the work center/help desk processes and documentation developed by BA-VA to provide support to CLECs with usage (Daily Usage Feed) and/or billing related claims, questions, problems and issues. Basic functionality, performance, escalation procedures and security will be evaluated.

12.2 Objectives:

The objectives of this evaluation are to:

- Determine completeness and consistency of work center/help desk processes, documentation and responses.
- Determine whether the escalation procedure is correctly documented, maintained, published and followed.
- Determine the timeliness, completeness and functionality of procedures for measuring and tracking work center/help desk performance. Determine the timeliness, completeness and

functionality of procedures for projecting resource needs and maintaining work center/help desk performance.

- Determine timeliness and completeness of reasonable security measures to ensure integrity of work center/help desk data and the ability to restrict access to parties with specific access permissions.
- Determine if the work center/help desk effort has effective management oversight.
- Determine if responsibilities for performance improvement are defined and assigned.

12.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
BA-VA Billing Process and System specialists available for walk-throughs and interviews	BA-VA
Work Center/Help Desk documentation identified and available	BA-VA, KPMG

12.4 Test Scope

The scope of this test includes all processes, sub-processes and measurements of the Billing Work Center test target, as shown in Table V-12 below.

Table V-12 Test Target: Billing Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Receive Help Desk Call	Answer call	Timeliness of call answer	Inspection	Quantitative
	Interface with user	Usability of user interface	Inspection	Qualitative
		Availability of user interface	Inspection	Quantitative
	Log call	Existence of call logging	Document Review	Quantitative
		Accuracy of call logging (if logs or reports exist)	Inspection	Qualitative
	Record severity code	Compliance of call logging - severity coding	Inspection	Qualitative
Process Help Desk Call	Resolve user question, problem or issue	Completeness and consistency of process	Document Review Inspection	Quantitative
		Timeliness of response	Inspection	Quantitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Receive Claim	File claim	Completeness and consistency of process Timeliness of response	Document Review Inspection Inspection	Qualitative Qualitative
	Process claim	Completeness, consistency and timeliness of process	Inspection Report review	Qualitative
	Issue adjustment when necessary	Completeness and consistency of process	Document Review Inspection	Qualitative
	Disposition of claim	Timeliness, completeness and reliability of disposition report	Inspection Report review	Quantitative Qualitative
Close Help Desk Call	Post closure information	Completeness, consistency and timeliness of process Accuracy of posting (if logs or reports exist)	Inspection Inspection Report review	Quantitative Quantitative
Monitor Status	Track Status	Existence of status tracking capability Consistency and frequency of follow-up activities Availability of jeopardy notification	Inspection Inspection of Sample Document Review Inspection of Sample Document Review	Existence Qualitative Quantitative
	Report Status	Completeness and consistency of reporting process Timeliness of report Accessibility of status report	Inspection Report review Inspection Report review Inspections	Qualitative Quantitative Quantitative
Request Escalation	Identify escalation procedure	Existence of procedure	Document Review	Existence
	Evaluate escalation procedure	Completeness of the procedure Consistency of the process	Document Review Inspection	Qualitative Qualitative
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document Review	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Provide Security and Integrity	Provide secured access	Completeness and applicability of security procedures, profiles and restrictions	Document Review Inspection	Qualitative
		Controllability of intra-company access	Document Review, Inspections	Qualitative Parity
Manage the Help Desk Process	Provide management oversight	Completeness and consistency of operating management practices	Inspections	Qualitative Parity
		Controllability, efficiency and reliability of process	Inspections	Qualitative Parity
		Completeness of process improvement practices	Inspections	Qualitative Parity

12.5 Scenarios

This test does not rely on scenarios.

12.6 Test Approach

12.6.1 Inputs

1. Detailed operational test plan
2. BA-VA Work Center/Help Desk specialists
3. Process documentation

12.6.2 Activities

1. Develop Work Center/Help Desk process evaluation checklist
2. Conduct Work Center/Help Desk process walk-through and interviews
3. Compile findings
4. Report negative observations to Help Desk

12.6.3 Outputs

1. Completed test package for the Work Center/Help Desk Evaluation
2. Completed final report for the Work Center/Help Desk Evaluation

12.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

13.0 Test PPR13: Daily Usage Feed Returns – Process Evaluation

13.1 Description

The Daily Usage Feed Returns Process Evaluation is an operational analysis of the usage return process and related documentation used by BA-VA to accept, investigate and where necessary, correct Daily Usage Feed return requests from CLECs by issuing adjustments and/or credits.

The test may also include soliciting CLEC participation to gather data to help with the evaluation. The tester will observe the interactions of Bell Atlantic and CLECs submitting returns to verify that the procedures described by Bell Atlantic during the process evaluation are followed in practice. Inclusion of this segment of the test will be dependent on the availability of relevant CLEC data and examples.

13.2 Objectives

The objective of this evaluation is to determine the accuracy, completeness and timeliness of the processes and documentation used to process and respond to Daily Usage Feed Return requests.

13.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Documentation on Daily Usage Feed Returns Process available	BA-VA
Interview and walk-through arrangements finalized	BA-VA

13.4 Test Scope

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-13 below.

Table V-13 Test Target: Daily Usage Feed Returns – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Daily Usage Feed Returns Requests	Returned usage receipt	Completeness and accuracy of documentation and processes for creating, submitting and receiving returned usage	Inspection	Qualitative
	Returned usage processing	Accuracy, completeness and timeliness of corrections	Inspection	Qualitative
	Provision of status for all returned records	Accuracy, completeness and timeliness of status report	Inspection Report review	Qualitative
	Corrective actions	Accuracy, completeness and timeliness of corrective actions (adjustments and/or credits)	Inspection Report review	Qualitative

13.5 Scenarios

This test does not rely on scenarios.

13.6 Test Approach

The test will rely on the development of evaluation checklists to facilitate a structured walk-through of the Daily Usage Feed Returns process documentation with BA-VA representatives.

The test may also include soliciting CLEC participation to gather data to help with the evaluation. The tester will observe the interactions of Bell Atlantic and CLECs submitting returns to verify that the procedures described by Bell Atlantic during the process evaluation are followed in practice. Inclusion of this segment of the test will be dependent upon the availability of relevant CLEC data and examples. If there is evidence of problems existing with the return process from CLECs or KPMG input, additional test data will further verify the return process.

13.6.1 Inputs

1. Detailed operational test plan
2. BA-VA personnel to review procedures, systems and tools
3. Process documentation

13.6.2 Activities

1. Prepare CLEC assistance solicitation materials
2. Select CLEC participants and arrange for observations
3. Observe Daily Usage Feed Returns process from CLEC perspective
4. Develop Daily Usage Feed Returns process evaluation checklist
5. Conduct process walk-throughs and interviews
6. Compile findings

13.6.3 Outputs

1. Completed test package for the Daily Usage Feed Returns Process Evaluation
2. Completed final report from the Daily Usage Feed Returns Process Evaluation

13.7 Exit Criteria:

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

14.0 Test PPR14: Daily Usage Production and Distribution – Process Evaluation

14.1 Description:

The Daily Usage Production and Distribution Process Evaluation is an operational analysis of the processes and documentation used by BA-VA to create and transmit the Daily Usage Feed (DUF).

14.2 Objectives:

The objective of this test is to determine the accuracy, completeness and timeliness of processes used to produce and distribute the DUF.

14.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-4
Documentation on subject processes available	B A VA
Interview and walk-through arrangements finalized	BA-VA

14.4 Test Scope:

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-14 below.

Table V-14 Test Target: Daily Usage Production and Distribution – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Produce Daily Usage Feed	Balancing and reconciliation of Daily Usage feed	Completeness of balancing and reconciliation procedures	Inspection	Qualitative
	Route Daily Usage	Controllability of usage	Inspection	Qualitative
Transmit Daily Usage Feed	Data transmission and cartridge tape delivery to CLEC	Completeness, consistency and timeliness of the process	Inspection	Qualitative
Maintain and Re-transmit Usage History	Create Daily Usage backup	Reliability of repeatable process	Inspection	Qualitative
	Retrieve and re-transmit Daily Usage backup data	Availability and timeliness of prior period usage data to CLEC	Inspection	Qualitative

14.5 Scenarios

This test does not rely on scenarios.

14.6 Test Approach

This test will use operational analysis techniques. It will rely on the development of various evaluation checklists to facilitate a structured walk-through of the daily usage production and distribution processes.

If the CLECs or testers experience problems in this area, arrangements will be made to observe the submission and BA-VA responses to re-transmission requests. Results will be shared with other, related test areas.

14.6.1 Inputs

1. Detailed operational test plan
2. BA-VA personnel to review procedures, systems and tools
3. Process documentation
4. Availability of CLEC re-transmission test cases

14.6.2 Activities

1. Develop Daily Usage Production and Distribution Process Evaluation checklist
2. Conduct process walk-throughs and interviews
3. Compile findings

14.6.3 Outputs

1. Completed test package for the Daily Usage Production and Distribution Process Evaluation
2. Completed final report from the Daily Usage Production and Distribution Process Evaluation

14.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

15.0 Test PPR15: Bill Production and Distribution - Process Evaluation

15.1 Description:

The Bill Production Process Evaluation is an operational analysis of the processes employed by BA-VA to produce and distribute carrier bills.

15.2 Objectives:

The objective of this test is to determine whether the processes employed by BA-VA to produce and distribute carrier bills results in bills that are accurate and are distributed to CLECs on a timely basis. The processes that enable a CLEC to request and obtain copies of previously received bills are also reviewed.

15.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-4
Documentation on subject processes available	BA-VA
Interview and walk-through arrangements finalized	BA-VA

15.4 Test Scope:

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-15 below.

Table V-15 Test Target: Bill Production and Distribution – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Balance Cycle	Define balancing and reconciliation procedures	Completeness and effectiveness of bill balancing and reconciliation procedures	Inspection	Qualitative
	Produce Control Reports	Completeness and accuracy in generation of control elements	Inspection	Qualitative
	Release cycle	Compliance to balancing and reconciliation procedures	Inspection	Qualitative
Deliver Bill	Delivery of bill media	Timeliness and controls of media delivery	Inspection	Qualitative
Maintain Bill History	Maintain billing information	Timeliness and controllability of billing information	Inspection	Qualitative
	Access billing information	Accessibility and availability of billing information	Inspection	Qualitative
Request Re-send		Timeliness and accuracy of the delivery	Inspection	Qualitative

15.5 Scenarios

This test does not rely on scenarios.

