Commonwealth of Massachusetts

Department of Telecommunications and Energy

Bell Atlantic
OSS Evaluation Project

Master Test Plan

Final Version 2.0

Submitted by:

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Contents

I. Document Control

A. Distribution

Table I-1: Distribution List For Document

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B. Approved By

Table I-2: Approval List For Document

Person	Department	Date
Geoffrey May	Commonwealth of Massachusetts Department of Telecommunications and Energy	11/24/1999

Table I-3: Version Control

Version	Date	Reason
1.0	9/13/1999	Initial draft release
2.0	11/24/1999	Final release
3.0		Revised Master Test Plan (incorporating all final scope changes)

II.Introduction

A. Background

The Telecommunications Act of 1996 (the Act) requires Bell Atlantic-Massachusetts (BA-MA) to:

- Provide nondiscriminatory access to its operations support systems (OSS) on appropriate terms and conditions;
- Provide the documentation and support necessary for competitive local exchange carriers (CLECs) to access and use these systems; and
- Demonstrate that BA-MA's systems are operationally ready and capable of handling ever-increasing volumes of transactions.

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-MA's retail operations.

BA-MA offers various systems, including both application-to-application interfaces and terminal-type / Web-based systems, which CLECs can use to access BA-MA's OSS in order to perform these tasks. The Massachusetts Department of Telecommunications and Energy (DTE) has been considering the matter of BA-MA's compliance with the requirements of Section 271 of the Act in the context of D.T.E. Docket 99-271. To this end, the DTE has retained KPMG LLP to assist it with assessing whether BA-MA is meeting these requirements.

B. Scope

This document describes the plan to evaluate BA-MA's OSS systems, interfaces, and processes that enable CLECs to compete with BA-MA 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 service delivery methods — resale, unbundled network elements (UNE), and unbundled network elements-platform (UNE-P) — were included in the scope of the test.

The plan has been divided into five domains to organize and facilitate testing:

- Pre-Ordering, Ordering, and Provisioning (POP)
- Maintenance and Repair (M&R)
- Billing (BLG)
- Relationship Management and Infrastructure (RM&I)
- Performance Metrics Reporting (PMR)

Within POP, M&R, RM&I, BLG, and PMR the methods and processes to be applied to measure BA-MA's performance within that domain are described along with the specific points in the systems and processes where BA-MA performance will be evaluated. The results of the test will be compared against measures and criteria as ordered by the DTE. These will include the *Consolidated Arbitrations* (D.P.U./D.T.E. 96-73/74 et al) performance measures, measures proposed in BA-MA's Section 271 filings and those in Attachment A of the DTE's 11/19/99 Letter Order finalizing this MTP.

This plan also describes the development and application of test scenarios to be used in evaluating BA-MA's OSS and related support services. A scenario may be specific to a particular domain or it may span domains providing an end-to-end test of BA-MA's systems and processes. These were developed to simulate real-world production to ensure adequate coverage for the test. These test scenarios will be used to develop "test cases" intended to introduce additional variables such as errors and supplements to further simulate real world transactions.

C. Objective

This overall objective of this document is to provide a description of a comprehensive plan to test Bell Atlantic's OSS systems, interfaces, and processes. This master test plan shall be the basis by which individual tests can be developed and executed to help the DTE in determining whether BA-MA's provision of access to OSS functionality enables and supports CLEC entry in the local market. In meeting those 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 who will utilize this document during the testing process

2. Interested parties who have some stake in the result of the BA-MA OSS evaluation and wish to have insight into the evaluation effort

The primary users of this document are KPMG and the vendor for the CLEC Test Transaction Generator. Other audiences are the DTE, BA-MA, the CLECs, the Federal Communications Commission (FCC) and the Department of Justice (DOJ).

1.0 KPMG

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.

2.0 CLEC Test Transaction Generator Vendor

At the direction of KPMG, the CLEC Test Transaction Generator will be responsible for the transmission and tracking of a series of data-driven tests.

3.0 Massachusetts Department of Telecommunications and Energy

The Massachusetts Department of Telecommunications and Energy 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 DTE. The DTE is responsible for the final evaluation of the test results.

4.0 Bell Atlantic-Massachusetts

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

5.0 CLEC(s)

The CLECs will use this document to understand the breadth and depth of the test.

6.0 Department of Justice

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

7.0 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-MA and the CLECs will provide suitable resources in sufficient numbers to assist KPMG and the CLEC Test Transaction Generator with the evaluation effort and on-going work center support.
- BA-MA will provide access to appropriate documentation.
- BA-MA will provide the necessary resources, facilities, and support to set up the Test Transaction Generator and the test bed required to execute the tests (e.g., office space; equipment; IDs; security access; customer accounts and addresses; and RSIDs.)
- BA-MA will process test transactions as part of normal processing including the provisioning of scenarios / test cases.
- BA-MA and the CLECs will provide the facilities required to execute the live scenarios.
- BA-MA and the CLECs will allow KPMG to observe retail and wholesale processes on-site during the evaluation effort.
- BA-MA and the CLECs will give KPMG access to historical data and current operational reports, as needed, to complete the evaluation.
- BA-MA will allow KPMG to inspect algorithms that may have a bearing on parity access, such as the algorithm used to manage trouble reports.
- BA-MA will maintain a stable environment for the duration of the evaluation.
- All stakeholders identified in the preceding section agree with and commit to supporting efforts as outlined in the responsibilities matrix found in Table IX-4 of Section IX, Phase 3 Overview.
- 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 the 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 in a test environment. Examples include orders with very long interval periods, high volumes of test provisioning transactions or the Network Design Review (NDR) process. 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-MA with respect to the order types and processes in question. The Domain 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 DTE. The DTE will make the final decision regarding the disposition of such tests.
- Operational, time and resource constraints make it impossible to construct a feasible, 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 Phase 3 plan to amend or extend the test coverage if, in the judgment of the DTE, an amendment or extension is deemed justified.
- It is not practical or desirable to execute certain live tests that would disrupt service to BA-MA or CLEC customers. An example would be an M&R test that requires an equipment failure. BA-MA performance for these test cases will be evaluated by other means. The Domain Test 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.

Table II-1 Document Overview

Sect. No.	Section	Content
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 acquistion, and traceability.
IV	Pre-Ordering, Ordering, and Provisioning Domain Test Section	Describes the methodologies to be applied directly to the pre-ordering, ordering, and provisioning domain.
V	Maintenance and Repair Domain Test Section	Describes the methodologies to be applied directly to the maintenance and repair domain.
VI	Billing Domain Test Section	Describes the methodologies to be applied directly to billing domain.
VII	Relationship Management and Infrastructure Domain Test Section	Describes the methodologies to be applied to evaluating activities and processes in the relationship management and infrastructure test domain.
VIII	Process Performance Measures Test Section	Describes the methodologies to be applied to the testing of process performance metrics domain.
IX	Phase 3 Overview	Describes the roles and responsibilities, testing deliverables, and testing controls of Phase 3.
Appendix A	Test Scenarios	Describes the scenarios for use in Phase testing.
Appendix B	Metrics	Lists metrics included in test: • Consolidated Ar.bitration • Supplemental 271 Measures • DTE Letter Order (11/19/99) Attachment A
Appendix C	Glossary	Testing terms and definitions used in this document.
Appendix D	MA DTE Letter Order (11-19-99)	Letter order from the MA DTE finalizing this MTP.

III. Test Plan Framework

The overall test of BA-MA'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 in order to stage a successful, efficient, and objective test.

The MA DTE issued a Letter Order on 11/19/99 finalizing this MTP (see Appendix D). The Order addresses concerns raised by CLECs in comments submitted to the DTE on the draft MTP released 09/13/99. The Order directs KPMG to incorporate changes outlined. Some of these changes are explicit in this document other are implicit. The Letter Order is therefore incorporated here by reference.

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

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

The test scenarios and the test domains define **what is to be tested**. *Test scenarios* provide the contextual basis for testing by defining the transactions, products, volumes, data elements, and other variables that must be considered and included during testing. The *test domains* organize and define the systems and processes to be tested.

Test processes and evaluation criteria define **how testing will be conducted**. *Test processes* define the techniques, measures, inputs, activities, and outputs of each component test. *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 Scenarios

The test scenarios describe realistic situations in which CLECs purchase wholesale services and network elements from BA-MA to be resold or repackaged to the CLEC's end-user customer on a retail basis. The key principles applied in generating the test scenarios included: (1) emulating real world

coverage, mix, and types of transactions 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 which will be used to create test cases.

1.0 Test 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 for developing "real world" test cases to simulate live production in a controlled test environment. These scenarios will be used to test functionality, performance, and other attributes associated with the ability of CLECs to access information from BA-MA business processes and associated systems. Scenarios provide a way to bridge across test domains, 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 Test Scenario Use

Variables will be introduced into the test scenarios to create a number of test "situations." Types of variables include errors (e.g., invalid USOCs), supplements (e.g., changes to an order), and Maintenance and Repair test situations. Tests may also vary by the type of features that are requested. For example, the test scenario may specify call waiting as a feature but the test situation may use caller ID instead of call waiting. The test situations may also vary the timing and sequence of the transactions.

Detailed test cases will be generated from these test situations. Volumes must be assigned to each of the test cases based on complexity and expected real world production. While more complex scenarios are expected to occur with less frequency, test case generation must ensure that the more complex and high value cases do occur to obtain adequate coverage.

B. Test Domains

The areas subject to testing have been organized into five domains:

- Pre-Ordering, Ordering, and Provisioning (POP)
- Maintenance and Repair (M&R)
- Billing (BLG)
- Relationship Management and Infrastructure (RM&I)
- Performance Metrics Reporting (PMR)

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

Within each of these test domains, specific targets have been identified for testing. Examples of test targets include application systems (e.g., RETAS), business processes (e.g., daily usage feeds), management practices (e.g., change management), and documents (e.g., CLEC Handbook). Additionally, for each of the test targets, the processes, sub-processes, and attributes which are to be included for testing within each target are specified.

C. Test Processes

Within each of the five domains, 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 which utilize 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-MA historical data), the system components under test (e.g., application-to-application interfaces, graphical user interfaces), and volumes (e.g., normal, peak, and stress).

Transaction-driven system analysis is to be utilized extensively in the following three domains:

- Pre-Ordering, Ordering, and Provisioning
- Maintenance and Repair
- Billing

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. Evaluation Criteria

Measures and their 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.

Evaluation criteria are defined by four types, as described below.

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 where a range of quality values is possible, such as level of customer satisfaction.	Documentation defining daily usage 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-MA 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-MA'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, DTE regulations, federal and state statutes, and other binding requirements resulting from judicial or governmental proceedings.
DTE's Performance Assurance Plan	Norms, benchmarks and standards found in the MA DTE's Performance Assurance Plan as defined in DTE's 11/19/99 Letter Order

Evaluation Criteria Source Types	Description
Good Management Practices (GMP)	Widely recognized standards and guidelines promulgated by sanctioned industry and governmental organizations and other bodies (e.g., Telecommunications and Industry Forum); also includes benchmarks, performance goals, and guidelines derived from industry and topic area experts, BA-MA and CLEC performance targets, publications, academic journals and other sources.

E. Test Process Elements

For every test defined within each domain, the process includes a description of the test, its objectives, the targets and scope of the test, the measures to be used, the test scenarios which apply to the test, the test's inputs, activities, and outputs, as well as 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 Test Plan must be approved by the DTE.

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 which allow testing to proceed. Any necessary legal or regulatory approvals must be secured.

3. **The DTE has verified relevant measurements to be used in the test.**

   The DTE's "Performance Assurance Plan" measures as described in the DTE's Letter Order (11/19/1999) are the relevant measures. BA-MA must provide necessary data to support the collection of test results in this area.

4. **All required BA-MA 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 EDI and GUI interface capabilities must be operational.

5. **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 or hiring of necessary personnel, and any other appropriate measures in order to facilitate test implementation.

   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.	DTE
All legal dependencies have been resolved.	BA-MA, DTE
Resolutions to legal dependencies approved.	DTE
The DTE has verified relevant measurements to be used in the test.	DTE
Testing Software must be operationally ready.	KPMG
CLEC facilities and personnel are available to support the CLEC elements of the Test Plan.	CLEC

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 which 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.
Inspections and Interviews	Physical review of process activities and products, including site visits, walkthroughs, read-throughs, and work center observations. Interviews with represetatives holding operational and management responsibilities.
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.

F. Military-style Test Philosophy

This test, like that conducted in New York, will be conducted with a military-style test philosophy. The idea is to report problems discovered during the test so there is an opportunity to correct those problems and, where feasible, to conduct a retest or follow on assessment. The test process will work as follows:

- If a problem is encountered during the conduct of a test described in this document, KPMG will inform the MA DTE and BA-MA.
- BA-MA will submit formal response to the problem identified by KPMG. This will describe either a clarification of the issue or BA-MA's intended fix(es) to the problem.
- Once BA-MA's intended fix(es) are completed KPMG will retest as required; if the fix has not resolved the issues the repair and retest cycle will be repeated within the planned project schedule.
- KPMG will document and report on the activities associated with identified problems.

- KPMG, in consultation with the DTE, may determine that certain areas will not be subject to further re-testing, as in the case of a fix which requires a long lead time.

IV. Pre-Ordering, Ordering, and Provisioning Domain Test Section

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-MA's support for Pre-Ordering, Ordering, and Provisioning activities for Wholesale. The purpose of the specified tests is to evaluate functionality, to evaluate compliance with measurement agreements, and to provide a basis for comparing this operational area to parallel systems and processes supporting BA-MA's Retail Operations.

B. Organization

The Pre-Ordering, Ordering, and Provisioning (POP) Domain is comprised of 9 primary Test Target Areas. These Test Target Areas include:

1. Pre-Ordering
2. Order Processing
3. Provisioning
4. Order "Flow Through"
5. POP Documentation
6. Work Center / Help Desk Support
7. Provisioning Process Parity
8. Provisioning Coordination Process
9. Capacity Management Review

Each Test Target Area is further broken down in the "Scope" section that follows into a number of increasingly discrete Process and Sub Process Areas that serve to identify the particular area of interest to be tested and the types of measures that apply.

In the POP Domain there is not a one-to-one correspondence between the Test Target Areas and the Test Processes. One or more tests have been developed to evaluate each Test Target Area dependent on the scope of the testing required in each area. Each specific test is described in Section D – Test Processes.

In an effort to simulate the end-to-end process, the first three Test Target Areas (Pre-Ordering, Order Processing, and Provisioning) will be components of the following Test Processes:

- POP1: EDI Functional Evaluation and "Volume Performance Test"
- POP2: GUI Functional Evaluation and "Volume Performance Test"

In addition to those listed above, Test Processes will also be defined for the following:

- POP3: Order "Flow Through" Evaluation
- POP4: POP Documentation Review
- POP5: Work Center / Help Desk Support Evaluation
- POP6: Provisioning Parity Process Evaluation
- POP7: Provisioning Coordination Process Evaluation
- POP8: Capacity Management Review

C. Scope

The purpose of this section is to identify the system, process, and document areas that will be tested within the Pre-Ordering, Ordering, and Provisioning Domain Test Processes.

The POP domain will be tested using end-to-end test cases. Pre-Ordering and Ordering transactions will be interspersed. The GUI and the EDI interfaces will be tested. Orders will be issued using both the ASR and LSR format.

The following order types will be tested:

- Migrate "as is"
- Migrate "as is" with changes
- Migrate "as specified"
- New
- Change
- Suspend / Restore
- Disconnect
- Inside Move
- Outside Move
- Change to New Local Service Provider
- UNE Loop Cut Over

The following delivery methods will be tested:

- Resale
- UNE Platform

- UNE

Directory listing activities will also be tested. All ordering activities identified as flow-through by BA-MA will be tested to ensure they are flow-through. Flow-through transactions are those order transactions which do not require manual handling by a BA-MA TISOC representative.

Transactions will be submitted with known error conditions. Supplements and Cancels will also be tested. Transactions will be submitted during normal CLEC / reseller interface operational hours, as documented by BA-MA.

Multiple products and features will be tested. The tests will cover a broad range of the options available to CLECs and resellers. A cross reference of scenarios to product family (high level grouping of service type) is available in Appendix A.

More than one end-office and more than one city will be tested. Service locations supported by different BA-MA ordering, provisioning, and CO switching and transmission configurations will be tested.

Only a portion of the test cases will be physically provisioned. Some orders will be future dated, allowing them to be canceled prior to work scheduling and provisioning.

Both the EDI interface and the GUI interface will be tested. It is anticipated that, in the future, the primary interface for the larger CLECs for pre-order, ordering, and provisioning activities will be the EDI interface.

Documentation affecting the POP domain given to the CLECs and the resellers – including the CLEC Handbook, the Reseller Handbook, EDI and GUI training and other appropriate documentation – will be reviewed.

The work center / help desk will be evaluated for basic functionality, performance, escalation procedures, and security.

1.0 POP1: EDI Functional Evaluation and Volume Performance Test

1.1 Description

EDI will be tested through transactions generated via the test transaction generator (TTG). KPMG will also be responsible for recording the information required to produce the output reports. The EDI test will be composed of two components: 1) EDI Functional Evaluation 2) Volume Performance Test.

1.1.1 EDI Functional Evaluation

The EDI-Functional Evaluation will look at an end-to-end view of the service negotiation 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 monitor for

appropriate response transactions. Erred as well as error free transactions will be tested.

Not all orders will go through the physical provisioning process. Some will be canceled or supplemented before provisioning activities commence.

1.1.2 Volume Performance Test

As in the NY test, the MA Volume Performance Test will be a comprehensive review of the capabilities, response times, intervals, and other compliance measures for Pre-order and Order elements of the POP domain. This test will use projected transaction volumes for mid-year 2001, simulating normal, peak and stress volume conditions and coinciding with the RETAS performance test.

While transactions will be submitted throughout the entire three week period, it is anticipated that volume test will be run over four of these days.

1.2 Objective

The objective of the EDI Functional Evaluation and Volume Performance Test is to measure BA-MA's capability to meet agreed upon functionality and measures of service for pre-order, ordering, and provisioning, and to test BA-MA's ability to handle projected March-August 2001 preorder and order transaction volumes

1.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Identification of EDI data entry / response tracking techniques to be used	KPMG
The Test Transaction Generator Vendor must be operationally ready to support GUI	KPMG
BA-MA measurements available at the CLEC level	BA-MA
Test bed data bases and facilities in place and CSR's provisioned	BA-MA
Test Scenarios selected	KPMG
Specific Test Cases and expected results developed	KPMG
Detailed "Go / No Go" checklist created	KPMG
Specific Evaluation techniques developed	KPMG
Help Desk log and contact checklist developed	KPMG
Provisioning log and activity checklist developed	KPMG
Manual jeopardy / delay notification log developed	KPMG
Successful completion of QA / SRT testing	BA-MA, KPMG, DTE

Criteria	Responsible Party
Agreement on volumes and distribution by scenario and entry mode	KPMG, DTE
Test Scenarios selected	KPMG
Specific Test Cases developed	KPMG
Test Case execution schedule developed	KPMG

1.4 Test Scope

The scope for this test includes the following Test Target Area processes and sub-processes:

1.0 Pre-Ordering

The table below outlines the processes and sub-processes involved in evaluating BA-MA's Pre-Ordering functionality and performance.

Table IV-1 Test Target: Pre-Ordering

	Process Area	Sub-process	Evaluation Measures
1.	Submit Pre-Order transaction		Accessibility of interface
2.		Create copy of information usable for subsequent processing	Usability of response information
3.		Send address request using BTN (AN)	Presence of functionality
4.		Send address validation request using WTN	Presence of functionality
5.		Send address validation request using address	Presence of functionality
6.		Send integrated Pre-Order / Order transaction	Field name compatibility
7.			Field format compatibility
8.		Verify receipt of response	Presence of response
9.		Receive "match" response	Timeliness of response
10.			Accuracy and completeness of response
11.		Receive "near match" response	Timeliness of response
12.			Accuracy and completeness of response
13.		Receive error response	Timeliness of response
14.			Accuracy of response
15.			Clarity and completeness of error message
16.		Send CSR request using BTN (AN)	Presence of functionality
17.		Send CSR request using WTN	Presence of functionality
18.		Verify receipt of response	Presence of response

Table IV-1 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
19.		Receive "match" response	Timeliness of response
20.			Accuracy and completeness of response
21.		Receive error response	Timeliness of response
22.			Accuracy of response
23.			Clarity and completeness of error message
24.		Send TN request for a specific number(s)	Presence of functionality
25.		Send TN request for a random number(s)	Presence of functionality
26.		Send TN request for a range of specific numbers	Presence of functionality
27.		Verify receipt of response	Presence of response
28.		Receive available numbers response	Timeliness of response
29.			Accuracy and completeness of response
30.		Receive error response	Timeliness of response
31.			Accuracy of response
32.			Clarity and completeness of error message
33.		Send reservation request for a specific TN	Presence of functionality
34.		Send reservation request for a single TN	Presence of functionality
35.		Send reservation request for multiple TNs	Presence of functionality
36.		Verify receipt of response	Presence of response
37.		Receive confirmation response	Timeliness of response
38.			Accuracy and completeness of response
39.		Receive error response	Timeliness of response
40.			Accuracy of response
41.			Clarity and completeness of error message
42.		Send cancel or exchange reservation for a single TN	Presence of functionality
43.		Send cancel or exchange for multiple TNs	Presence of functionality
44.		Verify receipt of response	Presence of response
45.		Receive confirmation response	Timeliness of response
46.			Accuracy and completeness of response
47.		Receive error response	Timeliness of response
48.			Accuracy of response
49.			Clarity and completeness of error message
50.	Request available DID number block(s)	See sub-processes identified for "Request Available Telephone Number(s)" listed above	
51.	Reserve DID number block(s)	See sub-processes identified for "Reserve TN(s)" listed above	
52.	Cancel DID number block reservation	See sub-processes identified for "cancel TN reservation" listed above	

Table IV-1 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
53.		Send service availability request	Presence of functionality
54.		Determine PIC/LPIC availability	Presence of functionality
55.		Send Integrated Pre-Order/Order transaction	Field name compatibility
56.			Field format compatibility
57.		Verify receipt of response	Presence of response
58.		Receive availability response	Timeliness of response
59.			Accuracy of response
60.			Consistency with retail capability
61.		Receive error response	Timeliness of response
62.			Accuracy of response
63.			Clarity and completeness of error message
64.		Send loop qualification inquiry	Presence of functionality
65.		Send integrated Pre-Order/Order transaction	Field name compatibility
66.			Field format compatibility
67.		Verify receipt of response	Presence of response
68.		Receive loop qualification response	Timeliness of response
69.			Accuracy and completeness of response
70.			Consistency with retail capability
71.		Receive error response	Timelines of response
72.			Accuracy of response
73.			Clarity and completeness of error message
74.		Send xDSL loop qualification inquiry	Presence of functionality
75.		Send integrated Pre-Order/Order transaction	Field name compatibility
76.			Field format compatibility
77.		Verify receipt of response	Presence of response
78.		Receive xDSL loop qualification response	Timeliness of response
79.			Accuracy and completeness of response
80.			Consistency with retail capability
81.		Receive error response	Timeliness of response
82.			Accuracy of response
83.			Clarity and completeness of error message
84.	Request access billing customer service record	Create CABS CSR (CCSR) request	Clarity, accuracy, and completeness of documentation
85.		Send CCSR request using BAN	Presence of functionality
86.		Send CCSR request using TN	Presence of functionality
87.		Send CCSR request for the Service and Feature section	Presence of functionality
88.		Send CCSR request for the Accoutn Summary section	Presence of functionality
89.		Send CCSR request for the Account ID section	Presence of functionality

Table IV-1 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
90.		Send CCSR request for the Remarks section	Presence of functionality
91.		Verify receipt of response	Presence of response
92.		Receive "match" response	Timeliness of response
93.			Accuracy and completeness of response
94.		Receive error response	Timeliness of response
95.			Accuracy of response
96.			Clarity and completneess of error message
97.		Send installation status request	Presence of functionality
98.		Verify receipt of repsonse	Presence of response
99.		Receive installation status response	Timeliness of repsonse
100.			Accuracy and completeness of response
101.			Consistency with retail cabaility
102.		Receive error response	Timelinessof response
103.			Accuracy of response
104.			Clarity and completeness of error message
105.		Send service order from SOP request	Presence of functionality
106.		Verify receipt of response	Presence of response
107.		Receive service order from SOP response	Timeliness of response
108.			Accuracy and completeness of response
109.			Consistency with retail capability
110.		Receive error response	Timeliness of response
111.			Accuracy of response
112.			Clarity and completeness of error message
113.		Send directory listing inquiry	Presence of functionality
114.		Send integrated Pre-Order / Order transaction	Field name compatibility
115.			Field format compatibility
116.		Verify receipt of response	Presence of response
117.		Receive directory listing response	Timeliness of response
118.			Accuracy and completeness of response
119.		Receive error response	Timeliness of repsonse
120.			Accuracy of response
121.			Clarity and completeness of error message
122.		Send Scheduling and Availabilty inquiry	Presence of functionality
123.		Send integrated Pre-Order / Order transaction	Field name compatibility
124.			Field format compatibility
125.		Verify receipt of response	Presence of response
126.		Receive Scheduling and Avaliability response	Timeliness of response
127.			Accuracy and completeness of response
128.		Receive error response	Timeliness of repsonse
129.			Accuracy of response
130.			Clarity and completeness of error message

Table IV-1 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
131.		Send reservation maintenance inquiry	Presence of functionality
132.		Verify receipt of response	Presence of response
133.		Receive reservation maintenance response	Timeliness of response
134.			Accuracy and completeness of response
135.		Receive error response	Timeliness of repsonse
136.			Accuracy of response
137.			Clarity and completeness of error message
138.		Send maintenance modification inquiry	Presence of functionality
139.		Verify receipt of response	Presence of response
140.		Receive maintenance modification response	Timeliness of response
141.			Accuracy and completeness of response
142.		Receive error response	Timeliness of repsonse
143.			Accuracy of response
144.			Clarity and completeness of error message
145.	Follow up on delayed Pre-Order activities	Contact pre-ordering work center help desk	Timeliness of answer Availability of support
146.		Request status of response	Timeliness of response
147.			Accuracy and completeness of response
148.		Escalate request for information	Accuracy and completeness of procedures
149.			Compliance to procedures
150.	Request pre-order transaction population support	Contact appropriate work center or help desk	Timeliness of answer
151.			Availability of support
152.		Ask question	Timeliness of response
153.			Accuracy and completeness of response
154.	Request pre-order error correction support	Contact appropriate work center or help desk	Timeliness of answer
155.			Availability of support
156.		Ask question	Timeliness of response
157.			Accuracy and completeness of response

2.0 Order Processing

The table below outlines the processes and sub-processes involved in evaluating BA-MA's Ordering functionality and performance.

Table IV-2 Test Target: Ordering

	Process Area	Sub-process	Evaluation Measures
1.	Submit order		Accessibility of interface
2.		Send order transaction	Presence of functionality
3.		Send expedited order transaction	Presence of functionality
4.		Receive acknowledgment of request	Timeliness of response
5.			Accuracy and completeness of response
6.		Verify receipt of response	Presence of response
7.		Receive confirmation of request (LSC)	Timeliness of response
8.			Accuracy and completeness of response
9.		Receive error / reject notification	Timeliness of response
10.			Accuracy of response
11.			Clarity and completness of error message
12.		Receive acceptance of expedited due date	Timeliness of response
13.			Accuracy and completeness of response
14.		Receive rejection of expedited due date request	Timeliness of response
15.			Accuracy and completeness of response
16.		Send supplement	Presence of functionality
17.		Receive acknowledgement of supplement	Timeliness of response
18.			Accuracy and completeness of response
19.		Verify receipt of response	Presence of response
20.		Receive confirmation of supplement	Timeliness of response
21.			Accuracy of response
22.		Receive error / reject notification	Timeliness of response
23.			Accuracy of response
24.			Clarity and completeness of error message
25.	View completed order information	Inquire on completed order	Presence of functionality
26.			Consistency with retail capability
27.	Follow Up on delayed order activities	Contact ordering work center help desk	Timeliness of answer
28.			Availability of support
29.		Request status of response	Timeliness of response
30.			Accuracy and completeness of repsonse
31.		Escalate request for information	Accuracy and completeness of procedures
32.			Compliance to procedures
33.		Monitor closure of request	Completeness and accuracy of follow-up
34.			Timeliness of answer
35.	Request order population support	Contact appropriate work center or help desk	Availability of support
36.		Ask question	Timeliness of response

37.			Accuracy and completeness of response
38.	Request order error correction support	Contact appropriate work center or help desk	Timeliness of answer
39.			Availability of support
40.		Ask question	Timeliness of response
41.			Accuracy and completeness of response

3.0 Provisioning

The table below outlines the processes and sub-processes involved in evaluating BA-MA's provisioning interface functionality and performance.

Table IV-3 Test Target: Provisioning

	Process Area	Sub-process	Evaluation Measures
1.	Receive completion notification	Receive completion notification transaction	Timeliness of response
2.			Timeliness of dates
3.			Accuracy of data
4.		Match response to order transaction and confirmation	Accuracy of provisioning
5.		Verify receipt of completion notification	Completion notification received for all transactions
6.	Receive jeopardy notification	Receive jeopardy notification	Timeliness of notification
7.			Timeliness of dates
8.			Accuracy of data
9.			Frequency of notification
10.		Identify reason for jeopardy	Accuracy of response
11.		Monitor follow-up activities	Timeliness of closure
12.			Compliance with procedures
13.	Receive delay notification	Receive delay notification transaction	Timeliness of response
14.			Timeliness of dates
15.			Accuracy of data
16.			Frequency of delay
17.		Match response to transaction	Accuracy of response
18.		Identify reason for delay	Accuracy of response
19.	Follow up on delayed provisioning activities	Contact provisioning work center help desk	Timeliness of answer
20.			Availability of support
21.		Request status of response or delay	Accuracy of response
22.			Completeness of response
23.			Timeliness of response
24.		Escalate request for information	Accuracy and completeness of procedures
25.			Compliance to procedures
26.		Escalate request for provisioning	Accuracy and completeness of procedures
27.			Compliance to procedures
28.		Monitor to closure	Timeliness of closure
29.			Compliance to procedures

1.5 Scenarios

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

1.6 Test Approach

KPMG will utilize various pre-order and order transactions. EDI transaction test cases and test instances will be developed based on the POP Test Scenarios in this Master Test Plan (MTP). The objective of the test is to validate the accuracy, completeness, and behavior of the EDI interface of BA-MA for pre-ordering and ordering transaction requests and responses.

EDI Functional Evaluation

KPMG will conduct a comprehensive test covering all products and transactions.

Volume Performance Test

KPMG will conduct an EDI Volume Performance Test covering Pre-Order and Order transactions. KPMG will conduct normal, peak, and stress volume testing.

For the Massachusetts test, the following steps will be performed:

1.6.1 Inputs

1. Test bed resources (including CSR's)
2. Test cases and expected results
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
7. Provisioning log and activity checklists
8. Manual jeopardy / delay notification log

1.6.2 Activities

1. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s).
2. Receive transaction responses via EDI. Receipt date, time, response transaction type, and response condition (valid vs. reject) are logged.

3. Submit and monitor manual orders if required. Submittal date, time and appropriate transaction information are logged. Receipt date, time, response transaction type, and response condition (valid vs. reject) are logged.
4. Match transaction response to original transaction. Verify matching transaction can be found and record mismatches.
5. Verify transaction response contains expected data and flag non-expected errors.
6. Manually review non-expected errors. Identify error source (KPMG or BA-MA). Identify and log reason for the error. Determine if test should be discontinued.
7. Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and other behavior of functions as identified on the help desk checklist.
8. Correct expected errors. Re-submittal date, time, and appropriate information are logged.
9. 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.
10. Review status of pending orders. Verify and record accuracy of response.
11. Jeopardy and delay notifications are recognized and logged. Any jeopardy or delay notifications not received electronically are logged using the jeopardy / delay notification log.
12. Perform joint testing. Record results using appropriate provisioning log and activity checklist.
13. Verify correct provisioning on a sampling of orders that have been completed. Record results in appropriate provisioning log and activity checklist.
14. Generate “Pseudo CLEC” reports.