15.6 Test Approach

This test will use operational analysis techniques. It will rely on the development of various evaluation checklists to facilitate a structured walk-through of the bill production and delivery processes.

15.6.1 Inputs

1. Detailed operational test plan
2. BA-VA personnel to review procedures, systems and tools
3. Process documentation

15.6.2 Activities

1. Develop Bill Production and Distribution Process Evaluation checklist
2. Conduct process walk-throughs and interviews
3. Compile findings

15.6.3 Outputs

1. Completed test package for the Bill Production and Distribution Process Evaluation
2. Completed final report from the Bill Production and Distribution Process Evaluation

15.7 Exit Criteria:

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

16.0 Test PPR16: End-to-End M&R Process Evaluation

16.1 Description

This test will evaluate the functional equivalence of M&R processing for wholesale and retail trouble reports, by reviewing and evaluating the wholesale and retail process flow. It will include a review of procedures in place to plan for and manage projected growth in M&R processing requirements.

16.2 Objective

The objectives of this test are to evaluate Bell Atlantic's wholesale M&R process and the equivalence of Bell Atlantic's end-to-end processes for trouble reporting and repair of retail and wholesale services.

16.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Wholesale & Retail M&R process flow documentation	BA-VA
Process Evaluation Checklists	KPMG
Interview Guides/questionnaire developed	KPMG
Interviewees identified and scheduled	BA-VA, KPMG

16.4 Test Scope

Table V-16 Test Target: End-to-End M&R Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End M&R Process: Resale	Process Flow	Comparison with Retail Completeness, consistency and timeliness of the process	Inspection Inspection	Qualitative Qualitative
End-to-End M&R Process: UNE/UNE-P	Process Flow	Comparison with Retail Completeness, consistency and timeliness of the process	Inspection Inspection	Qualitative Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative

16.5 Scenarios

This test does not rely on scenarios.

16.6 Test Approach

16.6.1 Inputs

1. Retail and wholesale M&R process flow documentation
2. Other procedural documentation
3. Evaluation Checklists
4. Interview Guides
5. Personnel to perform evaluation

16.6.2 Activities

1. Review and compare wholesale and retail process flows
2. Identify differences between the two processes
3. Analyze process
4. Assess the potential impact of each difference if possible
5. Document process flow analysis results
6. Review documentation related to capacity planning
7. Conduct capacity planning interviews with key personnel

8. Document interviews and findings

16.6.3 Outputs

1. Completed evaluation checklists
2. Interview summaries
3. Summary report

16.7 Exit Criteria:

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

17.0 Test PPR 17: M&R Work Center Support Evaluation

17.1 Description

The M&R work center support evaluation is an operational analysis of the work center/help desk processes developed by Bell Atlantic to provide support to CLECs with questions, problems and issues related to wholesale trouble reporting and repair operations.

17.2 Objective

The objective of this test is to evaluate the effectiveness of M&R work center support operations and adherence to common support center/help desk procedures. An additional objective is to analyze the nature and frequency of problems referred to the work center to determine if they indicate potential problems in other M&R Domain areas (e.g., RETAS).

Specifically, this evaluation is designed to:

- Determine completeness and consistency of work center/help desk processes and procedures
- Determine whether expedite and escalation procedures are correctly documented and work effectively
- Ensure existence of reasonable security measures to ensure integrity of work center/help desk data and the ability to restrict access to parties with specific access permissions
- Determine the timeliness and accuracy in identifying and resolving problems
- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining work center/help desk performance

17.3 Entrance Criteria

Criteria	Responsible Party
Detailed test plan completed and approved	KPMG
Techniques and instrumentation developed and approved	KPMG and BA-VA
Process Evaluation Checklist	KPMG
Interview Guides	KPMG

Criteria	Responsible Party
Required data and documentation provided	BA-VA

17.4 Test Scope

Table V-17 Test Target: Work Center Support Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Call Processing	Call Answer	Timeliness	Inspections Logging Interviews	Qualitative
	Call Logging	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Prioritization	Existence Effectiveness	Inspections Logging Interviews	Qualitative
Problem Tracking and Resolution	Documentation	Clarity Accuracy	Document Review Interviews	Qualitative
	Identify and Resolve	Timeliness Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Track Problem	Existence Accuracy	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Expedite/ Escalation Procedures	Documentation	Existence Clarity Accuracy	Document Review Interviews	Qualitative
	Call Answer	Accessibility Timeliness	Inspections Logging Interviews	Qualitative
	Escalation Logging	Accuracy	Inspections Logging Interviews	Qualitative
	Identify and Resolve	Timeliness	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Work Center Procedures		Accuracy Completeness	Inspections Logging Interviews	Qualitative

Table V-17 Test Target: Work Center Support Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Manual Handling — Resale		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Manual Handling — UNE/UNE-P		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Capacity Management	Capacity management processes and procedures	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative

17.5 Scenarios

This test does not rely on scenarios.

17.6 Test Approach

17.6.1 Inputs

1. Interview guides
2. Observation checklists
3. Work center/help desk evaluation checklists
4. Work center contact logs
5. Process and procedure documentation

17.6.2 Test Activities

1. Conduct Maintenance and Repair center visits
2. Conduct work center/help desk evaluations
3. Establish work center contact logs
4. Analyze and collate contacts by type
5. Report negative observations to Help Desk

17.6.3 Outputs

1. Completed checklists from the work center/help desk evaluations
2. Summary Report
3. Contact analysis results report

17.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4

18.0 Test PPR 18: M&R Coordination Process Evaluation

18.1 Description

The Maintenance and Repair coordination process evaluation is a test of the systems, processes, procedures and other operational elements associated with M&R coordination activities between Bell Atlantic and CLEC operations organizations.

18.2 Objective

The objective of this test is to determine the adequacy of M&R coordination processes and systems as they relate to joint CLEC/Bell Atlantic activities in the Maintenance and Repair domain.

18.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria	See Table III-3

18.4 Test Scope

Table V-18 Test Target: M&R Coordination Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Joint Meet Procedures	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Coordinated Testing	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative

18.5 Scenarios

This test does not rely on scenarios.

18.6 Test Approach

18.6.1 Inputs

1. BA-VA Process documentation for joint meet procedures and coordinated testing
2. BA-VA Notification procedures for joint meet procedures and coordinated testing

3. Interview Guides
4. Evaluation Checklists

18.6.2 Activities

1. Gather information
2. Conduct interviews
3. Conduct document reviews
4. Compile results
5. Develop and document findings

18.6.3 Outputs

1. Summary Report
2. Completed evaluation checklists

18.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria have been satisfied	See Table III-4

19.0 Test PPR 19: Network Surveillance Support Evaluation

19.1 Description

The network surveillance support evaluation is a review of the processes and other operational elements associated with Bell Atlantic's network surveillance and network outage notification processes and procedures as they relate to wholesale operations. It also involves a review of the procedures followed by the NSAC and NOC, which reference CLEC operations.

19.2 Objective

The objective of this test is to determine the functionality of network surveillance and network outage notification procedures and to assess the performance capabilities of network outage notification procedures for wholesale operations.

19.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been met	See Table III-3

19.4 Test Scope

Table V-19 Test Target: Network Surveillance Support Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Network Surveillance	IOF Surveillance	Existence Reliability	Inspection	Existence Qualitative
	AIN Interconnect Surveillance	Existence Reliability	Inspection	Existence Qualitative
	SS7 Interconnect Surveillance	Existence Reliability	Inspection	Existence Qualitative
Outage Notification	Process Documentation	Accuracy Completeness	Inspection	Qualitative
	Notification Procedures	Timeliness Accuracy Completeness	Inspection	Qualitative

19.5 Scenarios

This test does not rely on scenarios.

19.6 Test Approach

19.6.1 Inputs

1. NSAC operational analysis plan and task checklist and NOC operational analysis plan and task checklist
2. Evaluation guides
3. Interview guides
4. Documentation of all notification and network surveillance procedures for wholesale
5. Designated NSAC personnel for interviews (likely three to five people at the NSAC and three to five people at the NOC)

19.6.2 Activities

1. Using the operational analysis plan, conduct process analysis at the NSAC and NOC
2. Conduct documentation review
3. Conduct procedure interviews
4. Develop and document findings

19.6.3 Outputs

1. Completed checklists and interview summaries
2. Operations review report
3. Procedures review report

19.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria have been satisfied	See Table III-4

VI. Transaction Verification and Validation Test Family

A. Purpose

The purpose of this section is to describe the specific tests that are transactional in nature. Transactional testing will be performed both electronically and manually. Electronic testing takes the form of transaction submittal over an electronic interface (e.g., order submission, trouble ticket creation, daily usage feed file delivery, etc.). Manual testing takes the form of document review (e.g., bill validation) and behavior observation (e.g., provisioning verification).

These tests will evaluate the systems and other operational elements associated with BA-VA's wholesale operations. Transactional testing will evaluate BA-VA systems that are generally available to CLECs. The tests are designed to evaluate BA-VA's compliance to measurement agreements, ensure adherence to good management practices and provide a basis for comparing the operational areas to BA-VA's Retail Operations.

B. Organization

The Transaction Verification and Validation (TVV) test family is organized into three domains that represent the key focus areas for testing:

- Pre-Ordering, Ordering, Provisioning (POP) Transactions
- Maintenance and Repair (M&R) Transactions
- Billing Transactions

The test targets are further defined in the "scope" section. The test processes are further defined in the "test processes" section.

C. Scope

As identified above, the Transaction Verification and Validation test family is comprised of three test domains, representing important and generally distinct areas of effort undertaken by BA-VA. The three test target domains will verify and validate BA-VA's ability to support systems and processes that enable transaction processing.

Each test domain is broken down into a number of increasingly discrete Tests, Processes and Sub-Process Areas that serve a particular area of interest within the test domain.

Only products and systems that are currently available to CLECs in the Commonwealth of Virginia will be included in the test, unless the SCC directs KPMG otherwise.