1.6.3 Outputs

1. Reports that provide metrics on the Performance Assurance Plan standards.
2. Variance between actual test performance and the Performance Assurance Plan standards
3. Report of expected results versus actual results
4. Rejects received after confirmation notification and percentage of total
5. Report of non-expected errors categorized by type of problem.
6. Transaction counts, error ratio, response time, etc. by transaction type, product family and delivery method
7. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
8. Transaction counts per response time/interval range per transaction set
9. Orders erred after initial confirmation
10. Completed help desk logs and checklists
11. Completed provisioning logs and checklists
12. Completed jeopardy / delay notification logs
13. Perform joint provisioning; Record result using appropriate provisioning log and activity checklist.
14. Help desk accuracy and timeliness report
15. Provisioning accuracy and timeliness report
16. TTG measurement reports
17. Summary Report

1.7 Exit Criteria

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

2.0 POP2: GUI Functional Evaluation and Volume Performance Test

2.1 Description

The GUI Functional Evaluation and Volume Performance Test is a comprehensive review of all of the functional elements of Pre-Ordering, Ordering, and Provisioning as delivered through the GUI interface. The GUI test will be composed of two components:

1. GUI Functional Evaluation
2. GUI Volume Performance Test

The GUI will be tested through transactions either entered manually or generated through animated screen capability. KPMG will be responsible for recording the information required to produce the output reports.

2.1.1 GUI Functional Evaluation

The GUI-Functional Evaluation will look at an end-to-end view of the service negotiation 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. The work center testers will monitor for appropriate response transactions, including provisioning transactions. Erred as well as error-free transactions will be tested.

Not all orders may go through the physical provisioning process. Some maybe future dated, and others will be canceled before provisioning activities commence.

2.1.2 Volume Performance Test

The MA Volume Performance Test will be a comprehensive review of the capabilities, response times, intervals, and other compliance measures for Pre-order and Order elements of the POP domain. This test will use projected transaction volumes for mid-year 2001, simulating normal, peak and stress volume conditions coinciding with the RETAS performance test.

While transactions will be submitted throughout the entire three week period, it is anticipated that volume test will be run over only four of these days.

2.2 Objective

The objective of this test is to validate the accuracy, completeness, and behavior of the BA-MA's GUI interface for pre-ordering, ordering requests and responses.

2.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3

Criteria	Responsible Party
Identification of GUI data entry / response tracking techniques to be used	KPMG
The Test Transaction Generator Vendor must be operationally ready to support GUI	KPMG
BA-MA GUI interface tested and up to the standards required for the test	BA-MA
GUI interface facilities between "Pseudo CLEC" and BA-MA in place and tested	BA-MA, KPMG
GUI security and IDs established for work center personnel	BA-MA, KPMG
Multiple GUI workstations in place	KPMG
BA-MA measurements available at the CLEC level	BA-MA
Test bed data bases and facilities in place and CSR's provided	BA-MA
Test Scenarios selected	KPMG
Specific Test Cases and expected results developed	KPMG
Detailed "Go / No Go" checklist created	KPMG
Specific Evaluation techniques developed	KPMG
Help Desk log and contact checklist	KPMG
Provisioning log and activity checklist	KPMG
Manual jeopardy / delay notification log	KPMG

2.4 Test Scope

The scope for this test includes the following Test Target Area processes and sub-processes:

1.0 Pre-Ordering

The table below outlines the processes and sub-processes involved in evaluating BA-MA's Pre-Ordering functionality and performance.

Table IV-1 Test Target: Pre-Ordering

	Process Area	Sub-process	Evaluation Measures
1.	Submit Pre-Order transaction		Accessibility of interface
2.		Create copy of information usable for subsequent processing	Usability of response information
3.		Send address request using BTN (AN)	Presence of functionality
4.		Send address validation request using WTN	Presence of functionality
5.		Send address validation request using address	Presence of functionality
6.		Verify receipt of response	Presence of response
7.		Receive "match" response	Timeliness of response
8.			Accuracy and completeness of response
9.		Receive "near match" response	Timeliness of response
10.			Accuracy and completeness of response
11.		Receive error response	Timeliness of response
12.			Accuracy of response
13.			Clarity and completeness of error message
14.		Send CSR request using BTN (AN)	Presence of functionality
15.		Send CSR request using WTN	Presence of functionality
16.		Verify receipt of response	Presence of response
17.		Receive "match" response	Timeliness of response
18.			Accuracy and completeness of response
19.		Receive error response	Timeliness of response
20.			Accuracy of response
21.			Clarity and completeness of error message
22.		Send TN request for a specific number(s)	Presence of functionality
23.		Send TN request for a random number(s)	Presence of functionality
24.		Send TN request for a range of specific numbers	Presence of functionality
25.		Verify receipt of response	Presence of response
26.		Receive available numbers response	Timeliness of response
27.			Accuracy and completeness of response
28.		Receive error response	Timeliness of response
29.			Accuracy of response
30.			Clarity and completeness of error message

Table IV-1 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
31.		Send reservation request for a specific TN	Presence of functionality
32.		Send reservation request for a single TN	Presence of functionality
33.		Send reservation request for multiple TNs	Presence of functionality
34.		Verify receipt of response	Presence of response
35.		Receive confirmation response	Timeliness of response
36.			Accuracy and completeness of response
37.		Receive error response	Timeliness of response
38.			Accuracy of response
39.			Clarity and completeness of error message
40.		Send cancel or exchange reservation for a single TN	Presence of functionality
41.		Send cancel or exchange for multiple TNs	Presence of functionality
42.		Verify receipt of response	Presence of response
43.		Receive confirmation response	Timeliness of response
44.			Accuracy and completeness of response
45.		Receive error response	Timeliness of response
46.			Accuracy of response
47.			Clarity and completeness of error message
48.		Send service availability request	Presence of functionality
49.		Determine PIC/LPIC availability	Presence of functionality
50.		Verify receipt of response	Presence of response
51.		Receive availability response	Timeliness of response
52.			Accuracy of response
53.			Consistency with retail capability
54.		Receive error response	Timeliness of response
55.			Accuracy of response
56.			Clarity and completeness of error message
57.		Send loop qualification inquiry	Presence of functionality
58.		Verify receipt of response	Presence of response
59.		Receive qualification response	Timeliness of response
60.			Accuracy and completeness of response
61.			Consistency with retail capability
62.		Receive error response	Timelines of response
63.			Accuracy of response
64.			Clarity and completeness of error message
65.		Send xDSL loop qualification inquiry	Presence of functionality
66.		Verify receipt of response	Presence of response
67.		Receive qualification response	Timeliness of response
68.			Accuracy and completeness of response
69.			Consistency with retail capability

Table IV-1 Test Target: Pre-Ordering

	Process Area	Sub-process	Evaluation Measures
70.		Receive error response	Timelines of response
71.			Accuracy of response
72.			Clarity and completeness of error message
73.		Send schedule and availabilyt inquiry	Presence of functionality
74.		Verify receipt of response	Presence of response
75.		Receive qualification response	Timeliness of response
76.			Accuracy and completeness of response
77.			Consistency with retail capability
78.		Receive error response	Timelines of response
79.			Accuracy of response
80.			Clarity and completeness of error message
81.		Send reservation maintenance inquiry	Presence of functionality
82.		Verify receipt of response	Presence of response
83.		Receive qualification response	Timeliness of response
84.			Accuracy and completeness of response
85.			Consistency with retail capability
86.		Receive error response	Timelines of response
87.			Accuracy of response
88.			Clarity and completeness of error message
89.		Send reservation maintenece modification inquiry	Presence of functionality
90.		Verify receipt of response	Presence of response
91.		Receive qualification response	Timeliness of response
92.			Accuracy and completeness of response
93.			Consistency with retail capability
94.		Receive error response	Timelines of response
95.			Accuracy of response
96.			Clarity and completeness of error message
97.		Send access billing customer service record request	Presence of functionality
98.		Verify receipt of response	Presence of response
99.		Receive valid response	Timeliness of response
100.			Accuracy and completeness of response
101.			Consistency with retail capability
102.		Receive error response	Timeliness of response
103.			Accuracy of response
104.			Clarity and completeness of error message
105.		Send installation status request	Presence of functionality
106.		Verify receipt of repsonse	Presence of response
107.		Receive installation status response	Timeliness of repsonse
108.			Accuracy and completeness of response
109.			Consistency with retail cabaility
110.		Receive error response	Timelinessof response

Table IV-1 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
111.			Accuracy of response
112.			Clarity and completeness of error message
113.		Send service order from SOP request	Presence of functionality
114.		Verify receipt of response	Presence of response
115.		Receive valid response	Timeliness of response
116.			Accuracy and completeness of response
117.			Consistency with retail capability
118.		Receive error response	Timeliness of response
119.			Accuracy of response
120.			Clarity and completeness of error message
121.		Send directory listing inquiry	Presence of functionality
122.		Verify receipt of response	Presence of response
123.		Receive Directory Listing response	Timeliness of response
124.			Accuracy and completeness of response
125.		Receive error response	Timeliness of repsonse
126.			Accuracy of response
127.			Clarity and completeness of error message

2.0 Order Processing

The table below outlines the processes and sub-processes involved in evaluating BA-MA's Ordering functionality and performance.

Table IV-2 Test Target: Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
1.	Submit order		Accessibility of interface
2.		Send order transaction	Presence of functionality
3.		Send expedited order transaction	Presence of functionality
4.		Receive acknowledgment of request	Timeliness of response
5.			Accuracy and completeness of response
6.		Verify receipt of response	Presence of response
7.		Receive confirmation of request (LSC)	Timeliness of response
8.			Accuracy and completeness of response
9.		Receive error / reject notification	Timeliness of response
10.			Accuracy of response
11.			Clarity and completness of error message
12.		Receive acceptance of expedited due date	Timeliness of response
13.			Accuracy and completeness of response

14.		Receive rejection of expedited due date request	Timeliness of response
15.			Accuracy and completeness of response
16.	Supplement an order	Send supplement	Presence of functionality
17.		Receive acknowledgement of supplement	Timeliness of response
18.			Accuracy and completeness of response
19.		Verify receipt of response	Presence of response
20.		Receive confirmation of supplement	Timeliness of response
21.			Accuracy of response
22.		Receive error / reject notification	Timeliness of response
23.			Accuracy of response
24.			Clarity and completeness of error message
25.	View completed order information	Inquire on completed order	Presence of functionality
26.			Consistency with retail capability

3.0 Provisioning

The table below outlines the processes and sub-processes involved in evaluating BA-MA's provisioning interface functionality and performance.

Table IV-3 Test Target: Provisioning

	Process Area	**Sub-process**	**Evaluation Measures**
1.	Receive design documents	Receive circuit layout (CLR)	Timeliness of response
2.			Timeliness of dates
3.			Accuracy of data
4.		Receive Design Layout (DLR)	Timeliness of response
5.			Timeliness of dates
6.			Accuracy of data
7.		Verify receipt of response	Response received for all transactions
8.		Receive transaction response	Accuracy and completeness of response
9.		Determine status of transaction response	Accuracy and completeness of capability
10.	Receive completion notification	Receive completion notification transaction	Timeliness of response
11.			Timeliness of dates
12.			Accuracy of data
13.		Match response to order transaction and confirmation	Accuracy of provisioning
14.		Verify receipt of completion notification	Completion notification received for all transactions
15.	Receive jeopardy notification	Receive jeopardy notification	Timeliness of notification
16.			Timeliness of dates
17.			Accuracy of data
18.			Frequency of notification
19.		Identify reason for jeopardy	Accuracy of response
20.		Monitor follow-up activities	Timeliness of closure
21.			Compliance with procedures
22.	Receive delay notification	Receive delay notification transaction	Timeliness of response
23.			Timeliness of dates
24.			Accuracy of data

25.			Frequency of delay
26.		Match response to transaction	Accuracy of response
27.		Identify reason for delay	Accuracy of response
28.	Follow up on delayed provisioning activities	Contact provisioning work center help desk	Timeliness of answer
29.			Availability of support
30.		Request status of response or delay	Accuracy of response
31.			Completeness of response
32.			Timeliness of response
33.		Escalate request for information	Accuracy and completeness of procedures
34.			Compliance to procedures
35.		Escalate request for provisioning	Accuracy and completeness of procedures
36.			Compliance to procedures
37.		Monitor to closure	Timeliness of closure
38.			Compliance to procedures

2.5 Scenarios

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

2.6 Test Approach

KPMG will utilize various pre-order and order transactions in this test. GUI transaction test cases and test instances will be developed based on the POP Test Scenarios in the Master Test Plan (MTP). The objective of this test is to validate the accuracy, completeness, and behavior of the of BA-MA's GUI interface for pre-ordering and ordering transaction requests and responses.

KPMG will conduct a test focusing on GUI transactions using MA-specific business rules.

For the Massachusetts test, the following steps will be performed:

2.6.1 Inputs

1. Test bed resources (including CSR's)
2. Test cases and expected result
3. Test case execution schedule
4. Documentation (CLEC Handbook, Reseller Handbook, etc.)
5. Trained personnel to execute test cases
6. Test "Go / No Go" checklist
7. Help Desk log and contact checklists
8. Provisioning log and activity checklists
9. Manual jeopardy / delay notification log

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 via the TTG. Submittal date, time and appropriate transaction information logged by KPMG.
3. Receive transaction responses via the TTG. Receipt date, time, response transaction type, and response condition (valid vs. reject) logged by KPMG.
4. Match transaction response to original transaction. KPMG verifies matching transaction can be found and records mismatches.
5. KPMG verifies transaction response contains expected data and flags non-expected errors.
6. Manually review non-expected errors. Identify error source (KPMG or BA-MA). Identify and log reason for the error. Determine if test should be discontinued.
7. Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and other behavior of functions as identified on the help desk checklist.
8. Correct expected errors via manual input. Re-submittal date, time, and appropriate information logged by KPMG.
9. 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.
10. Review status of pending orders. Verify and record accuracy of response.
11. Jeopardy and delay notifications are recognized and logged. Any jeopardy or delay notifications not received electronically are logged using the jeopardy / delay notification log.
12. Perform joint testing. Record results using appropriate provisioning log and activity checklist.

13. Perform joint provisioning. Record results using appropriate provisioning log and activity checklist.
14. Test completion on a sampling of the orders that have been provisioned. Record results in appropriate provisioning log and activity checklist.
15. Generate “Pseudo CLEC” reports.
16. Generate BA-MA Metrics report for test date range.
17. Compare “Pseudo CLEC” metrics to BA-MA retail metrics.

2.6.3 Outputs

1. BA-MA metrics reports
2. Reports that provide the metrics on the Performance Assurance Plan standards
3. Variance between actual performance and the Performance Assurance Plan standards
4. Report of expected results versus actual test case results
5. Non-expected error count by type and percentage of total
6. Report of non-expected errors as the result of documentation problems
7. Rejects received after confirmation notification and percentage of total
8. Transaction counts, error ratio, response time, etc. by transaction type, product family and delivery method
9. Orders erred after initial confirmation
10. Number of orders that “flowed through” orders by order type, product family, etc.
11. Completed help desk logs and checklists
12. Completed provisioning logs and checklists
13. Completed jeopardy / delay notification logs
14. Help desk accuracy and timeliness report
15. Provisioning accuracy and timeliness report
16.. KPMG measurement reports
17. Summary report

2.7 Exit Criteria

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

3.0 POP3: Order "Flow Through" Evaluation

3.1 Description

The Order "Flow Through" Evaluation tests the ability of mechanized orders to flow through from the CLEC to the interface into the Bell Atlantic – Massachusetts (BA-MA) ordering system without any manual intervention. The Order "Flow Through" Evaluation has three components:

1. "Achieved" Flow Through Test
2. "Commercial" Flow Through Test
3. Flow Through "Parity" Test

3.1.1 Achieved Flow Through Test Description

For the Achieved Order Flow Through test, only flow through eligible orders as specified by Bell Atlantic will be tested.

Flow through orders will be submitted through both the GUI and the EDI interfaces. Supplements and cancels that are considered to be flow through eligible will also be submitted. The order transactions will be monitored to verify that they do not "fall out" for manual handling in the BA-MA work center.

The only errors that will be introduced as a part of this test are those that should result in an automatic error/reject transaction without any manual intervention. Planned errors will not be corrected and re-submitted for purposes of this test.

This test will be conducted as a stand alone test using transactions generated as part of the EDI and GUI functional evaluations and volume testing.

3.1.2 Commercial Flow Through Test Description

KPMG will evaluate the "actual" order flow through process for a sample of CLEC UNE-P and UNE orders. KPMG orders will not be included in this sample. A thorough review of order flow through data from authentic CLEC orders will allow KPMG to determine the actual flow through rates for the selected sample. Actual flow through rate is the percentage of orders that flow through Level 5 compared to the total number of orders that are sent. In addition to determining the actual flow through rate for the sample of CLEC

orders, KPMG will identify and document the root cause of the orders falling out to Level 2 or Level 4, requiring manual intervention.