D. Test Processes

Nine tests have been designed to address the three test domains. The organization of the subject test processes is as follows:

TVV1: POP Functional Evaluation

TVV2: POP Volume Performance Tests

TVV3: Order Flow Through Evaluation

TVV4: Provisioning Verification and Validation

TVV5: RETAS Functional Evaluation

TVV6: RETAS Performance Evaluation

TVV7: End to end trouble reporting

TVV8: Billing Functional Usage Evaluation

TVV9: Functional Carrier Bill Evaluation

1.0 Test TVV1: POP Functional Evaluation

1.1 Description

The POP Functional Evaluation is a comprehensive review of all of the functional elements of Pre-Ordering, Ordering and Provisioning, the achievement of the prescribed measures and an analysis of performance in comparison to BA-VA's Retail system. The test will be performed via live transactions submitted over all generally available interfaces, via application-application interfaces (e.g., EDI) and graphical user interfaces (GUI). Where appropriate, manual transactions will be submitted as well.

Application-to-application interfaces will be tested through transactions generated via the test transaction generator (TTG). KPMG will also use the CLEC Test Environment (CTE) as part of the establishment of its electronic interfaces with BA-VA. Data from this process will be used in the Interface Development Process and Procedures Review Test (PPR5). The GUI will be tested through transactions entered directly through BA-VA's Web GUI interface. The TTG will capture and store all information required to produce the output reports.

The POP Functional Evaluation will look at an end-to-end view of the pre-ordering through provisioning process. It will include a mix of stand-alone pre-ordering and ordering transactions, along with pre-order transactions followed by orders, supplements and cancels. KPMG will collect data on transaction submissions and responses and on provisioning activities. Where possible and appropriate, this information will be collected and maintained electronically. Both ASR and LSR orders will be tested. Planned errors as well as error free transactions will be tested. Not all orders will go through the physical provisioning process. Some will be future dated and others will be canceled before provisioning activities commence. The verification and validation of the provisioning activities will be performed in TVV4.

As part of the POP Functional Evaluation, KPMG will also seek qualitative input and quantitative data on the "real world" experience of CLECs operating in Virginia. CLECs willing to participate in this test will be interviewed and their experiences will be incorporated into the test results after validation by KPMG. In addition, for some types of transactions, involvement will be sought from willing CLECs to participate in some aspects of the live transaction testing. This will be done for two principal purposes.

First, CLEC participation will be important for complex orders that cannot be simulated adequately in the test environment. Examples include complex facilities-based orders and orders, like those for unbundled loops with LNP, which require an actual CLEC switch to fully complete. Second, it is important to attempt to incorporate information to help control for "experiment bias" of the results. Therefore, KPMG will ask CLECs for data that can be validated on live orders that replicate those sent over the test systems. As appropriate, some test orders may be sent over CLEC systems.

Of course, successful completion of all of these aspects of the test requires active participation of one or more CLECs. However, CLEC participation is voluntary and the scope of that participation is up to each individual CLEC.

1.2 Objective

The objective of this test is to validate the existence, functionality and behavior of the interfaces and processes required by BA-VA for pre-ordering, ordering and provisioning transaction requests and responses.

1.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
The Test Transaction Generator must be operationally ready for application to application transactions	TTG
Initial BA-VA measurement evaluation completed	KPMG, SCC
BA-VA measurements available at the CLEC level	BA-VA
Interface facilities between KPMG and BA-VA in place and tested	BA-VA, KPMG
Connectivity to GUI interface established.	KPMG, BA-VA
Product descriptions and business rules for all transactions to be tested are available.	BA-VA
Test bed databases and facilities in place	BA-VA
CLEC test volunteers identified	KPMG
Test Scenarios developed	KPMG
Test Cases developed	KPMG
CLEC test cases identified	KPMG
Specific Evaluation techniques developed	KPMG
Evaluation Criteria defined and approved	KPMG, SCC
Test Case Execution Schedule developed	KPMG
Detailed "Go/No Go" checklist created	KPMG
Help Desk log and contact checklists created	KPMG

1.4 Test Scope

Ordering transactions consist of three distinct, but related, processes:

- Pre-Order Processing—submission of requests for information required to complete orders,
- Order Processing—submission of orders required to add/delete/change a customer's service, and
- Provisioning—physical work performed by BA-VA as a result of the submitted orders.

The Ordering Transactions test suite will be comprised of "real-life", end-to-end test cases that cover the entire spectrum of pre-order, order and provisioning. The following order types will be tested:

- Migrate "as is"
- Migrate "as is" with changes
- Migrate "as specified"
- New customer
- Feature change
- Directory Change
- Number Change
- Add lines
- Suspend/Restore
- Disconnect (full/partial)
- Move (inside/outside)
- Number Portability (LNP)
- Line reclassification
- Change to New Local Service Provider (CLEC to CLEC or CLEC to BA-VA)
- UNE Loop Cut Over, including lines provisioned to customers over IDLC facilities
- Change of service delivery method

The order types identified above will be ordered using the available and applicable Bell Atlantic service delivery methods. The following service delivery methods will be tested:

- Resale
- UNE Platform

- Unbundled Loops, including xDSL Capable Loops
- Other Unbundled Network Elements, including dark fiber
- EELs

The orders will be placed using Bell Atlantic's existing interfaces: GUI, EDI and manual. The following assumptions pertain to ordering interfaces:

- Generally available Bell Atlantic interfaces (e.g., GUI, EDI, etc.) will be tested,
- Orders will be issued using both the ASR and LSR format, as appropriate,
- The GUI will be tested from multiple terminals at the same time,
- Orders that can be submitted through an electronic interface will not be submitted manually as a part of the testing process, and
- If a scenario calls for an order type that can not be submitted electronically, the request will be submitted manually.

Other important aspects of ordering will be tested:

- "Flow through" order types, as publicly documented by Bell Atlantic, will be tested to ensure that they do not require manual handling,
- Supplemental orders (changes to orders in process), including cancels, will be tested,
- Multiple products and features will be tested; the tests will cover a broad range of the options available to CLECs,
- Multiple switch technology types, end-offices and geographic locations will be included in the test,
- A portion of the orders sent will be physically provisioned. Some orders will be future dated, allowing them to be canceled prior to work scheduling and provisioning, and
- CLECs will be solicited for involvement in some aspects of the test, especially for assistance in the testing of complex services and services with long lead times.

In addition to normal orders, orders with planned errors will be sent to Bell Atlantic to check the accuracy of its system edits and TISOC representatives.

Service locations supported by different BA-VA ordering, provisioning and CO switching and transmission configurations will be tested.

The test will be conducted using the most current release of the LSOG ordering and pre-ordering business rules available and fully functional at the time of the test.

Documentation affecting the POP domain given to the CLECs, including the CLEC Handbook, the Reseller Handbook, GUI training and other appropriate documentation, will be used to submit the transactions and the accuracy and usefulness of this documentation will be evaluated.

The following chart (applicable to TVV1, TVV2, TVV3 and TVV4) contains the processes and sub-processes that will be used in evaluating BA-VA's pre-ordering, ordering and provisioning functionality and performance:

Table VI-1 POP Processes

Process Area	Sub-Process
Pre-ordering	Retrieve customer CSR from expressTRAK
	Validate Customer Address
	Reserve and release telephone numbers
	Inquire about customer's directory listing
	Request information about services, features, facilities and PIC/LPIC choices available to customers
	Inquire whether customer's loop is ISDN capable.
	Inquire whether customer's loop is ADSL capable.
	Determine due date/appointment availability
	Inquire about installation status
	Inquire about order status
Ordering	Submit an order for the migration of a customer from BA-VA to a CLEC "as is"
	Submit an order for the migration of a customer from BA-VA to a customer "as specified"
	Submit an order for the partial migration of a customer from BA-VA to a CLEC
	Submit an order for establishing service for a new customer of a CLEC
	Submit an order for feature changes to an existing CLEC customer
	Submit an order for adding lines/circuits to an existing CLEC customer.
	Submit an order for a telephone number change for an existing CLEC customer
	Submit an order for a directory change for an existing CLEC customer
	Submit an order for an inside move of an existing CLEC customer
	Submit an order for the outside move of an existing CLEC customer
	Submit an order for suspending service of an existing CLEC customer
	Submit an order for restoring service to an existing CLEC customer
	Submit an order for disconnecting service from an existing CLEC customer
	Submit an order for disconnecting some lines/circuits for an existing CLEC customer
	Submit an order for migration of a customer from another CLEC
	Change service delivery method for an existing CLEC customer
	Submit an order for standalone number portability
	Submit an order to migrate customer off of IDLC facilities
	Order dark fiber
	Order interoffice facilities
	Receive order confirmation
Provisioning	Receive notification of jeopardy or delay
	Receive completion notification

Pre-ordering, ordering and provisioning functionality and performance:

Table VI-2 POP Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Clarity, accuracy and completeness of documentation	Document Review, Transaction Generation	Qualitative Quantitative
Accessibility of GUI (excluding	Transaction Generation	Quantitative

Evaluation Measure	Evaluation Technique	Criteria Type
Interoffice facilities)		
Accessibility of EDI (excluding Interoffice Facilities)	Transaction Generation	Quantitative
Accuracy and completeness of functionality	Transaction Generation	Quantitative
Timeliness of response	Logging	Quantitative
Accuracy and completeness of response	Transaction Generation, Inspection	Qualitative Quantitative
Clarity and accuracy of error messages	Transaction Generation, Inspection, Document Review	Quantitative
Responsiveness and completeness of Help Desk support	Transaction Generation, Logging	Qualitative Quantitative
Usability of information	Transaction Generation, Inspection	Qualitative Quantitative

1.5 Scenarios

The specific scenarios to be used in this test can be found in Appendix A.

1.6 Test Approach

1.6.1 Inputs

1. Test scenarios and cases
2. Test case execution schedule
3. TTG Software
4. Documentation (CLEC Handbook, Reseller Handbook, order/pre-order business rules, etc.)
5. Trained personnel to execute test cases
6. Test "Go/No Go" checklist
7. Help Desk log and contact checklists

1.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s)
2. Interview CLEC volunteers and coordinate joint testing activities
3. Submit transactions. Log submittal date and time and appropriate transaction information
4. Receive transaction responses. Log receipt date, time, response transaction type and response condition (valid vs. reject)
5. Match transaction response to original transaction
6. Verify transaction response contains expected data and flag unplanned errors

7. Manually review unexpected errors. Identify error source (KPMG or BA-VA). Identify and log reason for the error. Determine if test should be discontinued.
8. Contact BA-VA help desk for support as indicated in test cases and for unexpected errors. Follow appropriate resolution procedures. Log availability and other behavior of functions as identified on the help desk checklist.
9. Correct expected errors and resubmit. Log re-submittal date, time and appropriate information.
10. Identify transactions for which responses have not been received. Where multiple responses are expected for the same request, the receipt of each response will be monitored. Record missing responses.
11. Review status of pending orders. Verify and record accuracy of response.
12. Generate KPMG reports.
13. Generate BA-VA metrics report for test date range.
14. Compare metrics for KPMG-generated transactions to BA-VA retail metrics.
15. Report negative observations to Help Desk.

1.6.3 Outputs

1. Reports that provide the metrics to support the standards of performance defined in Appendix D
2. Variance between actual performance and the standards of performance defined in Appendix D
3. Unplanned error count by type and percentage of total
4. Report of unplanned errors by reason code
5. Rejects received after confirmation notification and percentage of total
6. Report of missing transactions; e.g., confirmations and completion notices
7. Transaction counts, error ratio, response time, etc., by transaction type, product family and delivery method
8. Minimum, maximum, mean, average and aggregate response time/interval per transaction set
9. Transaction counts per response time/interval range per transaction set
10. Orders erred after initial confirmation
11. Completed help desk logs and checklists
12. Help desk accuracy and timeliness report
13. TTG measurement reports

1.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

2.0 Test TVV2: POP Volume Performance Tests

2.1 Description

The Volume Performance Test will identify whether a significantly higher capacity of orders can be correctly processed within a given time frame, at projected future transaction volumes. The Volume Performance Test will include application to application interfaces and the BA-VA systems and processes for responding to pre-ordering queries and for initial processing of orders. There will be three parts to the test: 1) a "normal volume" test using anticipated transaction volumes based on level of demand projections that are reasonably foreseeable in a competitive market, 2) a "peak" test and 3) a "stress" test. The peak test will be conducted using transaction volumes that will start at 125% (1.25 times) of the volumes identified in the "normal" volume portion of this test. These volumes may be scaled up to as much as, but not to exceed, 150% (1.5 times) of the normal volumes during the implementation of this portion of the test. The stress test will be a progressive test that begins using transaction volumes that are 150% of the "normal" volumes. This volume will be scaled up during the implementation of the test to as much as, but not exceeding 250% (2.5 times) of the "normal" volume transactions.

The Volume Performance Test will look at the performance of BA-VA's pre-ordering and ordering systems and processes from the submission of queries, to the creation of internal service orders and the return of an order confirmation. The orders submitted in the Volume Performance Test will not go through the physical provisioning process. The test will include a mix of stand-alone pre-ordering and ordering transactions. Included in this mix will be planned errors, both business rules errors and flow-through dropout errors. Transactions will be submitted using all of the generally available application-to-application interfaces (e.g., EDI). Although most of the transactions submitted to BA-VA as part of this test will be designed to flow-through, transactions that fall out to the TISOC will be identified to KPMG.

While transactions will be submitted throughout the entire transaction test period as part of the POP Functional Evaluation, the volume tests will only run on certain days during the testing period. There will be two "normal volume" days of testing. There will be one day for a "peak" test. There will be one 4-hour "stress" test. All the attributes and activities that apply to the POP Functional Evaluation for pre-ordering and ordering also apply to this test.

2.2 Objective

The objective of the Volume Performance Test is to measure whether a significantly higher capacity of orders can be correctly processed within a given timeframe.

2.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See above
Agreement on volumes and distribution by scenario and entry mode	KPMG, SCC
Test Scenarios selected	KPMG
Specific Test Cases developed	KPMG
Test Case execution schedule developed	KPMG

2.4 Test Scope

The scope for this test includes the following test processes:

1. Pre-Ordering
2. Order Processing

Table VI-3 POP Volume Performance Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Accessibility of GUI (excluding Interoffice facilities)	Transaction Generation	Quantitative
Accessibility of EDI (excluding Interoffice Facilities)	Transaction Generation	Quantitative
Timeliness of response	Logging	Quantitative
Accuracy and completeness of response	Transaction Generation, Inspection	Qualitative Quantitative
Accuracy, responsiveness and completeness of Help Desk support	Transaction Generation, Logging	Qualitative Quantitative

2.5 Scenarios

The specific scenarios to be used in this test will be chosen from those found in Appendix A.

2.6 Test Approach

2.6.1 Inputs

1. Test cases
2. Test case execution schedule
3. Documentation (CLEC Handbook, Reseller Handbook, etc.)
4. Personnel to execute test cases
5. Test "Go/No Go" Checklist
6. Help Desk log and contact checklists

2.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s)

2. Submit transactions. Log submittal date, time and appropriate transaction information.
3. Receive transaction responses. Log receipt date, time, response transaction type and response condition (valid vs. reject).
4. Match transaction response to original transaction. Verify matching transaction can be found and record mismatches.
5. Manually review unplanned errors. Identify error source (KPMG, TTG or BA-VA). Identify and log reason for the error.
6. Contact help desk for support as indicated in test cases and for unexpected errors.
7. Identify transactions for which responses have not been received. Record missing responses.
8. Generate KPMG reports.
9. Compare KPMG metrics to BA-VA detail metrics. Review KPMG BA-VA measures. (e.g., comparison of transaction timestamps as created by KPMG Consulting and those used by BA in its filtered Metric data or to determine if differences are statistically significant and the reasons for the differences)

2.6.3 Outputs

1. Reports that provide the metrics to support the standards of performance defined in Appendix D
2. Variance between actual performance and the standards of performance defined in Appendix D
3. Report of expected results versus actual results
4. Transaction counts, response time, etc. by transaction type, product family and delivery method
5. Minimum, maximum, mean, average and aggregate response time/interval per transaction set
6. Transaction counts per response time/interval range per transaction set
7. Completed help desk logs and checklists
8. TTG measurement reports
9. Summary Report

2.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

3.0 Test TVV3: Order "Flow Through" Evaluation

3.1 Description

The Order "Flow Through" Evaluation tests the ability of orders to flow through from the CLEC through the interface into the BA-VA ordering systems without any human intervention. BA-VA will update the list of "flow through" ordering scenarios and USOC "flow through" indicators during the testing period if changes in the BA-VA business rules or systems warrant. Changes to the list will be incorporated into the test. This test will be conducted as a part of the POP Functional Evaluation (TVV1).

The order transactions that will be submitted as part of TVV1 will be monitored to determine their flow-through status.

3.2 Objective

The objective of the Order "Flow Through" Test is to verify the ability of BA-VA to flow through their front end systems, without manual intervention, all order types designated by BA-VA to be flow-through. This designation will be based on BA-VA documentation at the time that the transactions are submitted.

3.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See above
BA-VA has published documentation outlining what is expected to flow through	BA-VA
Evaluation Criteria defined and approved	KPMG, SCC
BA-VA can produce daily reports indicating flow through levels for KPMG order transactions.	BA-VA

3.4 Test Scope

Flow through only pertains to the ordering process.

Table VI-4 Order Flow Through Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Clarity, accuracy and completeness of documentation	Document Review, Transaction Generation	Qualitative Quantitative
Accuracy and completeness of functionality	Transaction Generation	Quantitative

3.5 Scenarios

The scenarios to be used in this test will be chosen from those that can be found in Appendix A.

3.6 Test Approach

3.6.1 Inputs

1. All TVV1 inputs
2. Test cases and expected results
3. TTG Software
4. Test "Go/No Go" checklist

3.6.2 Activities

1. Submit order transactions via EDI and the GUI. Log submittal date, time and appropriate transaction information.
2. Receive transaction responses. Log receipt date, time, response transaction type and response condition (valid vs. reject).
3. Verify transaction response contains expected data and flags unplanned errors.
4. Identify orders that have received manual handling. Record manual handling and order attributes.
5. Correct any KPMG errors and re-submit. Verify orders now flow through.
6. Verify that all orders submitted are accounted for. Log any orders that are submitted but do not appear as processed or erred by BA-VA.
7. Generate BA-VA flow-through report.
8. Generate KPMG reports.
9. Compare flow-through results as calculated by KPMG Consulting Vs BA (in KPMG specific C2C Reports).

3.6.3 Outputs

1. Report of unexpected results by order type, product family, etc.
2. BA-VA flow through handling report
3. Summary Report

3.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

4.0 Test TVV4: Provisioning Verification and Validation

4.1 Description

The Provisioning Verification and Validation test is a comprehensive review of BA-VA's ability to complete accurately and expeditiously the provisioning of CLEC orders. This test will be conducted as a part of the POP functional testing (TVV1). While most kinds of orders will be included, the test will concentrate on those types of orders that require physical provisioning.

This test will involve verification that orders submitted have been properly provisioned and that the provisioning has been completed on time. Included in the test will be orders that have been supplemented and canceled, as well as those submitted with anticipated errors, to test the impact on provisioning.

For some orders, particularly the more complex ones, the involvement of CLECs operating in Virginia will be solicited to volunteer use of their facilities to enhance the "real world" nature of the test. The CLECs will also be asked to provide data on their experiences with provisioning, after verification and validation by KPMG.

4.2 Objective

The objective of this test is to evaluate the ability of BA-VA to accurately provision orders submitted by CLECs and to do so on time.

4.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See above
Test Scenarios selected	KPMG
Specific Test Cases developed	KPMG
CLEC volunteers identified	KPMG
Provisioning log and activity checklists created	KPMG
Test case execution schedule developed	KPMG

4.4 Test Scope

The scope for this test includes the following aspects of provisioning testing:

1. Switch Translations for UNE-P and Resale
2. Loop Hot Cuts
3. Local Number Portability
4. Enhanced Extended Loops (EELS) Installation
5. xDSL Installations
6. Directory Listings

Table VI-5 Provisioning Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Timeliness of provisioning	Transaction Generation, Inspection,	Quantitative

Evaluation Measure	Evaluation Technique	Criteria Type
	Logging	Qualitative
Frequency of delay or rescheduling of provisioning	Transaction Generation, Inspection, Logging	Quantitative Qualitative
Accuracy and completeness of provisioning	Transaction Generation, Inspection, Logging	Quantitative Qualitative

4.5 Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix A.