3.1.3 Flow Through Parity Test Description

Bell Atlantic will provide a detailed report on retail versus wholesale flow through eligibility. Bell Atlantic will develop this comparison based on the KPMG test scenarios. KPMG will review this report and comment on its validity.

3.2 Objective

The objective of the Achieved Flow Through Test is to verify the ability of BA-MA to process all order types it has identified as "Level 5 flow through" from the CLEC through the BA-MA front end system without manual intervention.

The objective of the Commercial Test is to determine the actual flow through rate for a sample of CLEC orders submitted. KPMG will also identify the root causes of the order fall-out.

The objective of the Flow Through Parity Test is to identify and compare the flow through eligibility of BA-MA retail and wholesale order types.

3.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Software available for transaction execution	KPMG
Test Scenarios selected	KPMG
Specific Test Cases developed	KPMG
Test Case execution schedule developed	KPMG
BA-MA manual order handling measures in place	BA-MA, KPMG, CLECs
Evaluation Criteria defined and approved	KPMG, DTE
CLEC Participants confirmed and approved	KPMG, DTE

3.4 Test Scope

The scope for this test includes the following Test Target Area processes and sub-processes:

The table below outlines the processes and sub-processes involved in evaluating the ability of orders to "flow through" BA-MA's front end system without manual intervention.

Table IV-4 Test Target: Order "Flow Through"

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Submit "Flow Through" Orders	Determine if order should "flow through"	Applicability as "flow through" based on BA documentation	Inspection	Quantitative
		Applicability as "flow through" in existing system	Inspection	Qualitative
	Submit "flow through" order through GUI	Accessibility of interface	Transaction Generation	Quantitative
	Submit "flow through" order through EDI	Accessibility of interface	Transaction Generation	Quantitative
Monitor "Flow Through" Order	Identify orders that did "flow through"	Compliance with "flow through" standards	Transaction Generation, Inspection, Logging	Quantitative
	Identify orders that did not "flow through"	Clarity of manual steps	Transaction Generation, Inspection, Logging	Quantitative
	Verify all orders were processed	Completeness of order processing	Logging	Quantitative
	Identify causes of order error	Compliance with documentation	Inspection	Qualitative

3.5 Scenarios

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

3.6 Test Approach

KPMG will conduct the flow through evaluation by relying on ordering test instances generated by the GUI — Functional Evaluation (POP2), EDI Functional Evaluation & Volume Performance Test (POP5) and "Stress Volume" Performance Testing (POP6). An expected Flow Through indicator will be added to each test instance. The expected Flow Through indicator, set prior to submission of the test instance, will be based on the information provided by BA-NY documentation and personnel. KPMG will track and analyze transactions to determine if BA-MA has its stated flow through capability.

KPMG will analyze all transactions generated as part of POP1 and POP2.

To determine actual flow through, KPMG will rely on CLECs to generate and submit ordering instances using their own GUI and EDI interfaces. With data independently collected from the participating CLECs, KPMG will verify each transaction in the sample to determine that it is a valid flow through order. KPMG will determine if correctly submitted according to BA-MA's documented business rules. Each valid transaction will then be tracked and analyzed to determine if BA-MA did maintain its stated flow through capability.

The following steps will be performed:

3.6.1 Inputs

1. Test Cases and expected results
2. Test case execution schedule
3. Testing Software
4. Trained personnel to execute test cases
5. Test "Go / No Go" checklist
6. Bell Atlantic list of current flow through capabilities
7. BA-MA manual order handling measures
8. UNE-P and UNE order and transaction response collection schedule (BA-MA reports)
9. CLEC orders and transaction responses
10. Bell Atlantic list of current flow through capabilities

3.6.2 Activities

1. Submit order transactions via EDI and the GUI. Submittal date, time and appropriate transaction information logged.
2. Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) logged by KPMG.
3. KPMG verifies transaction response contains expected data and flags non-expected errors.
4. Identify orders that had manual handling. Identify reason for manual handling. Record for manual handling and order attributes.
5. If there was an error that caused the order not to flow through, identify error source (KPMG or BA-MA).

Identify and log reason for the error. BA-MA errors will not be corrected.

6. Correct any KPMG errors and re-submit. Verify orders now flow through.
7. Verify that all orders submitted are accounted for. Log any orders that are submitted but do not appear as processed or erred by BA-MA.
8. Generate BA-MA manual handling report.
9. Collect orders and transaction responses from CLECs.
10. Identify orders that had manual handling.
11. Determine if manually handled orders had CLEC errors.

3.6.3 Outputs

1. Percentage and number of orders that flowed through by order type, product family, etc.
2. Percentage and number of orders that did not flow through by order type, product family, etc.
3. Orders that did not flow through by reason code
4. Variance between actual performance performance Assessment Plan Standards, if applicable
5. Report of expected results versus actual results
6. Report of orders not processed
7. BA-MA manual handling report
8. Percentage and number of orders that flowed through by order type, product family, etc.
9. Percentage and number of orders that did not flow through by order type, product family, etc.
10. Percentage and number of orders that did not flow through by reason code
11. Comparison of BA-MA wholesale versus retail flow through eligibility
12. Summary Report

3.7 Exit Criteria

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

4.0 POP4: POP Documentation Review

4.1 Description

The POP Documentation Evaluation is an operational analysis of the pre-ordering, ordering, and provisioning documentation used by CLECs. This is a high level review intended to ensure documentation prepared and distributed by Bell Atlantic – Massachusetts (BA-MA) is subject to good management practice.

Operational analysis techniques will be used to evaluate BA-MA's internal documentation. It will rely on the development of various evaluation checklists to facilitate a structured review of the documentation proper as well as its application in a business environment. CLEC input will also be solicited.

The accuracy of the documentation at the functional level, including how to populate EDI transactions, will be verified as a part of the set up and on-going activities required to execute the functional and performance tests listed below:

- Quality Assurance and System Readiness testing
- GUI Functional Evaluation
- EDI Functional Evaluation and Volume Performance Test

4.2 Objectives

The objective of this evaluation is to determine the accuracy, currency, availability, and usability of the POP documentation.

4.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Documentation available for review and personnel available for interviews	BA-MA
Documentation Evaluation Checklist created to measure the general documentation attributes	KPMG

4.4 Test Scope

The scope for this test includes the following Test Target Area processes and sub-processes:

1.0 Pre-Ordering

The table below outlines the processes and sub-processes involved in evaluating BA-MA's Pre-Ordering functionality and performance.

Table IV-5 Test Target: Pre-Ordering

	Process Area	Sub-process	Evaluation Measures
1.	Validate address	Create address validation request transaction	Clarity, accuracy, and completeness of documentation
2.		Correct errors	Clarity, accuracy, and completeness of documentation
3.	Retrieve CSR	Determine type of inquiry to send	Clarity, accuracy, and completeness of documentation
4.		Create CSR request transaction	Clarity, accuracy, and completeness of documentation
5.		Correct errors	Clarity, accuracy, and completeness of documentation
6.	Request available telephone number(s)	Create available telephone number request transaction	Clarity, accuracy, and completeness of documentation
7.		Correct errors	Clarity, accuracy, and completeness of documentation
8.	Reserve TN(s)	Create telephone number reservation transaction	Clarity, accuracy, and completeness of documentation
9.		Correct errors	Clarity, accuracy, and completeness of documentation
10.	Cancel or exchange TN reservation	Create telephone number cancellation or exchange transaction	Clarity, accuracy, and completeness of documentation
11.		Correct errors	Clarity, accuracy, and completeness of documentation
12.	Determine service and feature availability	Create service availability request transaction	Clarity, accuracy, and completeness of documentation
13.		Correct errors	Clarity, accuracy, and completeness of documentation
14.	Qualify loop	Create loop qualification transaction	Clarity, accuracy, and completeness of documentation
15.		Correct errors	Clarity, accuracy, and completeness of documentation
16.	Qualify xDSL loop	Create loop qualification transaction	Clarity, accuracy, and completeness of documentation
17.		Correct errors	Clarity, accuracy, and completeness of documentation
18.	Determine due date / appointment availability	Create due date / appointment availability request transaction	Clarity, accuracy, and completeness of documentation
19.		Correct errors	Clarity, accuracy, and completeness of documentation
20.	Request access billing customer service record	Create CABS CSR (CCSR) request	Clarity, accuracy, and completeness of documentation

Table IV-5 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
21.		Correct errors	Clarity, accuracy, and completeness of documentation
22.	Request installation status	Create installation status request	Clarity, accuracy and completeness of documentation
23.		Correct errors	Clarity, accuracy and completeness of documentation
24.	Retrieve service order from SOP	Create service order from SOP request	Clarity, accuracy and completeness of documentation
25.		Correct errors	Clarity, accuracy and completeness of documentation
26.	Retrieve directory listing	Create directory listing inquiry	Clarity, accuracy and completeness of documentation
27.		Correct errors	Clarity, accuracy and completeness of documentation
28.	Reservation maintenece inquiry	Create reservation maintenance transaction	Clarity, accuracy, and completeness of documentation
29.		Correct errors	Clarity, accuracy, and completeness of documentation
30.	Reservation maintenece modification inquiry	Create reservation maintenance modification transaction	Clarity, accuracy, and completeness of documentation
31.		Correct errors	Clarity, accuracy, and completeness of documentation

2.0 Order Processing

The table below outlines the processes and sub-processes involved in evaluating BA-MA's Ordering functionality and performance.

Table IV-6 Test Target: Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
1.	Submit order	Determine type of order to create	Clarity and accuracy of documentation
2.		Create order transaction(s)	Clarity, accuracy, and completeness of documentation
3.	Supplement an order	Create supplement transaction (s)	Clarity, accuracy, and completeness of documentation
4.		Correct errors	Clarity, accuracy, and completeness of documentation

The table below outlines the processes and sub-processes involved in evaluating the organization, usability, and accuracy of POP documentation produced by BA-MA.

Table IV-7 Test Target: POP Documentation

Process Area	Sub Process	Evaluation Measure	Evaluation Technique	Criteria Type
Acquire Documentation	Receive current documentation	Availability of up-to-date documentation	Documentation Review	Qualitative Quantitative
Evaluate Documentation	Evaluate documentation format	Organization of documentation	Documentation Review	Qualitative
	Evaluate documentation content	Usability of documentation	Documentation Review	Qualitative
		Comprehensiveness of documentation	Documentation Review	Quantitative
		Accuracy of documentation	Documentation Review	Quantitative
Evaluate EDI Interface Documentation	Evaluate EDI interface population documentation	Compliance to standards	Documentation Review	Quantitative

4.5 Scenarios

Not applicable

4.6 Test Approach

In the New York test, KPMG used operational analysis techniques to evaluate BA-NY's documentation. Prior to the initiation of the test, evaluation checklists were created to facilitate a structured review of documentation based on standard criteria as set forth in the MTP. KPMG performed a structured review of BA-NY documentation, visited Web sites through which documentation was issued, and verified the accuracy of documentation during live tests of BA-NY's Graphical User Interface (GUI) and Electronic Data Interchange (EDI) systems. The documentation reviews undertaken during the course of live testing (POPs 1, 2, and 5) allowed for evaluation of the utility of the documentation in a business environment.

Bell Atlantic has told KPMG that the documentation established for both NY and MA are similar. Bell Atlantic has further indicated that any differences in the

documentation arise from jurisdictional requirements (e.g. Business Rules and products unique to each state).

The NY and MA test objects may be significantly similar. KPMG will ensure this similarity by re-testing all relevant BA-MA documents. In addition, KPMG will solicit information from CLECs regarding the status of qualifications and exceptions identified in the New York Test. KPMG will also request detailed accounts of any problems associated with the most recent versions of Bell Atlantic's documentation.

For the Massachusetts test, the following steps will be performed:

4.6.1 Inputs

1. Detailed Operational Test Plan and task checklist
2. Documents to be reviewed by KPMG during test
3. Documentation Evaluation Checklist

4.6.2 Activities

1. Conduct documentation evaluation of each document using the documentation evaluation checklist
2. Compile results and create summary reports

4.6.3 Outputs

1. Completed documentation evaluation checklist for each document reviewed
2. Summary documentation evaluation report

4.7 Exit Criteria

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

5.0 POP5: Work Center/Help Desk Support Evaluation

5.1 Description

The POP Work Center / Help Desk Support Evaluation is a comprehensive operational analysis of the work center / help desk processes developed by BA-MA to process orders requiring manual handling and to provide support to Resellers and CLECs with OSS questions, escalations, problems, and issues related to pre-ordering, ordering, and provisioning. Basic functionality,

performance, escalation procedures, capacity management, and security will be evaluated.

Operational analysis techniques will be used to evaluate BA-MA's work center processes and help desk support. It will rely on the development of various evaluation checklists to facilitate a structured walkthrough of the major work center/help desk processes with BA-MA representatives and to review process documentation.

This test will also involve two types of surveys:

- An evaluation of BA-MA's handling of a recent sample of problems
- An initiation of a series of calls to obtain answers to a standard set of questions

In the first survey, CLECs will be asked to provide recent inquiries from which a sample will be selected to solicit feedback; and in the second, CLECs will be asked to provide a set of questions from which KPMG will select a standard set. CLECs will be involved in initiating calls for the second survey.

In addition, the help desk will be accessed and support will be documented as a part of the following functional and performance tests:

- POP1 – EDI Functional Evaluation and Volume Performance Test
- POP2 – GUI Functional Evaluation

5.2 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 correctly documented, maintained, published and followed
- determine the accuracy and completeness of procedures for measuring, tracking, projecting, and maintaining work center/help desk performance
- ensure accuracy and completeness of security measures to ensure integrity of work center/help desk data and the ability to restrict access to parties with specific access permissions

5.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
BA personnel and documentation available	BA-MA
Work Center / Help Desk Evaluation Checklist completed	KPMG
CLEC Problem Feedback Survey completed	KPMG
POP Problem Response Survey with standard questions completed	KPMG

5.4 Test Scope

The scope for this test includes the following Test Target Area processes and sub-processes:

1.0 Pre-Ordering Support

The table below outlines the processes and sub-processes to be evaluated.

Table IV-8 Test Target: Pre-Ordering

	Process Area	Sub-process	Evaluation Measures
1.	Follow up on delayed Pre-Order activities	Contact pre-ordering work center help desk	Timeliness of answer Availability of support
2.		Request status of response	Timeliness of response
3.			Accuracy and completeness of response
4.		Escalate request for information	Accuracy and completeness of procedures
5.			Compliance to procedures
6.	Request pre-order transaction population support	Contact appropriate work center or help desk	Timeliness of answer
7.			Availability of support
8.		Ask question	Timeliness of response
9.			Accuracy and completeness of response
10.	Request pre-order error correction support	Contact appropriate work center or help desk	Timeliness of answer
11.			Availability of support
12.		Ask question	Timeliness of response
13.			Accuracy and completeness of response

Table IV-8 Test Target: Pre-Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
14.			Accuracy and completeness of help desk information
15.			Accuracy and completeness of Help Desk information
16.			Accuracy and completeness of Help Desk information
17.			Accuracy and completeness of Help Desk information

2.0 Order Processing Support

The table below outlines the processes and sub-processes to be evaluated.

Table IV-9 Test Target: Ordering			
	Process Area	**Sub-process**	**Evaluation Measures**
27.	Follow Up on delayed order activities	Contact ordering work center help desk	Timeliness of answer
28.			Availability of support
29.		Request status of response	Timeliness of response
30.			Accuracy and completeness of repsonse
31.		Escalate request for information	Accuracy and completeness of procedures
32.			Compliance to procedures
33.		Monitor closure of request	Completeness and accuracy of follow-up
34.			Timeliness of answer
35.	Request order population support	Contact appropriate work center or help desk	Availability of support
36.		Ask question	Timeliness of response
37.			Accuracy and completeness of response
38.	Request order error correction support	Contact appropriate work center or help desk	Timeliness of answer
39.			Availability of support
40.		Ask question	Timeliness of response
41.			Accuracy and completeness of response

3.0 Provisioning Support

The table below outlines the processes and sub-processes to be evaluated.

Table IV-10 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	Timeliness of call	Inspection	Quantitative
	Interface with user	Usability of user interface Availability of user interface	Inspection Inspection	Qualitative Quantitative
	Log call	Accuracy and completeness of call logging Accuracy of call logging	Document Review Inspection	Quantitative 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 Accuracy of response	Documentation Review Inspection Inspection	Quantitative Quantitative
	Record follow-up is required	Accuracy and constancy of process	Inspection	Quantitative
	Follow-up on commitments	Measurability of adherence to response time Complete and accurate follow-up	Inspection Inspection	Quantitative Qualitative
Close Help Desk Call	Post closure information	Completeness, consistency, and timeliness of process Accuracy of posting	Inspection Inspection	Quantitative Quantitative

Table IV-10 Test Target: POP Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Monitor Status	Track status	Accuracy and completeness of status tracking capability	Inspection	Existence
		Consistency and frequency of follow-up activities	Document Review	Qualitative
		Availability of jeopardy notification	Document Review	Quantitative
	Report status	Completeness and consistency of reporting process	Inspection	Qualitative
		Accuracy and timeliness of report	Inspection	Quantitative
		Accessibility of status report	Inspection	Quantitative
Request Escalation	Identify escalation procedure	Accuracy and completeness of procedure	Document Review	Existence
	Evaluate escalation procedure	Completeness of the procedure	Document Review Inspection	Qualitative
		Consistency of the process		Qualitative
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, Inspection	Qualitative

Table IV-10 Test Target: POP Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Manage the Help Desk Process	Provide management oversight	Completeness and consistency of operating management practices	Inspection	Qualitative
		Controllability, efficiency and reliability of process	Inspection	Qualitative
		Completeness of process improvement practices	Inspection	Qualitative

4.0 Manual Order Processing

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 handling orders requiring manual handling by BA-MA.

Table IV-10 Test Target: POP Work Center/Help Desk Support

	Process Area	Sub-process	Evaluation Measures
1.	Receive Manual Order	Faxed Manual Order Logging	Completeness and consistency of log
2.		Electronic Manual Order Logging	Completeness and consistency of log
3.	Process Manual Order	Entry of Manual Order into SOP	Completeness and consistency of process
4.	Status Tracking and Reporting	Status Tracking and Reporting	Completeness and consistency of reporting process
5.	Problem Escalation	User-Initiated Escalation	Completeness and consistency of process
6.	Process Management	General Management Practices	Completeness and consistency of management practices
7.		Performance Measurement Process	Controllability, efficiency and reliability of process
8.		Process Improvement Processes	Completeness of process improvement practices

5.0 Workcenter Capacity Management

The table below outlines the processes and sub-processes involved in evaluating the management processes and capabilities of BA-MA to support work center capacity changes for the pre-order, order, and provisioning processes.

Table IV-10 Test Target: POP Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Manage Workforce Capacity	Identify workforce planning procedure	Completeness of procedure	Document Review, Inspection	Existence
	Examine data collection procedures	Completeness of procedure	Document Review, Inspection	Existence
	Review data analysis procedures	Completeness of procedures	Document Review, Inspection	Existence

5.5 Scenarios

Not applicable

5.6 Test Approach

The New York test involved visits to work centers and help desks that support CLECs. The test also reviewed processes and documentation relevant to work centers and help desks.

Bell Atlantic has represented that the help desk and work centers that support NY also support MA. Process differences result from product differences rather than geographic differences.

The NY and MA test objects appear to be significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the BA-NY test and retesting areas where appropriate.

5.6.1 Inputs

1. Work Center / Help Desk Evaluation Checklist
2. Help Desk Questions / Answers
3. POP Problem Response Survey
4. Help Desk Procedural Evaluation

5.6.2 Activities

1. Conduct work center / help desk evaluation using the Work Center / Help Desk Support Checklist.
2. Initiate calls to work center to ask questions listed on the POP Problem Response Survey.
3. Record answers on the POP Problem Response Survey.
4. Compile survey results for POP Problem Response Survey.

5.6.3 Outputs

1. Completed Work Center / Help Desk Evaluation Checklist
2. Report showing number of times standard questions received valid answers on the POP Problem Response Survey
3. Summary Report

5.7 Exit Criteria

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

6.0 POP6: Provisioning Process Parity Evaluation

6.1 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 the DCAS system that serves as the gateway for 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 processes and/or systems used for provisioning are different by product.

An operational analysis technique will be used to evaluate BA-MA's systems and processes for parity with corresponding 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.

6.2 Objective

The objective of this evaluation is to determine the degree to which the provisioning environment supporting CLEC and Reseller orders is on parity with internal BA provisioning.

6.3 Entrance Criteria

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

6.4 Test Scope

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

Table IV-11 Test Target: Provisioning Process Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type

Table IV-11 Test Target: Provisioning Process Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Provisioning Process Parity	Evaluate Order entry process (BA-MA internal)	Consistency and repeatability as compared to Retail	Inspection	Parity
	Evaluate workflow management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Evaluate workforce management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Evaluate service activation process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Evaluate service design process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Evaluate assignment process	Consistency and repeatability as compared to Retail	Inspection	Parity

6.5 Scenarios

Not Applicable

6.6 Test Approach

The New York test comprised of documentation review, structured interviews, and inspections of physical systems and working environments.

Bell Atlantic has represented that the overall provisioning process flow is the same for both NY and MA. Although there are some product differences, the provisioning organizations are the same in NY and MA and perform the same functions across all of BA-North.

The NY and MA test objects appear to be similar. The downstream interfaces are parallel with one notable exception. KPMG will ensure the objects are similar by validating the results of the NY test where appropriate, and re-testing shortcomings discovered in NY's test as well as product differences in MA. An example of a product that is provisioned differently in MA is BA-MA's FLEXPATH service. Workflow definitions, service activation, and exception handling are handled in slightly different methods. MA's test bed will accommodate those differences and KPMG's MA testers will take those differences into account.

6.6.1 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-MA 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. DCAS system documentation
8. Appropriate System Documentation
9. Appropriate Methods and Procedures (determined via interviews)

6.6.2 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

6.6.3 Outputs

1. Completed Provisioning Process Parity Evaluation Checklist
2. Completed interview questionnaires

3. Interview Summaries
4. Summary Findings, Conclusions

6.7 Exit Criteria

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

7.0 POP7: Provisioning Coordination Process Evaluation

7.1 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-MA policy or a CLEC request.

An operational analysis test approach will be used to evaluate BA-MA's Provisioning Coordination Processes. It will consist of targeted interviews of key development personnel along with structured reviews of process documentation facilitated by an evaluation checklist. Live samples of actual coordination processes will be created or selected from KPMG transaction testing or real CLEC orders. The CLECs will be solicited by the test team for real coordination efforts to make up the live samples. Live samples will be selected, observed and tracked by KPMG to determine process operation.

7.2 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

7.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
CLEC Live Sample Request completed	KPMG
CLEC Live Sample Monitoring Form completed	KPMG
Detailed Provisioning Coordination Process Checklist developed	KPMG
Appropriate Bell Atlantic personnel available for interviews	BA-MA
Bell Atlantic methods & procedures and other documentation available.	BA-MA
Interview Guide / Questionnaire developed	KPMG

7.4 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-MA.

Table IV-12 Test Target: Provisioning Coordination Process

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Support Provisioning Coordination Process	Identify orders requiring coordination	Availability of procedures and methods Completeness and consistency of processes	Document Review Document Review, Inspection	Existence Qualitative
	Request coordination with order	Completeness and consistency of processes	Document Review, Inspection	Quantitative
	Receive notification of provisioning schedule	Completeness and consistency of processes Timeliness of notification	Document Review, Inspection Document Review, Inspection	Qualitative Quantitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Manage coordinated provisioning cases	Completeness and consistency of operating management practice	Inspection	Qualitative
		Controllability, efficiency and reliability of process	Inspection	Qualitative
		Completeness of process improvement practices	Inspection	Qualitative

7.5 Scenarios

Scenarios are not applicable to this test.

7.6 Test Approach

KPMG worked closely with BA and CLECs in NY to monitor the provisioning coordination through live order sampling, test case scenarios, and documentation reviews.

Bell Atlantic has represented that MA and NY use the same provisioning coordination processes. Common work centers perform the same coordination functions in both states. Procedures only may differ as a result of different facility and local loop situations in MA.

KPMG testers will focus on shortcomings discovered in NY's test as well as procedural differences in coordinated provisioning in MA. BA made procedural changes with respect to coordinated provisioning in NY. The changes resulted from deficiencies in BA's coordinated provisioning in New York.These coordination changes will be used as a benchmark from which BA-MA will be evaluated in MA. The NY and MA order types are the same in MA as in NY and will be evaluated in a similar fashion. Differences in products in MA will be incorporated in provisioning testing. These differences will be accounted for to the extent that provisioning procedures are different. For example, there are an especially high number of BA customers in MA who reside on BA Integrate Digital Loop Carriers. When switching these customers to CLEC service provided via UNE-Loops, BA must perform specialized procedures to avoid service outages. These specialized procedures will be evaluated for the appropriate level and quality of coordination. An additional change is the opening of a new Regional CLEC Coordination Center (RCCC) in Boston.

KPMG intends to evaluate the newly established RCCC in the same as the NY RCCC.

7.6.1 Inputs

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

7.6.2 Activities

1. Coordinate with ILEC to perform an historical live sample analysis
2. Select and record live samples to monitor including test case scenarios
3. Monitor live samples and record results on monitoring form.
4. Conduct structured review of documentation using Provisioning Coordination Process Checklist.
5. Conduct interviews with key process personnel using interview guide and questionnaire.
6. Review coordinated provisioning live samples and historical analysis
7. Document findings.

7.6.3 Outputs

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

7.7 Exit Criteria

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

8.0 POP8: Capacity Management Evaluation

8.1 Description

The POP capacity management evaluation is a detailed review of the safeguards and procedures in place to plan for and to manage projected growth in the use of DCAS and the GUI and EDI interfaces for wholesale pre-order, order, and provisioning.

8.2 Objective

The objective of this evaluation is to determine the extent to which procedures to accommodate increases in GUI interface, electronic (EDI) interface, and DCAS system transaction volumes and users are being actively managed.

8.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Availability of documentation identified as input	BA-MA
Interview Guide / Questionnaire developed	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Detailed evaluation checklists developed	KPMG

8.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the management processes and capabilities of BA-MA to support capacity changes in the pre-order, order, and provisioning processes.

Table IV-13 Test Target: POP Capacity Management Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
DCAS/GUI/EDI Interface Capacity Management	Data collection and reporting of business volumes, resource utilization, and performance monitoring	Existence	Inspection Interviews	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Data verification and analysis of business volumes, resource utilization, and performance monitoring	Existence	• Inspection Interviews	Qualitative
	Systems & Capacity Planning	Existence	Inspection Interviews	Qualitative

8.5 Scenarios

Scenarios are not used in this test.

8.6 Test Approach

Interviews will be conducted with system administration personnel responsible for the operation of DCAS and the GUI/EDI interfaces. These interviews will be supplemented with an analysis of BA capacity management procedures as well as evidence of related activities such as: periodic capacity management reviews; system reconfiguration/load balancing; and, load increase induced upgrades.

8.6.1 Inputs

1. DCAS and related system documentation
2. Capacity management evaluation checklist
3. Interview guides
4. Personnel to perform evaluation

8.6.2 Activities

1. Review procedural and other documentation related to DCAS capacity management.
2. Conduct interviews with key systems administration and support personnel as appropriate
3. Document findings.

8.6.3 Outputs

1. Completed capacity management evaluation checklist
2. Interview summaries
3. Summary findings and conclusions

8.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Documentation reviews completed	KPMG
Interviews completed	KPMG
Capacity management review report completed	KPMG

V. Maintenance and Repair Domain Test Section

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 Wholesale Maintenance and Repair activities in Massachusetts. The goal of these tests is to provide a basis for comparing this operational area to parallel systems and processes supporting Bell Atlantic's Retail Operations, using relevant and recent information from the Bell Atlantic test in New York, where appropriate.

B. Organization

The Maintenance and Repair "Scope" section identifies the types of tests to be associated with each Target Test Area and are organized based upon test subject matter.

The subsequent section, Maintenance and Repair "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 purpose of this section is to identify the system, process, and related operational areas that will be evaluated within the Maintenance and Repair domain and to identify any related areas that are out of scope.

1.0 In Scope

The testing to be performed in the following six Test Target Areas varies according to the nature of the specific target.

- Repair Trouble Administration System (RETAS)
- The Wholesale M&R process
- M&R process and systems documentation
- Wholesale M&R work center(s) support
- Network surveillance support
- M&R coordination

In general, the areas which focus on operational support systems dedicated to wholesale support will require testing to evaluate basic functional capabilities,

comparative functionality to retail, performance under projected normal transaction volumes, and load testing. End-to-end process testing will evaluate wholesale performance relative to retail. Functions within the process will also be evaluated to identify inconsistencies between wholesale and retail and potential bottleneck areas.

Applicable published documentation will be reviewed for accuracy, completeness, and effectiveness in use. Work Center operations and procedures will be tested to determine timeliness, accuracy, and effectiveness. Additional ancillary operations and procedures will also be reviewed.

2.0 Out of Scope

Capacity of the end-to-end M&R process will not be directly tested, as this would require the addition of trained personnel to existing work groups. It would also result in a large number of erroneous dispatch requests, causing substantial disruption to normal repair activities and adversely impacting customer service. As the M&R process for wholesale services is fully integrated with Retail operations once the trouble report has been entered, KPMG has made the working assumption that Bell Atlantic will be able to accommodate incremental growth in troubles as a function of an expanded service and facility base due to competition.

D. Test Processes

This section describes the specific evaluations/tests to be performed in the analysis of Bell Atlantic's support of Wholesale Maintenance and Repair operations. Testing in this domain has been broken down into eight separate evaluations:

- M&R1: RETAS Functional Evaluation
- M&R2: RETAS Performance Evaluation
- M&R3: RETAS Capacity Management Evaluation
- M&R4: M&R Process Evaluation
- M&R5: M&R Documentation Review
- M&R6: M&R Work Center(s) Support Evaluation
- M&R7: Network Surveillance Support Evaluation
- M&R8: M&R Coordination Evaluation
- M&R9: M&R Work Center Capacity Management Evaluation

Following are detailed descriptions of each test:

1.0 M&R1: RETAS Functional Evaluation

1.1 Description

The RETAS Functional Evaluation is a comprehensive review of all of the functional elements of the RETAS System, their conformance to documented specifications, and an analysis of its functionality in comparison to Bell Atlantic's Retail system analog, CASEWORKER. The test has two major components, sub-test 1 — a basic functional evaluation, and sub-test 2 — a comparative functional evaluation.

1.2 Objective

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

1.3 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
Basic documentation review completed	KPMG
Detailed Functional Checklist created	KPMG
Test bed of working services selected and / or established	BA-MA
Specific Evaluation techniques developed	KPMG
Physical access to Bell Atlantic Web site established	BA-MA
RETAS documentation supplied to KPMG and security access to RETAS established	BA-MA
Evaluation Criteria defined	KPMG
Checklists and Interview Guides created	KPMG

1.4 Test Scope

Table V-1 below outlines the processes and sub-processes involved in performing the RETAS functional evaluation.

Table V-1 Test Target: M&R RETAS Functional Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Trouble Management	Create / Enter Trouble Report (TR)	Functionality exists as documented Timeliness	Inspection	Existence Qualitative Parity
	Modify TR	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Close / Cancel TR	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Retrieve TR Status	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Service Recovery Request	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
Trouble History Access	Retrieve Trouble History	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Retrieve Extended Trouble History	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
Access To Test Capability	Initiate MLT Test	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Receive MLT Test Results	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Initiate SARTS Test	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
	Receive SARTS Test Results	Functionality exists as documented Usability Timeliness	Inspection	Existence Qualitative Parity
Functionality	Functional Equivalence to CASEWORKER	Existence of Specific Function	Inspection Interviews	Parity Qualitative

1.5 Scenarios

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

1.6 Test Approach

The New York test comprised two components:

- Sub-test 1 involved the use of test cases to evaluate RETAS functionality and to determine if the system behaved as documented. General usability and timeliness of the basic functions were also assessed.
- Sub-test 2 involved observation and interviews of Retail customer service attendants (CSA) processing trouble calls and entering trouble reports into CASEWORKER to assess functionality in comparison to RETAS.

BA's RETAS gateway is common across the BA-North region. As such, it is identical (connectivity, transaction set, user interface, access to back-end systems etc) to the system tested in the BA-NY test apart from upgrades and/or enhancements made since the BA-NY test was conducted.

The NY and MA test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the BA-NY test where appropriate, and retesting areas of difference by confirming whether recently made changes conform to documented specifications and/or introduce a disparity relative to CASEWORKER.

For the Massachusetts test, the following steps will be performed:

1.6.1 Inputs

1. Documentation (RETAS Student Guide, etc.)
2. Functionality checklists
3. Interview guide
4. Personnel and test bed resources to execute test cases
5. BA-NY results, where appropriate

1.6.2 Activities – Sub-test 1

1. Confirm that RETAS functionality available in MA is identical to that tested in NY using sample transactions and interviews with BA personnel.
2. Verify that functional differences relative to the BA-NY test findings behave as documented.
3. Note any anomalies.
4. Note any discrepancies between RETAS documentation and behavior.