4.6 Test Approach

4.6.1 Inputs

1. Test Cases and expected results
2. Test case execution schedule
3. Provisioning documentation
4. Provisioning log and activity checklists
5. Trained personnel to execute test cases
6. Test "Go/No Go" checklist
7. Participation from affected CLECs through voluntary, coordinated testing

4.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate documentation
2. Submit transactions
3. Receive confirmations of transactions
4. Log notification of provisioning jeopardies and delays
5. Perform joint provisioning activities and record provisioning interactions
6. Perform testing on provisioned services
7. Test completion of orders. Record results in appropriate provisioning log and activity checklist.
8. Generate KPMG reports
9. Compare KPMG metrics with BA-VA retail

4.6.3 Outputs

1. Reports that provide the metrics to support standards of performance listed in Appendix D
2. Variance between actual performance and standards of performance listed in Appendix D

3. Report of expected results versus actual test case results
4. Completed provisioning logs and checklists
5. Help desk accuracy and timeliness report
6. Provisioning accuracy and timeliness report

4.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

5.0 Test TVV5: M&R RETAS Functional Evaluation

5.1 Description

The RETAS Functional Evaluation is a comprehensive review of all of the functional elements of the RETAS System and their conformance to documentation.

5.2 Objective

The objective of this test is to validate the existence and behavior of RETAS functional elements as documented in the CLEC handbooks, RETAS Training Guides and other applicable documents.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria have been satisfied	See Table III-3
Detailed Test Plan completed	KPMG
Test Scenarios selected	KPMG
Specific Test Cases and Transaction Sets developed	KPMG
Product descriptions and business rules for all transactions to be tested are available.	BA-VA
Basic documentation review completed	KPMG
Detailed Functional Checklist created	KPMG
Test bed of working services selected and/or established	BA-VA
Specific Evaluation techniques developed	KPMG
Physical access to Bell Atlantic Web site established	BA-VA
Security access to RETAS established	BA-VA
Evaluation Criteria defined and approved	SCC
Checklists and Interview Guides created	KPMG

5.4 Test Scope

RETAS functionality will be reviewed within the context of specific documentation addressing its use. The following chart contains the processes, sub-processes and methods for evaluating the functionality of BA-VA's RETAS:

Table VI-4 Test Target: M&R RETAS Functional Evaluation

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

5.5 Scenarios

A subset of the Appendix A scenarios will be used in this test.

5.6 Test Approach

Test cases will be created to evaluate RETAS functionality to determine if the system behaves as documented.

5.6.1 Inputs

1. Test cases
2. Documentation (RETAS Student Guide, etc.)
3. Functionality checklists
4. Interview guide
5. Personnel to execute test cases

5.6.2 Activities

1. Use test cases created for this test and appropriate Bell Atlantic documentation to perform each of the functions listed on the checklist provided via the RETAS GUI interface
2. Verify that each system function behaves as documented
3. Note any anomalies in the space provided on the checklist
4. Note any discrepancies between RETAS documentation and behavior
5. Ensure all trouble reports entered in RETAS have been canceled
6. Generate KPMG reports
7. Report negative observations to Help Desk

5.6.3 Outputs

1. Completed checklists from Phases 1 and 2 activities
2. Completed interview summaries
3. Summary reports of findings from each phase, including a discussion of anomalies and relevant observations relating to usability and timeliness of each system interface

5.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
All activities completed	KPMG
Checklists and reports completed by personnel participating in the test	KPMG

6.0 Test TVV6: M&R RETAS Performance Evaluation

6.1 Description

The RETAS performance evaluation is a transaction driven test designed to evaluate the behavior of the RETAS system and its interfaces under load conditions. This test will be conducted in three segments, normal volume, peak volume and stress volume. The first execution will use transaction sets based on the level of demand projections that are reasonably foreseeable in a competitive market. This quantity of transactions will be known as the "normal volume". The second "peak" execution will use a multiple of 1.5 times the "normal" volumes that were used in the first execution. Finally, the last "stress" execution will use transaction volumes that are 1.5 times the volumes used for the peak test.

6.2 Objective

The objective of this test is to evaluate the behavior of RETAS under load conditions, to determine system performance in terms of response time and operability and to identify future performance bottlenecks.

6.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Test transaction generator has been fully tested and is operational for the submission of test cases	TTG
Test transaction sets have been built and validated	KPMG
Product descriptions and business rules for all transactions to be tested are available.	BA-VA
System test bed has been established	BA-VA
RETAS test coordination details have been worked out	KPMG

6.4 Test Scope

RETAS performance will be evaluated under normal projected loads and in a stress/load test mode. The following chart contains the processes, sub-processes and methods for evaluating the performance of BA-VA's RETAS:

Table VI-6 Test Target: M&R RETAS Performance Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Performance	Projected Normal Loads	Timeliness Operability	Inspection Transaction Generation	Qualitative Quantitative
	Stress/Load	Timeliness Operability Capacity	Inspection Transaction Generation	Qualitative Quantitative

6.5 Scenarios

A subset of the Appendix A scenarios will be used in this test.

6.6 Test Approach

Test transactions will be sent to RETAS. The transaction sets are structured to provide a transaction mix consistent with current system usage, projected normal volumes and stress/load volumes. Included in this mix will be planned errors. Submission rates will mirror peak busy hour and peak busy day behaviors.

6.6.1 Inputs

1. Test cases and transaction sets
2. Personnel to operate test transaction generator
3. Personnel to supervise and observe test execution

4. RETAS systems and associated test beds
5. Test transaction generator

6.6.2 Activities

1. Feed transaction sets to RETAS
2. Periodically exercise RETAS functionality manually during test execution
3. Observe and capture observations from (2) above in terms of performance and operability
4. Capture transaction performance statistics via data test generator (automatic)
5. Capture transaction performance statistics via RETAS (automatic)
6. Monitor RETAS system interfaces to identify any bottleneck conditions (Bell Atlantic system personnel)
7. Ensure all generated trouble reports have been canceled/closed
8. Reset test bed for next test (if required) or clean up production databases (Bell Atlantic)
9. Execute test once with normal, projected transaction volumes and once with stress/load volumes
10. Analyze performance reports
11. Review execution and observation reports
12. Document results and generate summary report
13. Compare KPMG Consulting Vs. BA-VA Metric results

6.6.3 Outputs

1. Reports that provide the metrics to support the standards of performance defined in Appendix D
2. Variance between actual performance and the standards of performance defined in Appendix D
3. Test execution and observation reports
4. Test transaction generator performance reports
5. RETAS performance reports
6. Summary report

6.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4

7.0 Test TVV7: End-to-End Trouble Report Processing

7.1 Description

This test involves the execution of selected M&R test scenarios to evaluate Bell Atlantic's performance in making repairs under the conditions of various wholesale maintenance scenarios.

7.2 Objective

The objective of this test is to evaluate Bell Atlantic's performance in making repairs under the conditions of various wholesale maintenance scenarios.

7.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Test scenarios selected	KPMG
Product descriptions and business rules for all transactions to be tested are available.	BA-VA
Test-bed circuits provisioned	BA-VA
Faults inserted into test-bed circuits as required by the test scenarios	KPMG
CLEC volunteers have been identified.	KPMG

7.4 Test Scope

Selected M&R test scenarios will be executed to evaluate Bell Atlantic's performance in making repairs under the conditions of various wholesale maintenance scenarios. The following chart contains the processes, sub-processes and methods for evaluating the End-to-End Trouble Report Processing test:

Table VI-7 Test Target: Execution of M&R Test Scenarios

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End Trouble Report Processing – Resale	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative
End-to-End Trouble Report Processing – UNE/UNE-P	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative

7.4 Scenarios

A subset of the Appendix A scenarios will be used in this test.

7.5 Test Approach

This test involves the execution of selected M&R test scenarios.

7.5.1 Inputs

1. Test-bed circuits with embedded faults
2. Personnel to create trouble tickets and track the trouble ticket status for each scenario.
3. CLEC participant list with contact information.

7.5.2 Activities

1. Conduct circuit test if applicable for each test scenario
2. Note test results
3. Create and submit trouble ticket via RETAS
4. Periodically monitor each trouble report throughout its life using trouble report status transactions in RETAS
5. Note significant events in the trouble report life cycle (error occurrences, corrections, trouble ticket submission time, time cleared, etc.)
6. Calculate time to repair measurements for each test scenario fault repaired
7. Document observations

7.5.3 Outputs

1. Reports that provide the metrics to support the standards of performance defined in Appendix D
2. Variance between actual performance and the standards of performance defined in Appendix D
3. A time to repair measurement for each fault repaired
4. Summary report of observations

7.6 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Time to repair measurements for repaired faults	KPMG
Summary report of observations	KPMG

8.0 Test TVV8: Billing Functional Usage Evaluation

8.1 Description

The Functional Usage Evaluation is an analysis of Bell Atlantic's daily message processing to ensure usage record types including access records, headers, trailers, rated records, unrated records and credit records appear accurately on the Daily Usage Feed (DUF) according to the defined schedule.

8.2 Objective

The objectives of this test are to evaluate the following:

- Usage record completeness and accuracy
- Usage timeliness
- Usage file completeness

8.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Test bed completed and ready	BA-VA
Product descriptions and business rules for all transactions to be tested are available.	BA-VA
Techniques and instrumentation developed and approved	KPMG
BA-VA resources are available to participate in the test	BA-VA
Detailed Test Plan completed and approved	KPMG

8.4 Test Scope

Table VI-8 Scope of the Functional Usage Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Usage and Delivery	Track valid usage	Timeliness of DUF files, DUF records and record types within the DUFs	Inspections	Quantitative
	Account for all usage	Completeness of data	Inspections	Quantitative

8.5 Scenarios

Test calling is dependent on the provisioning process, which is dependent on scenarios reflected in Appendix A.

8.6 Test Approach

This test will use operational analysis to evaluate the completeness and accuracy of calls contained in the DUF and the access records. This analysis will also examine the age of calls on the DUF. The evaluations will be accomplished by dispatching testers to various locations within Virginia. These testers will place test calls and will record information about these calls such as call-from number, call-to number, call type and duration. The data contained in these Daily Usage Feeds will then be compared to the call logs. The Test Team will also record information about the contents of the Daily Usage Feed files received by KPMG.

In addition, test calls will be made using customer accounts that will migrate during the test period. Migration refers to the conversion of account ownership from one LEC to another. Test calls will be made from migrating accounts before and after the migration date to ensure accurate routing of data in the Daily Usage Feed.

For example, a Bell Atlantic retail customer migrates to a CLEC. When the order completes, the routing guide file will be updated during the batch processing that evening. All usage from calls made prior to and on the same day of the completion should be routed to Bell Atlantic retail. All usage from calls made on the following day, after the guide file is updated, should be routed to the new CLEC.

Test calls will be placed from around the BA-VA calling region, will be made throughout the workday, will include a variety of calls (with the exception of 911) and will be placed from locations where Lucent 5ESS, Siemens EWDS and Nortel DMS switches are used in the local central offices. Local and toll test calls terminating on the test lines will also be made. A sample of the test calls will then be selected and verified.

8.6.1 Inputs

1. Detailed Test Plan
2. Test bed, including lines, telephones and facilities

8.6.2 Activities

1. Develop Test Call Matrices, which include test call logs for each location for each originating phone number and day.
2. Assemble tester resources, provide instructions and dispatch testers to calling locations.
3. Complete calls and log results.
4. Receive DUFs from Bell Atlantic.
5. As DUFs arrive, count the number of billable records in each file.
6. Verify DUF records for accuracy and completeness.
7. Using all calls received in the DUF, KPMG validates the age of calls by determining the number of business days between the call date and the day the DUF file is received by KPMG.
8. Compile results.

8.6.3 Outputs

1. Call aging report
2. Call statistics report. Standards are listed in Appendix D.
3. Call validation report
4. Empty DUF files report

8.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

9.0 Test TVV9: Functional Carrier Bill Evaluation

9.1 Description

The Functional Carrier Bill Evaluation is an analysis of BA-VA's ability to accurately bill usage plus monthly recurring charges (MRC) and non-recurring charges (NRC) on the appropriate type of bill. An accurately billed item will contain the correct price and correct supporting information, such as start/end dates, duration, standard amounts and discount amounts. This test will also evaluate the timeliness of bill delivery to the CLECs. To establish a baseline, KPMG will ensure that a bill cycle has been completed before any order activity occurs.

Monthly charges will be examined for both Resale and UNE billing on CABS and expressTRAK bills. Table VI-9 reflects a number of key characteristics of Retail and UNE billing information that will be used in the design of test cases. Information includes the various charge components and their destination bill.

Table VI-9 Key Characteristics Of Billing Information for Resale and UNE Customers

	Billing Component	Rating	Usage	Billing
Resale	Usage	ExpressTRAK	DUF	ExpressTRAK
	MRC/NRC	ExpressTRAK	N/A	ExpressTRAK
UNE-P	UNE-P usage (line port)	ExpressTRAK	DUF	ExpressTRAK, CABS
	UNE-P MRC/NRC	ExpressTRAK	N/A	ExpressTRAK, CABS
UNE	UNE-loops usage and MRC/NRC	ExpressTRAK	N/A	ExpressTRAK
	High Cap Loops (D3) MRC/NRC	ExpressTRAK	N/A	CABS
	Directory Listings	ExpressTRAK	N/A	expressTRAK
Retail	Non-unbundled Services MRC/NRC (Ancillary services)	ExpressTRAK	N/A	expressTRAK

9.2 Objective

This test evaluates the timely delivery of the bill and the accurate and timely appearance of charges on the appropriate bill. Appearance of charges will depend on the type of products ordered and/or class of service charges for resale, UNE-P, and UNE. Details to be evaluated include:

- Appropriate prorating of charges for new and/or disconnected service

- Charges are accurate (order matches billing)
- Discounts are applied correctly
- Totals are accurate
- Late charges are applied correctly
- New/disconnected products appear (or do not appear) on the bill
- Bill dates are correct and match appropriate date from provisioning process
- Adjustments appear on the bill
- Bills are delivered to CLECs and Resellers in a timely manner
- Services billed on a usage basis are billed correctly

9.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
All expressTRAK and CABS baseline bills produced from the initial test bed	BA-VA
Validate actual test bed contents versus test bed requirements. Test bed matches requirements.	BA-VA
Techniques and instrumentation developed and approved	KPMG
Product descriptions and business rules for all transactions to be tested are available.	BA-VA
Test bed completed and ready	BA-VA
Calls made during Functional Usage Evaluation processed through to the DUF and available for billing.	BA-VA
Availability of BA-VA resources to test and produce expressTRAK and CABS bills	BA-VA
Method for viewing bills implemented	BA-VA, KPMG

9.4 Test Scope

Table VI-10 : Test Scope for Carrier Bill Evaluation

Process Area	Sub Process	Evaluation Measure	Evaluation Techniques	Criteria Type
Maintain Bill Balance	Carry balance forward	Accuracy of bill balance	Inspection	Quantitative
Verify Billing Accounts	Verify Billing Accounts	Completeness and accuracy of extraction	Inspection	Quantitative
Bills and Delivery	Verify normal recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify one-time charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify prorated recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify Usage Charges	Completeness and accuracy of data	Inspection	Quantitative

Table VI-10 : Test Scope for Carrier Bill Evaluation

Process Area	Sub Process	Evaluation Measure	Evaluation Techniques	Criteria Type
	Verify discounts	Completeness and accuracy of data	Inspection	Quantitative
	Verify adjustments (debits and credits)	Completeness and accuracy of data	Inspection	Quantitative
	Verify late charges	Completeness and accuracy of data	Inspection	Quantitative
	Receive bill copy	Timeliness of media delivery	Logging	Quantitative

As part of this test, a large variety of products and services will be ordered. This may result in many variations in billing presentation from the two primary billing systems (expressTRAK and CABS). Relevant types will be selected for review based upon the product mix and anticipated charges as defined in the expected test results.

9.5 Scenarios

A subset of the Appendix A scenarios will be utilized for billing and usage testing purposes. The set selected will include:

- Test cases for "migration/conversion" of customers
- Test cases for disconnects, new service (add/delete)
- Test cases for changes to services (modify)

All migration situations should be adequately represented:

- BA-VA to a CLEC
- CLEC to BA-VA
- CLEC to CLEC

9.6 Approach

This test will use operational analysis to evaluate the completeness and accuracy of charges that appear on the bill based on usage information from the Functional Usage Evaluation and charges on bills resulting from a selected set of orders submitted in TVV1. Expected results will be defined for each test case.

To check recurring charges, three bill periods will be processed for some of the customers.

- The first bill period will consist of initial bills for CLEC customers created in the initial test bed. These bills are produced prior to the execution of any transaction scenarios that affect selected customers.

- The second and third bill periods will consist of bills produced after selected scenarios have been executed. This second set of bills will include items such as prorates, disconnects, migrations, adjustments, etc. Some customers will be created during the test execution and will only receive second period bills. Accounts initially set as resale, UNE or UNE-P may have a third set of bills.

The following list shows inputs, activities and outputs of the process needed to validate the full range of test cases.

9.6.1 Inputs

1. Detailed Test Plan
2. Verified Baseline Bills and CSRs

9.6.2 Activities

1. Process service order changes
2. Develop expected results for each test case
3. Begin first bill period by receiving bills
4. Record invoice bill date and actual date received
5. Validate test results for each applicable test case
6. Identify discrepancies
7. Receive Bills for all periods
8. Receive CSRs for all cycles
9. Record invoice bill date and actual date received
10. Validate test results for each applicable test case
11. Identify discrepancies. End first bill period.
12. Complete second bill period. Repeat 3-6 and 7-11 until second bill period is complete.
13. Complete third bill period. Repeat 3-6 and 7-11 until third bill period is complete.
14. Compile results

9.6.3 Outputs

1. Reports that provide the metrics to support the standards of performance defined in Appendix D
2. Variance between actual performance and the standards of performance defined in Appendix D
3. A report showing each test case, expected results and discrepancies
4. A report showing BA-VA's bill delivery dates compared to the expected delivery dates based on the bill cycle date

5. Final report

9.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

Appendix A. Test Scenarios

Resale

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

UNE Platform

Activity	Res. POTS	Bus. POTS	Res. ISDN	Bus. ISDN	Centrex
Migration from BA-VA "as is"	X	X	X	X	X
Migrate from CLEC to CLEC	X	X			
Feature changes to existing customer	X	X			X
Migration from BA-VA "as specified"	X	X	X	X	
New Customer	X	X			
Telephone number change	X	X			
Directory change	X	X			
Add lines/trunks/circuits	X	X	X	X	X
Suspend/restore service	X	X			
Disconnect (full and partial)	X	X	X	X	X
Moves (inside and outside)	X	X			
Convert line to ISDN			X	X	
Migrate from CLEC to BA-VA	X	X			
Convert from Resale to UNE-Platform	X	X			

UNE

Activity	Res. Analog Loop	Bus. Analog Loop	Res. xDSL Capable Loop	Bus. xDSL Capable Loop	Bus. DS1 Loop	Inter-office Facility
Migrate lines from BA-VA w/o number port.	X	X			X	
Migrate lines from BA-VA with LNP	X	X			X	
Migrate from CLEC to CLEC	X	X				
Add new lines to existing customer	X	X	X	X	X	
Add new interoffice DS1/DS3 facilities						X
Purchase lines for a new customer	X	X			X	
Disconnect (full and partial)	X	X			X	
Moves (inside and outside)	X	X				
Directory Listing Change	X	X				
Convert from Resale to UNE loop	X	X				
Convert from UNE-P to UNE- loop	X	X				
Standalone LNP						
Move loop off of IDLC system	X	X				
Add dark fiber						X

Stand-alone Preorder

Activity	Residence	Business
Obtain CSRs	**X**	**X**
Validate customer address	**X**	**X**
Reserve and release telephone numbers	**X**	**X**
Perform directory listing inquiry	**X**	**X**
Inquire about feature and service availability	**X**	**X**
Determine if customer's loop qualifies for ISDN	**X**	**X**
Determine if customer's loop is xDSL capable	**X**	**X**
Determine availability of desired due date	**X**	**X**
Inquire about Installation Status	**X**	**X**
Inquire about Status of Service Orders	**X**	**X**