5. Ensure that any trouble reports entered in RETAS have been canceled.

1.6.3 Activities – Sub-test 2

1. Confirm that Residence and Business M&R work centers provide identical support as in BA-NY. Use checklist and interview guide to conduct interviews with several CSAs selected at random from the Residence and Business M&R work centers, as appropriate.
2. Observe CSA trouble report activities as identified on the checklist provided.
3. Note the presence and behavior of functions identified on the checklist.
4. Identify any anomalies relative to the functions being observed.
5. Note any additional relevant information from the CSA interview (e.g., additional capabilities, performance, etc.).
6. Determine and document any M&R functions that can be performed from a CASEWORKER Workstation that are not available in RETAS.
7. Perform a detailed evaluation of relative functionality and capabilities between RETAS and CASEWORKER that have changed since the time of the BA-NY test.

1.6.5 Activities – Common

1. Document the results and findings from the activities conducted in Sub-tests 1 and 2.

1.6.6 Outputs

1. Completed checklists from Sub-tests 1 and 2 activities.
2. Completed interview summaries.
3. Summary reports of findings from each sub-test, including a discussion of anomalies and relevant observations relating to usability and timeliness of each system interface.
4. A Summary report comparing relative functionality in RETAS and CASEWORKER highlighting

differences and contrasting ease of use of the two systems in performing the functions observed.

1.7 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

2.0 M&R2: RETAS Performance Evaluation

2.1 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. The test execution will use transaction sets established to simulate projected volumes for normal and peak day conditions over the March-August 2001 period. As RETAS is a sub-system of the DCAS system, this test must be executed at the same time as the DCAS performance test.

2.2 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.

2.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Testing software has been fully tested and is operational for the submission of GUI test cases	KPMG
Test transaction sets have been built and validated	KPMG
System test bed has been established	BA-MA
RETAS/DCAS test coordination details have been determined	KPMG
Procedures to collect test performance data are established and validated	BA-MA, KPMG

2.4 Test Scope

Table V-2 below outlines the processes and sub-processes involved in evaluating the performance of RETAS.

Table V-2 Test Target: M&R RETAS Performance Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Performance	Projected Normal and Peak Condition Loads	Timeliness Operability	Inspection Transaction Generation	Qualitative Quantitative
	System Availability	Availability	Inspection Case Study	Parity

2.5 Scenarios

The scenarios to be used in this test will be drawn from those described in Appendix A.

2.6 Test Approach

In the New York test, a test transaction generator was used to submit RETAS GUI test transactions to RETAS. The transaction sets were structured to provide a transaction mix consistent with current system usage, projected normal volumes, and stress/load volumes corresponding to forecasts for EOY 1999 activity. Submission rates were designed to mirror peak busy hour and peak busy day behaviors.

BA has represented that, as in the NY trial, transactions submitted through the RETAS gateway are directed to either of two DCAS servers in the Blue Hill Data Center. According to BA, the way in which transactions are directed is based on load sharing and not its source jurisdiction (NY, ME, MA, NH, VT, RI).

The NY and MA test objects appear to be significantly similar. KPMG will ensure that the objects are significantly similar by validating the results of the NY test where appropriate, and re-testing areas of difference.

For the Massachusetts test, the following steps will be performed:

2.6.1 Inputs

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

4. DCAS/RETAS systems and associated test bed resources
5. Test transaction generator
6. BA-NY results, where appropriate
7. Market activity forecast for Massachusetts market in 2001

2.6.2 Activities

1. Feed transaction sets to DCAS/RETAS using the test transaction generator.
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 (automatic).
5. Monitor DCAS/RETAS system interfaces to identify any bottleneck conditions (Bell Atlantic system personnel).
6. Ensure that all generated trouble reports have been canceled/closed.
7. Reset test bed for next test (if required) or clean up production databases (Bell Atlantic).
8. Execute test with peak day projected transaction volumes.
9. Analyze performance reports.
10. Review execution and observation reports.
11. Document results and generate summary report.

2.6.3 Outputs

1. Test execution and observation reports
2. Test transaction generator performance reports
3. DCAS/RETAS performance reports
4. Summary report

2.7 Exit Criteria

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

3.0 M&R3: RETAS Capacity Management Evaluation

3.1 Description

The RETAS capacity management evaluation is a detailed review of the safeguards and procedures in place to plan for and to manage projected growth in the use of RETAS for wholesale trouble management.

As RETAS is a subsystem of DCAS, this evaluation will be performed in conjunction with the DCAS capacity management evaluation.

3.2 Objective

The objective of this evaluation is to determine the extent to which procedures to accommodate increases in RETAS transaction volumes and users are being managed actively and effectively.

3.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria	See Table III-3
Availability of information identified as input	BA-MA, KPMG
Interview Guide / Questionnaire Developed	KPMG
Interviewess Identified and Scheduled	BA-MA, KPMG
Detailed evaluation checklists developed	KPMG

3.4 Test Scope

Table V-3 below outlines the processes and sub-processes involved in evaluating the capacity management of RETAS.

Table V-3 Test Target: M&R RETAS Capacity Management Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
RETAS Capacity Management	Data collection and reporting of business volumes, resource utilization, and performance monitoring	Existence	Inspection Interviews	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Data verification and analysis of business volumes, resource utilization, and performance monitoring	Existence	• Inspection Interviews	Qualitative
	Systems and capacity planning	Existence	• Inspection Interviews	Qualitative

3.5 Scenarios

Scenarios are not used in this test.

3.6 Test Approach

Interviews will be conducted with system administration personnel responsible for the operation of RETAS/DCAS. These interviews will be supplemented with an analysis of BA capacity management procedures as well as evidence of related activities such as: periodic capacity management reviews; system reconfiguration/load balancing; and, load increase induced upgrades.

3.6.1 Inputs

1. Capacity management evaluation checklist
2. Interview guides
3. Personnel to perform evaluation

3.6.2 Activities

1. Review procedural and other documentation related to RETAS/DCAS capacity management.
2. Conduct interviews with key systems administration and support personnel as appropriate
3. Document findings.

3.6.3 Outputs

1. Completed capacity management evaluation checklist
2. Interview summaries
3. Summary findings and conclusions

3.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Documentation reviews completed.	KPMG
Interviews completed.	KPMG
Capacity management review report completed	KPMG

4.0 M&R4: M&R Process Evaluation

4.1 Description

This evaluation is comprised of two major elements. The first (Sub-Test 1) evaluates the functional equivalence of BA-MA's M&R processes for wholesale and retail trouble reports. Process flows for wholesale and retail trouble management will be reviewed and evaluated as will technician methods and procedures (M&P) and job aids for wholesale trouble repair.

The second element (Sub-Test 2) involves the execution and observation of selected M&R test scenarios to evaluate Bell Atlantic's performance in making repairs under the conditions of various wholesale maintenance scenarios.

4.2 Objective

The objective of Sub-Test 1 is to evaluate the equivalence of Bell Atlantic's end-to-end processes for retail and wholesale trouble reporting and repair. The objective of Sub-Test 2 is to evaluate Bell Atlantic's performance in making repairs under the conditions of various wholesale maintenance scenarios.

4.3 Test Scope

Tables V-4a and V-4b below outline the processes and sub-processes involved in evaluating the M&R Process.

Table V-4a Test Target: M&R Process Evaluation (Sub-Test 1)

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End M&R Process: Resale	Process Flow Documentation	Comparison with Retail	Inspection	Qualitative
	Process Evaluation	Comparison with Retail	Inspection	Qualitative
End-to-End M&R Process: UNE/UNE-P	Process Flow Documentation	Comparison with Retail	Inspection	Qualitative
	Process Evaluation	Comparison with Retail	Inspection	Qualitative

Table V-4b Test Target: Wholesale M&R Process (Sub-Test 2)

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

4.4 Scenarios

Scenarios for Sub-Test 2 are documented in Appendix A.

4.4.1 Sub-Test 1 — Process Flow Review

4.4.1.1 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Process evaluation checklists	KPMG
Interview and observational guides	KPMG
Retail and wholesale process flow documentation available	BA-MA
Technician M&Ps and job aids for wholesale trouble repair available	BA-MA

4.4.1.2 Test Approach

In the New York test, this sub-test involved the inspection and analysis of BA-NY process flow documentation, and technician M&Ps and job aids for wholesale trouble repair. Wholesale and retail process flow documentation was reviewed and differences noted.

As in the New York trial, once trouble tickets have been submitted to BA and have been processed by LMOS (Loop Maintenance Operations System) or WFA (Work Force Administration) they are directed to the appropriate work center location.

The BA-NY and BA-MA test objects are significantly similar. KPMG will ensure that the objects are significantly similar by validating the results of the BA-NY test where appropriate, and retesting areas of difference.

For the Massachusetts test, the following steps will be performed:

4.4.1.2.1 Inputs

1. Description of operational set-up for retail and wholesale M&R operations in BA-NY and BA-MA, identifying any major differences and changes implemented since the BA-NY test.
2. Retail and wholesale process flow documentation.
3. Technician M&Ps and job aids for wholesale trouble handling.
4. Personnel to review the above.

4.4.1.2.2 Activities

1. Review and compare wholesale and retail process flows addressing differences relative to the BA-NY test. Similarly, review technician M&Ps and job aids for wholesale trouble handling.
2. Identify differences between wholesale and retail processes.
3. Assess the potential impact of each difference if possible.
4. Document process analysis results.

4.4.1.2.3 Outputs

1. A report on the equivalence between wholesale and retail M&R processes.

4.4.1.3 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Report on the equivalence between wholesale and retail M&R processes completed	KPMG

4.4.2 Sub-Test 2 — Execution of M&R Test Scenarios

4.4.2.1 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Test situations selected (Test bed based scenarios and / or CLEC situations)	KPMG
Sample size determined and validated	KPMG
Product descriptions, business rules and maintenance and repair interval commitments are available.	BA-MA
Test-bed circuits provisioned	BA-MA
Faults inserted into test-bed circuits as required by the test scenarios	KPMG
CLEC participants in M&R observations identified and prepared (as appropriate).	KPMG, CLECs

4.4.2.2 Test Approach

In the New York test, this sub-test involved the tracking of resale and UNE / UNE-P trouble reports on test scenario cases through the M&R process and the capture of event times, errors, problems, anomalies, and other significant events in the life of each trouble.

Although the M&R end-to-end process is significantly similar between NY and MA, the way in which individual CLECs, (e.g. those focused on the MA market) interact with BA-MA may differ from the experiences in the BA-NY test. KPMG will ensure that the objects are significantly similar by validating the results of the BA-NY test where appropriate, and retesting areas of difference.

For the Massachusetts test, the following steps will be performed:

4.4.2.2.1 Inputs

1. Test-bed circuits with embedded faults
2. Personnel to create trouble tickets and track the trouble ticket status for each scenario.
3. Personnel to observe CLEC-initiated trouble tickets as appropriate.

4.4.2.2.2 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.
4. Document observations.
5. Document observations of CLEC-initiated trouble ticket activity as appropriate.

4.4.2.2.3 Outputs

1. Time to repair measurements for each fault observed.
2. Summary report of observations

4.4.2.3 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

5.0 M&R5: M&R Documentation Review

5.1 Description

The M&R documentation review is a comprehensive analysis of the documentation used by CLECs to interact with Bell Atlantic in conducting Maintenance and Repair activities. This test is a high level review intended to evaluate the quality and completeness of the Maintenance and Repair documentation prepared by Bell Atlantic. This test is not designed to determine whether system functionality matches functionality described in the documentation. That analysis is addressed in conjunction with M&R1: RETAS Functionality Evaluation.

5.2 Objectives:

The objective of this evaluation is to assess the overall quality of documentation produced by Bell Atlantic to assist CLECS in the Maintenance and Repair domain.

5.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
System documentation available	BA-MA
RETAS system available	BA-MA
Documentation evaluation checklist created to measure general documentation quality	KPMG
Bell Atlantic documentation specialists are available for interviews	BA-MA

5.4 Test Scope

Table V-5 below outlines the processes and sub-processes involved in evaluating the M&R Documentation.

Table V-5 Test Target: M&R Documentation Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
M&R Documentation	CLEC Handbook (M&R Sections)	Clarity Accuracy Completeness	GUI Test Cases Interviews Document Review	Qualitative
	Resale Handbook (M&R Sections)	Clarity Accuracy Completeness	GUI Test Cases Interviews Document Review	Qualitative
	RETAS CLEC Student (Training) Guide	Clarity Accuracy Completeness	GUI Test Cases Interviews Document Review	Qualitative
	RETAS Resale Student (Training) Guide	Clarity Accuracy Completeness	Inspection Document Review	Qualitative
	CLEC Training Guide (M&R Sections)	Clarity Accuracy Completeness	GUI Test Cases Interviews Document Review	Qualitative
	RETAS Online Help	Clarity Accuracy Completeness	GUI Test Cases Interviews Document Review	Qualitative

Table V-5 Test Target: M&R Documentation Review

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Other (TBD)	Clarity Accuracy Completeness	GUI Test Cases Interviews Document Review	Qualitative

Note: GUI Test Cases referenced above are used in M&R1: RETAS Functionality Evaluation

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

The New York test employed a combination of operational analysis techniques to evaluate Bell Atlantic wholesale M&R documentation. It also involved targeted interviews and the use of their results as part of the overall evaluation.

Documentation for the Maintenance & Repair process is the same for NY and MA. The information is contained in the CLEC and Resale Handbook Series, Specifically, Volume III, Section 8 of the CLEC Handbook and Volume III, Section 6 of the Resale Handbook. In addition, there is a training class and RETAS training guide applicable to all BA-North jurisdictions.

The NY and MA test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the NY test where appropriate, and retesting areas of difference to evaluate the quality and completeness of recently made changes.

For the Massachusetts test, the following steps will be performed:

5.6.1 Inputs

1. Detailed operational test plan and task checklist
2. M&R documentation to include: CLEC Handbook, Resale Handbook, RETAS Student Guides, and RETAS On-line Help Facility
3. Other related M&R documentation not mentioned above (if applicable)
4. Documentation evaluation checklist
5. Bell Atlantic documentation specialists
6. CLEC documentation users, if possible

7. BA-NY results, where appropriate

5.6.2 Activities

1. Obtain relevant documentation needed to carry out business processes related to M&R, confirm similarities with documentation examined in the New York trial and identify areas and magnitude of differences.
2. Conduct documentation evaluation using documentation evaluation checklist, as appropriate.
3. Conduct interviews with BA documentation specialists.
4. Conduct interviews with CLEC documentation users, where possible.
5. Compile results.

5.6.3 Outputs

1. Completed checklists
2. Documented interview results
3. Summary documentation evaluation report

5.7 Exit Criteria

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

6.0 M&R6: M&R Work Center Support Evaluation

6.1 Description

The M&R work center support evaluation is a comprehensive 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.

6.2 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

6.3 Entrance Criteria

Criteria	Responsible Party
Detailed test plan completed and approved	KPMG
Background data collected	KPMG
Techniques and instrumentation developed and approved	KPMG, BA-MA
Process evaluation checklist(s)	KPMG
Interview guides	KPMG
Required data and documentation (M&Ps, notification procedures, performance tracking reports etc.) provided	BA-MA

6.4 Test Scope

Table V-6 below outlines the processes and sub-processes involved in evaluating the performance of M&R Work Center Support operations.

Table V-6 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

Table V-6 Test Target: Work Center Support Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Problem Tracking and Resolution	Documentation	Clarity Accuracy	Document Review Interviews	Qualitative
	Identify and Resolve	Timeliness Accuracy Completion Consistency	Inspections Logging Interviews	Qualitative
	Track Problem	Existence Effectiveness	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy Completion 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	Accessability 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		Clarity Accuracy Completeness	Inspections Logging Interviews	Qualitative
Manual Handling — Resale		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Manual Handling — UNE/UNE-P		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative

6.5 Scenarios

This test does not rely on scenarios.

6.6 Test Approach

In the New York test, the test approach involved the use of pre-test CLEC surveys to assist in determining customer perception of M&R work center support and to focus operational reviews of the relevant Bell Atlantic work centers.

Following the surveys, an operational analysis of each center was performed. These relied on the use of evaluation checklists to facilitate a structured walkthrough of the major work center / help desk processes with Bell Atlantic representatives and to review process documentation.