UNE EEL

Activity	Res analog loop	Bus analog and DS1 loops
Migrate lines from BA-VA w/o number port.	**X**	**X**
Migrate lines from BA-VA with LNP	**X**	**X**
Add new lines to existing EEL	**X**	**X**
Purchase lines for a new customer	**X**	**X**
Disconnect (full and partial)	**X**	**X**

Stand Alone Maintenance & Repair

Activity	Res. POTS	Bus. POTS	Res. ISDN	Bus. ISDN	Centrex	Private Line	PBX
Short on outside plant facility	X	X					X
Open on outside plant facility	X	X		X			
Short on the line within the central office	X	X			X	X	
Open on the line within the central office	X	X	X	X	X	X	X
Noise on line	X	X		X			
Echo on line	X	X					
Customer w/LNP not receiving incoming calls	X	X					
Customer receiving incoming calls intended for another customer's number.	X						
Call waiting not working	X	X					
Repeat dialing not working	X						
Customer cannot call 900 numbers	X						
Calls do not roll-over for customer w/ multi-line hunt group		X			X		
Call forwarding not working		X					
Caller id not working	X	X					
Pick-up group order for large Centrex customer not functioning properly					X		
DS1 loop MUXed to DS3 IOF not functioning.							X

Appendix B. Normal and Peak Volume Test Section

This section provides a high-level description of the methodology KPMG intends to use to define volumes required in the volume transaction tests to evaluate the systems, processes and other operational elements associated with Bell Atlantic's support of the competitive market. The purpose of the volume tests is to evaluate the ability of Bell Atlantic's systems interface to process representative future wholesale transaction volumes to support competitors' entry into the market. These tests are performed at both peak and normal volumes. In addition, stress or capacity tests will be performed to test overall system capacity on selected transactions. None of the volume tests are intended to assess Bell Atlantic's ability to provide manual processing of orders and pre-order inquires. In addition, none of the volume tests are intended to assess Bell Atlantic's ability to provision future transaction volumes.

KPMG intends to develop the normal daily test volumes through a synthesis of information it hopes to obtain from Bell Atlantic and the CLECs. The SCC is expected to solicit forecast data from Bell Atlantic and the CLECs to be used by KPMG for its analysis. This data should consist of forecasts of future orders, added lines and in-service lines by service type for time periods based on level of demand projections that are reasonably foreseeable in a competitive market. KPMG will provide a template to SCC to use by the parties to assist this data request

KPMG will then analyze this data as well as data available in the current marketplace to develop a consensus estimate of the normal volumes based on level of demand projections that are reasonably foreseeable in a competitive market. An estimate of pre-order volumes will be based on assumptions about the frequency of pre-orders expected to accompany the orders of each transaction type. Similarly, to estimate the expected volumes of CLEC M&R transactions, KPMG will develop a consensus estimate of the in-service lines based on the forecasts submitted. KPMG will t use this information to estimate the expected volumes of CLEC M&R transactions based on data provided by Bell Atlantic on the frequency of troubles per line. The M&R test will consist of "normal" anticipated transaction volumes for trouble reports and a peak and stress level of trouble report transactions.

As mentioned above, the pre-order and order volume tests will also consist of tests at peak and stress levels. The peak volumes are planned to be in the range of 125% to 150% of the volumes used in the normal portion of the test. The stress test will use progressive volumes, which will range from 150% to 250% of the normal test volumes.

Appendix C: Statistical Approach

A. Overview

This test will rely on standard statistical methods to evaluate BA-VA performance. Each test will define the data population to be observed, the measurements to be taken and the statistical tests to be used. Data will be normalized, tabulated and archived in a way that allows verification of test results and re-analysis of data using additional statistical methods, if appropriate.

B. Measures

The measures (metrics and their associated standards) that will serve as parameters for testing will be listed in Appendix D.

C. Sampling

In instances where sampling is used, sampling will be designed so that samples are sufficiently representative of populations with respect to the measures being studied to ensure that the resulting statistical inferences made about populations are valid. For most tests, simple random sampling will be used.

D. Hypothesis Testing

This test will employ a hypothesis testing approach to frame the analysis of test results. The standard "null" hypothesis will be that Bell Atlantic is performing adequately. The possibility of an error arises if this hypothesis is rejected when it is true (Type I error) or is accepted when it is false (Type II error). An attempt will be made to balance Type I and Type II errors as much as is feasible.

E. Parity Tests and Non-Parity Tests

There are two basic types of tests. Parity tests compare a Bell Atlantic retail average or percentage to a CLEC or test transaction average or percentage. Non-parity tests compare a percentage or average to a fixed standard or benchmark. In this case, the typical test is a binomial test or a one-sample t-test. Once again, alternative statistical tests will be used, where appropriate, based on tests of assumptions and sample sizes. In cases where these tests are not appropriate due to small sample size (for tests of averages) or assumption violations, other tests, such as permutation tests will be performed.

F. Results

Test results will include a summary of the statistics calculated, the hypotheses postulated for the test and the conclusion(s) drawn based on the statistical results.

Appendix D: Metrics – Quantitative

The metrics criteria to be used in Virginia for the purposes of this test are currently under discussion between the SCC and KPMG. Based upon KPMG's experience in conducting OSS tests, KPMG will provide the SCC, BA-VA and the CLECs with a set of suggested metrics that can be used, at a minimum, for purposes of the test only. All parties will have an opportunity to review and comment on the proposed metrics. The SCC will make a final ruling as to the metrics that will be used for the test. This section will be updated with the test metrics at a later date.

The metrics will be used in two ways in the test: 1) they will be examined as part of the Performance Metrics Review tests (PMR1, PMR2, PMR3, PMR4, and PMR5) and 2) they will be used as part of the quantitative measures to judge the results of the transactions tests (TVV1, TVV2, TVV3, TVV4, TVV5, TVV6, TVV7, TVV8, TVV9, TVV10, and TVV11).

Appendix E: Reference Documents

This section describes the reference documents used in the preparation of this Test Plan. This section will evolve during the course of testing.

Document Reference

Document	Category	Current Version	Update Expected
BA-VA Resale Handbook Volume I	Handbook		
BA-VA Resale Handbook Volume II	Handbook		
BA-VA Resale Handbook Volume III	Handbook		
BA-VA CLEC Handbook Volume I	Handbook		
BA-VACLEC Handbook Volume II	Handbook		
BA-VA CLEC Handbook Volume III	Handbook		

Appendix F: Glossary

Terms	Definitions
271 Application	An application to offer long distance services from an RBOC to a state or federal regulatory agency. In order to grant this application, the agency must find the applicant is in compliance with the 14 point competitive checklist described in the 1996 Telecommunications Act.
ACNA	Access Carrier Name Abbreviation. A three to four character code used to identify a telecommunications carrier.
AECN	Alternate Exchange Carrier Name. A unique identifier for a CLEC. Bellcore only recognized this term as Exchange Carrier Code (ECC).
AMA	Automatic Message Accounting. A system that records and documents billing information for (long distance) calls made by a (corporate) subscriber.
ASR	Access Service Request. Form used to order interoffice facilities such as dedicated trunk ports.
BDT	Bill Data Tape. Format in which end user account bills are transmitted to the CLEC/Reseller.
Bell Atlantic Pre-Filing Statement	A filing with the State of Virginia that lists commitments from Bell Atlantic with regards to BA-VA's 271 Application
Bill Certification	Process by which Bell Atlantic demonstrates billing process management to its Reseller customers.
Bill Cycle	The grouping of customers for purposes of billing. An end-user normally belongs to one bill cycle. In Wholesale billing, all end-users belonging to the same bill cycle are aggregated onto a single CLEC bill. Assignments of cycle and period are accomplished by Bell Atlantic. Bill cycles enable even distribution of a large number of customers so as to allow efficient use of computing resources and to mitigate risks associated with computer failures.
Bill Cycle Balancing	The procedure by which the charges associated with the inputs of a billing cycle is reconciled with the charges of the outputs of the billing cycle.
Bill Period	The length of time covered by a customer bill. Each end-user has one bill per bill period. CLECs receive one bill per bill period and bill cycle for all end-users belonging to that period and cycle. Assignments of cycle and period are accomplished by Bell Atlantic.
Billing Domain	Tests related to creation of correct carrier bills.
Black Box	Internal processes within Bell Atlantic's systems that are considered out of scope for the purposes of this test plan. Correct functioning of 'black box' systems can be inferred from input and output interface files.
BTN	Billing Telephone Number. The number to which charges from a given telephone service are billed.
BTN Accounts	Billing Telephone Number accounts. These accounts represent "dummy" phone numbers, which are used to aggregate a Reseller's charges into a consolidated bill. Reseller's have several separate BTN accounts.
CABS	Carrier Access Billing System
CAP	Competitive Access Provider. Facilities-based carrier providing alternative access service.
Carrier Bill Code	Each bill format has its own unique code. Particular charges will cause the production of a specific bill format. The code is related to each product and determines on which bill the product will appear.
Casual Usage	Usage dialed through a calling card or 10XXXXX.
Central Office (CO)	Facility where subscribers' lines connect to switching equipment.
Change Management	The process by which changes are introduced at Bell Atlantic. Important steps include: 1) Advance notification that a change will occur; 2) CLEC input is considered when making changes; and 3) Smooth roll-out of the change.

Terms	Definitions
CIN	Customer Identification Number. A unique number given to each customer to use as an identifier. Usually a short series of numbers at the end of the BTN.
CLEC	Competitive Local Exchange Carrier
CLEC Handbook	User documentation for CLEC that describes, in 3 volumes, how to establish a CLEC, the technical specifications for interacting with Bell Atlantic and the business rules CLECs should follow in order to purchase unbundled network elements.
CLEC Live Data	Production data delivered through interfaces that are already operational for real CLEC customers.
Connect/Network Data Mover (NDM)	An electronic method of delivering data files. Available for both mainframes and PCs.
Consensus Requirements Criteria Source	This includes benchmarks and standards developed by formal consensus proceedings, such as the PASCC's Carrier-to-Carrier Working Group.
CSR	Customer Service Record. Provides details of a customer's account, including services, features and fixed monthly charges.
Customer Account Record Exchange (CARE)	Industry standard for formatting exchange of subscription information.
Daily Usage Feed	A daily download of usage data from the switch which is delivered to Bell Atlantic's message processing system and directly to the CLEC.
Data-Driven Process	Scenarios tested through the creation of generated transactions, operations data, or live data.
DID number block	Direct Inward Dialing. A block of numbers reserved for a Centrex/PBX. DID allows internal dialing by entering only extensions.
Document review	Compilation and review of books, manuals and other publications related to the process and system under study.
EDI	Electronic Data Interchange. A process for exchanging information that is subject to industry standards.
EIF	Electronic Interface Format. A standardized file format needed to communicate with DCAS.
EMI / EMR	Exchange Message Interface / Record. Standard format in which usage data is passed to the Reseller, as specified by Bellcore.
Entrance and Exit Criteria	The necessary conditions for starting or completing individual tests described in the Test Plan.
Error/Rejection Notification	Notification generated by Bell Atlantic's systems when a request from a CLEC cannot be filled without additional manual clarification.
Evaluation Measures	Discrete set of measures to be applied to specific test components
Existence Criteria Type	These are criteria where only two possible test results can exist (e.g., true/false, presence/absence), such as whether a document exists or does not exist.
Expected Results Worksheet	A report format that lists the expected results for each test while allowing the tester to record the current results of the test. This allows an easy comparison of numbers.
expressTRAK	A database used for CSR inquires, local service ordering and customer service billing.
FID	Field Identifier. A code used when administering usage limits on residence and business end users. Also refers to fields of information used in the service order.
Firm Order Confirmation	A response from the Bell Atlantic Service Order Processor that acknowledges a successful receipt of an order from a CLEC.
Flow-through	An order placed by a CLEC's customer service representative that can be provisioned correctly without manual intervention by BA's service representatives.
Good Management Practice (GMP) Guidelines criteria source	This includes benchmarks, performance goals and guidelines derived from industry and topic area experts, BA-VA and CLEC performance targets, publications, academic journals and other sources.
GUI	Graphical User Interface. A computer interface that allows users to access programs and enter data.

Terms	Definitions
ILEC	Incumbent Local Exchange Carrier. The local exchange carrier for a particular area as of 1996. Bell Atlantic is the relevant ILEC.
Inspection	Physical reviews of process activities and products, including site visits walk-throughs, read-throughs and work center observations.
Interim Number Portability (INP)	The use of existing and available call routing, forwarding and addressing capabilities to enable an end user to retain the same telephone number regardless of which local service provider is chosen.
LATA	Local Access and Transport Area. A geographic area established by law within which a Bell Operating Company may provide telecommunications services.
Legal and Regulatory Requirements criteria source	This includes requirements specified by statute and regulation, such as FCC orders, court orders, SCC regulations, federal and state statutes and other binding requirements resulting from judicial/governmental proceedings.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
LPIC	Pre-designated Intra-LATA Carrier, or Local Primary Interexchange Carrier. Telephone company chosen by the end user as being the default carrier for calls outside the local calling area, but within the same LATA. These are also known as regional toll calls.
LSR	Local Service Request. Form sent to Local Exchange Carrier requesting local telephone services.
LUD	Local Usage Detail. LUD is available for measured and message rate end user in a report that may be requested by the CLEC.
Maintenance and Repair Domain	Tests related to trouble administration.
Master Test Plan	Identifies the overall framework and structure of the test.
MEXPRESSTRAK	Message Customer Record Information System. System used within BA to receive and interpret central office switch usage records.
MDF	Main Distribution Frame. The primary point at which outside plant facilities terminate within a Wire Center for interconnection to other telecommunications facilities within the Wire Center.
NDR	Network Design Review. A comprehensive planning process by which the scope of a network project is established along with the preliminary timeframe in providing service to a CLEC. This is required for any new facilities based CLEC.
OCN	Operating Company Number. A 4 character code to identify any service provider. Specifically used to identify the Reseller on usage detail records.
On-Line Service Provisioning (OLSP)	System which allows for activation and provisioning of service orders on-line.
Operational Analysis	Operational analysis focuses on the form, structure and content of the business process under study. This method is used to evaluate day-to-day operations and operational management practices.
OSS	Operation Support Systems. Systems used to perform pre-ordering, ordering, provisioning, maintenance and repair and billing.
Parity Criteria Type	These are criteria that require two measurements to be developed and compared, such as whether external response time is at least as good as internal response time.
Performance and Capacity	Methods used to evaluate the performance and capacity of selected elements within the four domains. Relates to tests to determine if BA's OSS can handle quantities of orders matching a reasonable forecasted demand.
PIC	Primary Interexchange Carrier. The long distance company to which traffic is automatically routed when an end user dials 1+ in equal access areas.
Port	Point of access into a network.
Pre-Ordering, Ordering and Provisioning Domain	Tests related to CLEC's acquisition of customer information, placing orders and ensuring correct and timely provision and notification of order status.
Provisioning	The act of supplying telecommunications service or UNEs.

Terms	Definitions
Qualitative Criteria Type	These criteria set a threshold for performance where a range of quality values is possible, such as level of customer satisfaction.
RBTN	Reseller Billing Telephone Number. This is the master account for a reseller by which all charges are grouped for placement on a single reseller bill.
Recognized Standards Criteria Source	This includes widely recognized standards and guidelines promulgated by sanctioned industry and governmental organizations and other bodies.
Relationship Management and Infrastructure Domain	Tests relating to activities, processes and documents that are focused on the establishment and maintenance of the CLEC/ILEC relationship.
Report Review	Reviews and analysis of historical data, reports, metrics and other information in order to assess the effectiveness of a particular system or business function. This includes performance measurement reports and other management reports.
Resale Handbook	User documentation for CLEC that describes, in 3 volumes, how to establish a reseller, the technical specifications for interacting with Bell Atlantic and the business rules resellers should follow in order to resell Bell Atlantic products and services on an unbundled basis.
Resale Service Center	BA personnel providing support services for the submission and processing of service orders and the maintenance of services sold for resale.
Resale Services Support Center	Group within the Resale Service Center that provides support for RETAS/DCAS use and system troubles and for out of hours provisioning problems.
Reseller Sub-Accounts	Each converted end user account automatically becomes a reseller sub-account. Each reseller sub-account contains the following identifiers. 1) Original end user BTN + new Customer code, 2) Bill Period, 3) ECC, 4) CIN.
RETAS	Repair Trouble Administration System for wholesale and retail customers. RETAS is accessed via a World Wide Web GUI that serves as a front end.
RSID	Reseller Identification Code. Bell Atlantic's term for exchange carrier code (ECC).
SBN	Special billing number.
SBTN	Sub account Billing Telephone Number. End user telephone number for a reseller account.
Scalability	The degree to which an application can be scaled to accommodate order of magnitude increases in transaction volumes and users
SCC	State Corporation Commission. A state regulatory agency responsible for telecommunications companies.
SMARTS	Service Order Management Administrative Report Tracking System. A network system used by BA to administer and track service orders requiring the dispatch of technicians.
STARREP/SIMS	Retail analog to RETAS
Supplements	A change to an order taken after the original order was submitted, but before the order has been executed. Order execution should include all supplements.
Suspend for Non-Payment	Collection Activity including suspension of outgoing calls (one-way), or both outgoing and incoming calls (two-way)
Test Bed	A set of fictitious customers that are designed to assist with testing. The test bed consists of working lines and provisioned products, although the owning customer is fictitious. The test bed is used to test all BA system functions.
Test Call Matrix	A list of call types and the quantity of calls for each type that should be included in a particular test.
Test Transaction Generator (TTG)	This system will be created to support the testing effort. The TTG will simulate CLEC behaviors by sending transactions through BA-VA's OSS. The TTG will record the success or failures of each transaction and create reports.
Test Domain	A specific testing area with defined targets, measures, scenarios, evaluation methods and test processes.
Test Scenario Coverage Matrices/Traceability Matrices	A list of products or processes that are involved with each scenario. Describes how testing elements are traced from the compliance requirements through the test process.

Terms	Definitions
Test Scenario Index	Master list of scenarios from which specific scenarios will be selected to be used in the testing.
Test Scenario to Metrics Analysis Index Cross Reference	For each scenario, a list of metrics that are examined during the test.
Test Scenarios	Scenarios describe realistic situations in which CLECs purchase wholesale services and network elements from BA-VA for resale to the CLEC's end-user customer on a retail basis.
Test Target	A discrete set of measures to be applied to specific test components.
TISOC	Telecom Industry Services Operations Center. This center is divided into wholesale and resale operations. This is a single point of contact for processing Reseller service requests.
TN	Telephone number.
Transaction Driven - CLEC Cases	The CLEC case method requires extensive participation by the Phase 2 tester to observe the execution, measure and monitor progress and results and inspect and audit the execution and results.
Transaction Driven - GUI Cases	The GUI test method is applied to test cases that use the GUI approach in real-world actions.
Transaction Driven - TTG Stress / Load Volume (100 percent automated)	The purpose of this stress and load test method is to test capacity and identify potential choke points in the accessing of information from BA-VA business processes.
Transaction Driven - Test Transaction Generator (TTG) Normal Volume (automated and interactive)	Based upon normally expected transaction volumes, the TTG will derive and store expected results for comparison with actual results.
Transaction-Driven System Analysis	Transaction driven system analysis relies upon initiation of transactions, tracking of transaction progress and analysis of transaction completion results to evaluate the automated system under test.
Transaction Generation	Transaction generation is the use of live, historical, and/or generated data and data processing capability to evaluate an automated and/or manual system under test.
Unbundled Access	Ability of other LECs to access and use BA network components to fill in gaps where these providers' networks do not have their own facilities.
Unbundled Loop	A transmission channel between an end user location and LEC central office that is not a part of, or connected to, other LEC services.
Unbundled Port	An interface on a local switching system that is not bundled with a loop or transport facility and provides access to and from the switch and the functionality of the local switching system.
UNE	Unbundled Network Element
UNE-P	AKA Platform. This consists of a loop and port sold in combination to a CLEC. UNE-P service provides all network elements necessary to provide service to the customer without requiring the CLEC to combine the elements themselves through collocation, et al.
USOC	Universal Service Order Code. A 3-5 character alphanumeric code that represents a product or service.
Verification and Validation	Methods used in the evaluation of activities and processes not amenable to data-driven testing, but which require verification and validation.
VETS	Verification Evaluation and Testing System. System which allows system testing on working and testable lines.
WTN	Working Telephone Number.