Two work centers provide M&R support to CLECs and Resellers. One of these is the BA-North RCMC (Regional CLEC Maintenance Center), which is the single point of contact for all UNE CLEC Trouble Reports.

The second work center is the BA RSSC (Resale Service Center), which is the single point of contact for all Resale trouble reports. There are two RSSCs, one in NY and one in Boston. Both centers share common processes and either center can handle the work of the two jurisdictions. In addition, the NY office is a 24X7 operation and all calls received in Boston after 9PM and on weekends are automatically diverted to the NY office for handling.

The NY and MA test objects are significantly similar. KPMG will ensure that the objects are significantly similar by validating the results of the NY test where appropriate, and retesting areas of difference.

For the Massachusetts test, the following steps will be performed:

6.6.1 Pre-Test Activities

1. Develop CLEC information request.
2. Conduct CLEC information request.
3. Analyze and document feedback.
4. Validate similarities between the work center set-up for the BA-NY test and those providing service in BA-MA tests. Identify changes made since the time of the BA-NY test.

6.6.2 Inputs

1. CLEC feedback
2. Work center / help desk evaluation checklists
3. CLEC / work center interaction logs
4. BA-NY results, where appropriate

6.6.3 Test Activities

1. Conduct work center / help desk support evaluations using work center / help desk support checklists.
2. Summarize results of the work center evaluations.
3. Summarize CLEC / work center interaction analysis results.

6.6.4 Outputs

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

6.7 Exit Criteria

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

7.0 M&R7: Network Surveillance Support Evaluation

7.1 Description

The network surveillance support evaluation consists of an analysis of the processes and operational elements associated with Bell Atlantic – Massachusetts' network surveillance and network outage notification procedures. It is composed of an analysis of network surveillance processes related to surveillable network elements that are also Wholesale products. It also involves a review of the procedures followed by the Network Services Assurance Center (NSAC) which reference or are related to CLEC operations.

7.2 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.

7.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been met	See Table III-3
Detailed test plan, interview guides and checklists completed	KPMG

Criteria	Responsible Party
Required data and documentation (M&Ps, notification procedures, performance tracking reports etc.) provided	BA-MA

7.4 Test Scope

Table V-7 below outlines the processes and sub-processes involved in evaluating BA-MA's wholesale Network Surveillance Support.

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	Clarity Accuracy Completeness	Inspection	Qualitative
	Notification Procedures	Timeliness Accuracy Completeness	Inspection	Qualitative

7.5 Scenarios

This test does not rely on scenarios.

7.6 Test Approach

In the New York test, operational techniques were used to evaluate Bell Atlantic's NSAC operations associated with network surveillance for wholesale operations. Any aspects of the NSAC that relate to CLEC facilities and / or require CLEC notification or CLEC involvement of any kind were evaluated. The performance of the NSAC's CLEC notification procedures as well as normal communication and surveillance procedures were also assessed as part of the test.

In BA-North, the NSAC monitors and maintains the Bell Atlantic Network. The NSAC's primary responsibility is to maintain network integrity and reliability. The processes followed for notifying the CLEC operations center is the same for all of BA-North.

The NY and MA test objects are significantly similar. KPMG will ensure that the objects are significantly similar by validating the results of the NY test where appropriate, and re-testing areas of difference.

For the Massachusetts test, the following steps will be performed:

7.6.1 Inputs

1. Validation that a single work center services NY and MA territories and identification of changes made since the time of the BA-NY test.
2. Operational analysis plan and task checklist
3. Interview guides
4. Documentation of all notification and network surveillance procedures for wholesale
5. Designated NSAC personnel for interviews
6. BA-NY results, where appropriate

7.6.2 Activities

1. Using the operational analysis plan, conduct management and process analysis at NSAC, as appropriate.
2. Conduct documentation and procedural reviews.
3. Develop and document findings.

7.6.3 Outputs

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

7.7 Exit Criteria

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

8.0 M&R8: M&R Coordination Process Evaluation

8.1 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 CLECs' operations organizations.

8.2 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.

8.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been met	See Table III-3
Detailed test plan, interview guides and checklists completed	KPMG
Required data and documentation (M&Ps, notification procedures, performance tracking reports etc.) provided	BA-MA

8.4 Test Scope

Table V-8 below outlines the processes and sub-processes involved in evaluating the M&R Coordination Process.

Table V-8 Test Target: M&R Coordination Process Evaluation

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

8.5 Scenarios

This test does not rely on scenarios.

8.6 Test Approach

In the New York test, this test used operational analysis techniques to evaluate M&R coordination activities. All aspects of M&R coordination activities with CLECs and third parties were evaluated.

The coordination processes for M&R activities are the same for NY and MA according to BA-MA.

The NY and MA test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the NY test where appropriate, and retesting areas of difference by confirming that any changes that have been made are effective (review of M&Ps, training, documentation etc.).

For the Massachusetts test, the following steps will be performed:

8.6.1 Inputs

1. Process documentation for joint meet procedures and coordinated testing
2. Notification procedures for joint meet procedures and coordinated testing
3. Bell Atlantic interviewees
4. Interview guides
5. BA-NY results, where appropriate

8.6.2 Activities

1. Review all relevant information and documentation in the light of the New York test findings and BA-MA procedural changes since then.
2. Conduct Bell Atlantic interviews.
3. Conduct document reviews.
4. Document the results of the findings.

8.6.3 Outputs

1. Completed observation reports
2. Summary report

8.7 Exit Criteria

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

9.0 M&R9: Work Center Capacity Management Evaluation

9.1 Description

The M&R work center capacity management evaluation is a detailed review of the safeguards and procedures in place to plan for and to manage projected

personnel and facilities growth in the work centers associated with the wholesale trouble management processes.

9.2 Test Objective

The objective of this evaluation is to determine the extent to which procedures to accommodate increases in work center personnel and facilities are being actively managed.

9.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria	See Table III-3
Availability of information identified as input	BA-MA, KPMG
Interview Guide / Questionnaire Developed	KPMG
Interviewees Identified and Scheduled	BA-MA, KPMG
Detailed evaluation checklists developed	KPMG

9.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the management processes and capabilities of BA-MA to support work center capacity changes for the wholesale trouble management processes.

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Work Center Capacity Management	Data collection and reporting of business volumes, resource utilization, and performance monitoring	Existence	Inspection Interviews	Qualitative
	Data verification and analysis of business volumes, resource	Existence	Inspection Interviews	Qualitative

	utilization, and performance monitoring			
	Work center capacity planning	Existence	Inspection Interviews	Qualitative

9.5 Scenarios

Scenarios are not used in this test.

9.6 Test Approach

Interviews will be conducted with key personnel responsible for managing the capacity of the BA trouble management work centers. These interviews will be supplemented with an analysis of BA capacity management procedures for work centers as well as evidence of related activities such as: periodic work center capacity management reviews; hiring campaigns for work centers; training programs; and, facilities planning for work centers.

9.6.1 Inputs

1. Work center staffing and training documentation and facilities planning documentation
2. Capacity management evaluation checklist
3. Interview guides
4. Personnel to perform evaluation

9.6.2 Activities

1. Review procedural and other documentation related to work center capacity management.
2. Conduct interviews with key personnel as appropriate
3. Document findings.

9.6.3 Outputs

1. Completed work center capacity management evaluation checklist
2. Interview summaries

3. Summary Findings and Conclusions

9.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Documentation reviews completed	KPMG
Interviews completed	KPMG
Work center capacity management review report completed	KPMG

VI. Billing Domain Test Section

A. Purpose

The purpose of this section is to describe the specific tests to be undertaken in evaluating the systems, processes and other operational elements associated with BA-MA's support for Wholesale Billing. The tests are designed to evaluate BA-MA's compliance to measurement agreements and to ensure adherence to good management practices.

B. Organization

This section provides a high level outline of what will be tested within the Billing Test Domain and how it will be tested. Subsequent sections describe the scope in the context of the primary Test Target Areas, and test descriptions or evaluations that are planned.

In the last section of the document, Test Processes, each Billing Test will be described along with its specific objectives, scope, entrance and exit criteria, and testing approach.

C. Scope

This purpose of this section is to identify the systems, processes, and document areas that will be the subject of Billing Test Processes.

The testing of billing components will be limited to seven Test Target Areas[1]:

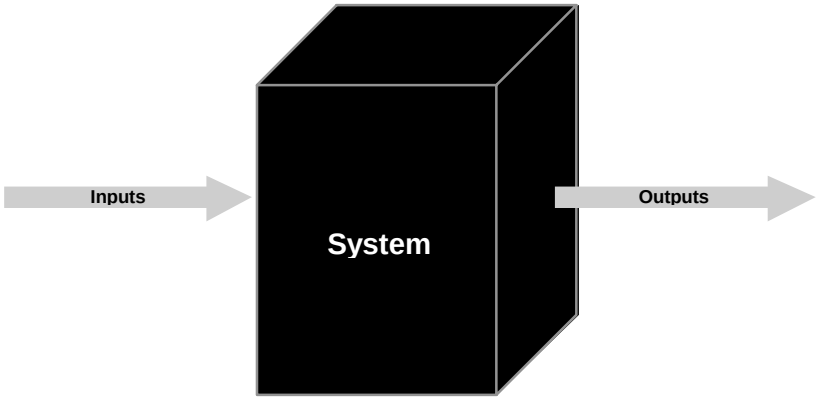
- Billing Process Metrics
- Billing Documentation
- Billing Work Center / Help Desk Support
- Usage Returns
- Daily Usage Feed
- Carrier Bills (relevant CABS and CRIS bills)
- Capacity Management Evaluation

Billing will be evaluated using a black box or input/output-driven testing approach (see Figure VI-1 below). Within this context, the tester is not concerned with the behavior or structure of the internal components but is focused on the

[1] Please note that the Test Target, "Resale Bill Certification Process" was removed from the scope of the NY test by Scope Change 4 on 8/28/98. This Test Target will remain out of scope in Massachusetts.

presence and accuracy of input information appearing accurately on the final outputs (e.g., daily usage feed and bills).

Figure VI-1: Billing as a 'Black Box'



The system is defined ***What* is done, not *how.***

To create the test calls for use in testing the input usage stream, the Phase 3 Test Manager will create a test call matrix which includes a variety of call types, product mixes and usage from multiple switches and multiple cities.

Two test strategies being employed in the other test domains include comparison to retail and performance testing. Since there are no related outputs for BA-MA Retail, running parallel Retail and Wholesale processes to evaluate equivalence is not required. Bills from Wholesale will be examined for service changes. Since performance is not an issue in the production of daily usage feeds and Wholesale Bills, there are no planned stress or load tests in the Billing Domain.

The Billing Domain has the following general requirements for BA-MA (more details are listed with each test in the Test Process subsection below):

- Generation of test calls per the revised test call matrix
- Loading of a set of test customers into the test bed for billing purposes
- Processing of POP test cases into the test bed from more than one end office and city (e.g., new connects / disconnects, changes)
- Running of both CRIS and CABS bill processing, depending on the products ordered and changes in service class

D. Test Processes

This section describes the specific evaluations / tests to be performed in the analysis of BA-MA's support of billing operations. They are listed in the order of

suggested execution. Any dependencies on other test processes are identified in the entrance criteria.

In order to test the Billing Test Targets, seven distinct tests have been designed. These tests are titled as follows[2]:

- BLG1: Billing Process Metrics Evaluation
- BLG2: Billing Documentation Evaluation
- BLG3: Billing Work Center / Help Desk Support Evaluation
- BLG4: Usage Return Process Evaluation
- BLG5: Functional Usage Evaluation
- BLG6: Functional Bill Cycle Evaluation
- BLG7: Capacity Management Evaluation

1.0 BLG1: Billing Process Metrics Evaluation

1.1 Description:

The Billing Process Metrics Evaluation is an end-to-end operational analysis of the processes and systems used to capture BA-MA Wholesale Billing metrics. It will include the evaluation of the metrics process flow and related documentation.

1.2 Objective:

The objective of this test is to evaluate the capture, tracking, and reporting of billing metrics required by regulatory bodies.

1.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
BA-MA Billing Process and System specialists available for interviews	BA-MA
Metrics Process Evaluation Checklist	KPMG

1.4 Test Scope:

Table VI-2 below outlines the processes and sub-processes involved in evaluating the completeness, applicability, and security of billing metrics captured and reported by BA-MA.

[2] Please note that the test, "BLG 4: Resale Bill Certification Process Evaluation" was removed from the scope of the NY test by Scope Change 4 on 8/28/98. This will remain out of scope in Massachusetts.

Table VI-1 Test Target: Billing Metrics

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Validate Metrics Information Gathering Process	Identify control points where measurements are taken	Applicability and measurability of control points	Inspections	Quantitative
	Identify data sources for each reported metric	Applicability and completeness of data sources	Inspections	Quantitative
	Identify each tool used by BA to collect data	Applicability and reliability of tools	Inspections	Quantitative
Evaluate Quality of Metric Reported	Evaluate calculation	Accuracy and applicability of calculations	Inspections	Quantitative
	Evaluate tools	Accuracy, security and controllability of data housed in tools	Inspections	Quantitative
Evaluate Reports	Evaluate report format	Consistency of reporting results with data collected	Inspections	Qualitative
	Evaluate report content	Accuracy of metrics reporting	Inspections	Quantitative

1.5 Scenarios:

Not Applicable.

1.6 Test Approach:

In the New York test, this test used operational analysis techniques. It relied on the development of various evaluation checklists to facilitate a structured walkthrough of the metric gathering and reporting processes.

The fundamentals behind metric data collection, interpretation and publication are similar.

The NY and MA test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the NY test where appropriate, and retesting areas of difference by confirming that the changes have been made and that they are effective (eg.- Methods & Procedures (M&P's), training, regression test results).

For the Massachusetts test, the following steps will be performed:

1.6.1 Inputs

1. Detailed Operational Test Plan
2. Metrics Process Evaluation Checklist
3. BA-MA personnel to review procedures and systems
4. BA-NY results, where appropriate

1.6.2 Activities

1. Inspect through sampling:
    A. Process evaluation.
    B. Review metrics data capture methods, instruments and gauges.
    C. Review metrics output reports.
    D. Complete checklist values.
2. Validate similarities with BA-NY.
3. List and retest any differences with BA-NY

1.6.3 Outputs

1. End-to-end evaluation report of metric process.
2. Completed checklist values.

1.7 Exit Criteria:

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

2.0 BLG2: Billing Documentation Evaluation

2.1 Description:

The Billing Documentation Evaluation is an operational analysis of the billing documentation used by CLECs to read and process the DUF and carrier billing output from BA-MA.

2.2 Objectives:

The objectives of this evaluation are to:

- Determine the accuracy and usability of the billing documentation.
- Determine BA-MA's compliance with its CLEC documentation in regards to the technical format of the transmission.

2.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
CLEC Handbook available	BA-MA
Resale Handbook available	BA-MA
CABS (BOS BDT) Standards available	BA-MA
UNE-P Call Scenarios available	BA-MA
MA Tariff available	BA-MA
EMI Standards available	BA-MA
Help Desk Work Center Documentation	BA-MA
Billing Training Material available	BA-MA
Other Appropriate Documentation available	BA-MA
Standards Evaluation Checklist created to measure compliance to standards	KPMG
Documentation Evaluation Checklist created to measure the general documentation attributes	KPMG
Technical Format Evaluation Checklist created to compare documented format to technical format	KPMG

(Note: EDI transaction population instructions are not relevant to billing. These are appropriately addressed in the order and pre-order test domains.)

2.4 Test Scope:

Table VI-3 below outlines the processes and sub-processes involved in evaluating the organization, usability, comprehensiveness, and accuracy of billing documentation produced by BA-MA.

Table VI-2 Test Target: Billing Documentation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Acquire Documentation	Receive current documentation	Availability of up-to-date documentation	Documentation Review	Qualitative
Evaluate Documentation	Evaluate documentation format	Organization of documentation	Documentation Review	Qualitative
		Ease of use of documentation	Documentation Review	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Evaluate documentation content	Comprehensiveness of documentation	Documentation Review	Quantitative
		Accuracy of documentation	Documentation Review	Quantitative

2.5 Scenarios:

Not applicable.

2.6 Test Approach:

In the New York test, the test approach was to use operational analysis to evaluate BA-NY's compliance with standards. In addition, it evaluated how closely BA-NY's internal documentation matched the technical formats that it produced and the CLECs must process.

The documentation used by CLECs in BA-NY and BA-MA is identical. However, significant updates have been made to the documentation since the original test was conducted.

The NY and MA test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the NY test where appropriate, and retesting areas of difference by confirming that the changes have been made and that they are effective (eg.- M&P's, training, regression test results).

For the Massachusetts test, the following steps will be performed:

2.6.1 Inputs

1. Detailed Operational Test Plan and task checklist
2. CABS standard (BOS BDT)
3. CRIS standard
4. Billing Documentation
5. Standards Evaluation Checklist
6. Documentation Evaluation Checklist
7. Technical Format Evaluation Checklist
8. BA-NY results, where appropriate

2.6.2 Activities

1. Inspect through sampling:

    A. Standards Evaluation using Standards

Evaluation Checklist.

B. Documentation Evaluation using Documentation Evaluation Checklist.

C. Technical Format Evaluation using Technical Evaluation Checklist.

D. Compile results.

2. Validate similarities with BA-NY.
3. List and retest any differences with BA-NY.

2.6.3 Outputs

1. Completed checklist values from the Documentation Evaluation.
2. Report showing level compliance of outputs to industry standards.
3. Report showing compliance of CABS and DUF technical formats to BA-MA's document specifications.

2.7 Exit Criteria:

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

3.0 BLG3: Billing Work Center/Help Desk Support Evaluation

3.1 Description:

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

3.2 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 correctly documented, maintained, published and followed.
- Determine the accuracy, completeness, and functionality of procedures for measuring and tracking work center/help desk performance. Determine the accuracy, completeness, and

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

- Ensure accuracy 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.
- Ensure the work center / help desk effort has effective management oversight.
- Ensure responsibilities for performance improvement are defined and assigned.

3.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Detailed Test Plan completed and approved	KPMG
CLEC Problem Feedback Questionnaire developed	KPMG
Billing Problem Response Form with standard questions completed	KPMG, CLECs
Escalation Procedures available	BA-MA
Escalation Procedure Evaluation Checklist completed	KPMG
Claims / adjustment Procedure Evaluation Checklist completed	KPMG
Techniques and instrumentation developed and approved	KPMG
Test criteria identified and approved	KPMG
Data and documentation request completed	KPMG
Required data and documentation provided	BA-MA

3.4 Test Scope:

Table VI-4 below outlines the processes and sub-processes involved in evaluating the timeliness, consistency, and accuracy of handling work center and help desk activities performed by BA-MA.

Table VI-3 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	Inspections	Quantitative
	Interface with user	Usability of user interface	Inspections	Qualitative
		Availability of user interface	Inspections	Quantitative
	Log call	Existence of call logging	Document Review	Quantitative
		Accuracy of call logging	Inspections	Qualitative
	Record severity code	Compliance of call logging - severity coding	Inspections	Qualitative
Process Help Desk Call	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review, inspections	Quantitative
		Accuracy of response	Inspections	Quantitative
Receive Claim	File claim	Completeness and consistency of process	Documentation Review, inspections	Qualitative
		Accuracy of response	Inspections	Qualitative
	Process claim	Completeness, consistency, and timeliness of process	Inspections, report review	Qualitative
	Issue adjustment when necessary	Completeness and consistency of process	Documentation review, inspection	Qualitative
	Disposition claim	Accuracy, completeness and reliability of disposition report	Inspections, report review	Quantitative and Qualitative
Close Help Desk Call	Post closure information	Completeness, consistency, and timeliness of process	Inspections	Quantitative
		Accuracy of posting	Inspections, report review	Quantitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Monitor Status	Track Status	Existence of status tracking capability	Inspections	Existence
		Consistency and frequency of follow-up activities	Document Review	Qualitative
		Availability of jeopardy notification	Document Review	Quantitative
	Report Status	Completeness and consistency of reporting process	Inspections, report review	Qualitative
		Accuracy and timeliness of report	Inspections, report review	Quantitative
		Accessibility of status report	Inspections	Quantitative
Request Escalation	Identify escalation procedure	Existence of procedure	Document Review	Existence
	Evaluate escalation procedure	Completeness of the procedure	Document Review	Qualitative
		Consistency of the process	Inspection	Qualitative
Manage Workforce Capacity	Identify work force planning procedures	Existence of procedure	Document Review	Existence
	Evaluate work force planning procedures	Completeness of procedure	Document Review	Qualitative
	Review staffing plans	Scalability of staff volume	Report review	Qualitative
Provide Security and Integrity	Provide secured access	Completeness and applicability of security procedures, profiles, and restrictions	Document Review, Inspections	Qualitative
		Controllability of intra-company access	Document Review, Inspections	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Manage the Help Desk Process	Provide management oversight	Completeness and consistency of management operating practices	Inspections	Qualitative
		Controllability, efficiency and reliability of process	Inspections	Qualitative
		Completeness of process improvement practices	Inspections	Qualitative

3.5 Scenarios:

Not applicable.

3.6 Test Approach:

In the New York test, the test approach was to use operational analysis to evaluate BA-NY's processes and related documentation. It relied on the development of various evaluation checklists to facilitate a structured walkthrough of the major work center/help desk processes with BA-NY representatives and to review process documentation.

This test also evaluated BA-NY's handling of a recent sample of problems. KPMG initiated a series of calls to obtain answers to a standard set of billing questions.

BA-North operates two Billing Work Center/Help Desks to support the entire BA-North region, including both Massachusetts and New York. The Manhattan TISOC handles issues for all resellers in the BA-North region. The Boston TISOC handles issues for all unbundlers in the BA-North region[3]. Processes, procedures and supporting systems/personnel are the same for both states. Thus, the New York test results are directly applicable to Massachusetts.

The Massachusetts test may therefore be limited to verifying that the Billing Work Center Support is indeed the same in all cases. A limited test focusing on calls to the Billing Work Center/Help Desks will be conducted to validate the New York results.

[3] The Manhattan TISOC currently handles most unbundled data products. BA plans to migrate this support function to Boston in the near future.

The NY and MA test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the NY test where appropriate, and retesting areas of difference.

For the Massachusetts test, the following steps will be performed:

3.6.1 Inputs

1. Detailed test plan
2. Techniques and instrumentation
3. Test criteria
4. Data and documentation
5. Claim / Adjustment Procedure Evaluation Checklist
6. Work Center / Help Desk Support Checklist
7. Escalation Procedure Evaluation Checklist
8. Help Desk questions / answers
9. CLEC Problem Feedback Questionnaire
10. Billing Problem Response Form
11. BA-NY results, where appropriate

3.6.2 Activities

1. Inspect through sampling:
   A. Work Center / Help Desk Support Evaluation using the Work Center / Help Desk Support Checklist.
   B. Escalation procedure review using Escalation Procedure Evaluation Checklist.
   C. Claim / adjustment review using Claim / adjustment Procedure Evaluation Checklist.
   D. Sample set of current problems on which to issue Feedback Questionnaires.
   E. Send CLEC Problem Feedback Questionnaire to CLECs.
   F. Receive and compile CLEC Problem Feedback Questionnaire.
   G. Calls to BA-MA work center to ask standard set of questions on the Billing Problems Response Form.
   H. Record answers on the Billing Problem Response Form.
   I. Compile results.

2. Validate similarities with BA-NY.
3. List and retest any differences with BA-NY.

3.6.3 Outputs

1. Completed Work Center / Help Desk Evaluation Checklist
2. Completed Escalation Procedure Evaluation Checklist
3. Completed Claim / adjustment Procedure Evaluation Checklist
4. Report summarizing results of CLEC Problem Feedback Questionnaires
5. Report showing number of times standard questions received valid answers on the Billing Problem Response Forms

3.7 Exit Criteria:

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

4.0 BLG4: Usage Return Process Evaluation

4.1 Description:

The Usage Return Process Evaluation is an operational analysis of the usage return process and related documentation used by BA-MA to process usage returns from CLECs.

4.2 Objectives:

The objective of this evaluation is to determine the accuracy, completeness and timeliness of the usage returns process.

4.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Documentation on Return Process available	BA-MA
Usage Return Evaluation Checklist developed	KPMG

4.4 Test Scope:

Table VI-5 below outlines the processes and sub-processes involved in evaluating the timeliness, consistency, and accuracy of handling usage errors as performed by BA-MA.

Table VI-4 Test Target: Daily Usage Feed

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Returns	BA receives erred usage	Completeness of usage return procedures	Inspections	Quantitative and Qualitative
	BA sends corrections when necessary	Accuracy, completeness and timeliness of corrections	Inspections	Quantitative and Qualitative
	BA provides item status for all returned records	Accuracy, completeness and timeliness of status report	Inspections, report review	Quantitative and Qualitative

4.5 Scenarios:

Not applicable.

4.6 Test Approach:

In the New York test, the test relied on the development of various evaluation checklists to facilitate a structured walkthrough of the return process with BA-NY representatives and to review process documentation. This test was known as the "Procedural Evaluation".

The test also included soliciting CLEC participation to gather relevant data to help with the evaluation. The tester observed the interactions of Bell Atlantic and CLECs submitting returns to verify that the procedures described by Bell Atlantic during the process evaluation were followed in practice. This test was known as the "Transactional Evaluation".

BA-North operates a single DUF return to support both New York and Massachusetts. Processes, procedures and supporting systems / personnel are the same for both states. Thus, the New York test results are directly applicable to Massachusetts.

The Massachusetts process test may therefore be limited to verifying that the Billing Wholesale Technical Support is indeed the same in all cases. A separate test of an actual DUF return request (either through observation of a CLEC example or a test constructed from KPMG's Massachusetts usage) will have to be developed and executed to validate NY results. A walkthrough of the processes and procedures surrounding Billing Usage Returns will not be required.

The NY and MA test objects are presumed identical. KPMG will ensure the objects are identical, and will re-use results from the NY test.

For the Massachusetts test, the following steps will be performed:

4.6.1 Inputs

1. Billing questionnaire
2. Usage that will be returned
3. Usage Return Evaluation Checklist
4. Documentation on the Usage Return Process
5. BA-NY results, where appropriate

4.6.2 Activities

1. Inspect through sampling:
   A. Return Process Evaluation using Return Evaluation Checklist.
   B. Return Usage. Observe usage return process from CLEC perspective.
   C. Compile results.
2. Validate similarities with BA-NY.
3. List and retest any differences with BA-NY.

4.6.3 Outputs

1. Completed checklist findings from the Return Process Evaluation and final report
2. Completed final report from the Return Process Transactional Evaluation

4.7 Exit Criteria:

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

5.0 BLG5: Functional Usage Evaluation

5.1 Description:

The Functional Usage Evaluation is an operational and systems analysis of BA-MA's daily message processing to ensure usage record types including Access Records, Rated Records, Unrated Records, and Credit Records appears accurately on the Daily Usage Feed (DUF) according to the defined schedule.

5.2 Objective:

The objective of this test is to evaluate the following:

- Accuracy and completeness of the usage on the DUF, including receiving records that should appear, not receiving records that should not appear, and not receiving empty set records.
- Timeliness of the DUF delivery via Network Data Mover (NDM) or cartridge tape
- Consistency of usage backup procedures

5.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Test bed completed and ready	BA-MA
Product descriptions and business rules for all transactions to be tested are available	BA-MA
NDM Connectivity established	BA-MA
Test sites readiness	BA-MA
Test Call Matrix developed (showing required mix and volumes of test calls)	KPMG
Detailed Test Plan completed and approved	KPMG
Techniques and instrumentation developed and approved	KPMG
Daily Usage Feed Evaluation Checklists developed	KPMG
BA-MA resources are available to participate in the test	BA-MA

5.4 Test Scope

Table VI-6 below outlines the processes and sub-processes involved in evaluating the completeness, accuracy, controllability, and timeliness of providing usage to CLECs on a daily basis.

Table VI-5 Test Target: Daily Usage Feed

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Daily Usage Feed	Balancing and reconciliation of usage feed.	Completeness of balancing and reconciliation procedures	Inspections	Qualitative
	Route usage	Controllability of usage	Inspections	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Transmit DUF	Send via direct connect or cartridge tape	Completeness, consistency and timeliness of the process	Inspections	Qualitative
Maintain Usage History	Create usage backup	Reliability of repeatable process	Inspections	Qualitative
	Request backup data	Availability of data	Inspection	Qualitative
Status Tracking and Reporting	Track valid usage	Completeness and accuracy of data Timeliness of DUF files and DUF records	Inspections	Quantitative
	Account for no usage	Completeness of data	Inspections	Quantitative

5.5 Scenarios

Test calling is dependent on the provisioning process, which is dependent on scenarios. Some customers are subject to service to changes (e.g. migrations from BA-MA Retail to a CLEC, feature changes, disconnects, etc.). Test calls and service changes will occur simultaneously.

5.6 Test Approach

In the New York test, this test used operational and systems analysis to evaluate the completeness and accuracy of records contained in the DUF, the procedures used to create and deliver the DUF and the age of calls on the DUF.

The test consisted of “Procedural Evaluations” and “Transactional Evaluations”. Procedural evaluations examined the ways in which BA-NY ensured the completeness and accuracy of calls on the DUF. These evaluations were accomplished by arranging for BA-MA subject matter experts to “walkthrough” the relevant procedures.

The Transactional evaluations were accomplished by dispatching testers throughout the State of New York to place test calls. The testers recorded information about these calls such as “call from” number, “call to” number, “bill to” number, call time and duration. The Test Team also recorded information about the contents and timeliness of the DUFs received. The data contained in these DUF’s was then compared to the call logs.

Test calls were made using some customer accounts that migrated during the test period. Migration refers to the conversion of account ownership from one LEC to

another. Test calls were made from migrating accounts before and after the migration date to ensure accurate routing of calls in the DUF.

For example, a BA-MA retail customer migrated to a CLEC. Calls made by the customer prior to migration should be routed to BA-MA. A call made by the customer after migration should be routed to the new CLEC.

Test calls were placed throughout the workday from around the BA-NY calling region. The test calls included a variety of call types, with the exception of E911, and were placed from locations where both Lucent 5ESS and Northern Telecom DMS switches were used in the local central offices. Calls terminating to the test lines were also made. Those calls were subject to evaluation.

Many OSS distinctions exist between the systems operating in the regions formerly known as New York Telephone and New England Telephone with regards to DUF Production and Distribution. While processes, procedures and supporting systems perform similar functions, the OSS in Massachusetts are not common to New York and may perform differently in production. Thus, both the "Procedural Evaluation" and "Transactional Evaluation" will be conducted in their entirety. Some limited scope and methodology changes will likely arise due to differences in Massachusetts's product offerings, switching technology, and rate zones.

The New York and Massachusetts test objects are sufficiently dissimilar that testing will be redone at the same level as New York.

For the Massachusetts test, the following steps will be performed:

5.6.1 Procedural Evaluations

5.6.1.1 Inputs

1. Billing Questionnaire
2. Documentation on each sub-process under evaluation
3. DUF evaluation checklists
4. BA-NY results, where appropriate

5.6.1.2 Activities

1. Create interview forms.
2. Conduct walkthroughs with BA-MA subject matter experts. Follow up as needed.
3. Request additional documentation as needed.

5.6.1.3 Outputs

1. Process evaluation final report.

5.6.2 Transaction-based Evaluation

5.6.2.1 Inputs

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

5.6.2.2 Activities

1. Test Team will develop Test Call Matrices, which include test call logs for each location, on each day, for each originating phone number.
2. Test Team will perform site visits and pre-testing to ensure that locations are ready and suitable for the test.
3. Test Team will assemble tester resources, provide instructions, and dispatch testers to calling locations.
4. Testers will complete calls and log results.
5. Test Team will receive DUF files from BA-MA.
6. Test Team will verify that appropriate data is on the DUF.
7. Test Team will verify that calls that do not belong on the DUF are not on the DUF.
8. Test Team will verify that appropriate calls present in the DUF match the testers call log.
9. Test Team will identify DUF files that contain no billable records.
10. Using records received in the DUF files, Test Team will validate the age of calls by determining the number of business days between the call date and the day the DUF file was created.
11. Test Team will compile results.

5.6.2.3 Outputs

1. Call Logs Report
2. DUF Accuracy and Completeness Report
3. Empty DUF Files Report
4. DUF Timeliness Report

5. Final Report

5.7 Exit Criteria

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

6.0 BLG6: Functional Bill Cycle Evaluation

6.1 Description:

The Functional Bill Cycle Evaluation is a systems analysis of BA-MA's ability to accurately bill usage plus monthly recurring and non-recurring charges and adjustments 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, descriptions and discount amounts. This test will also evaluate the timeliness of bill delivery to the CLECs.

This test will also determine whether the processes employed by BA-MA to produce and distribute carrier bills are sufficient to ensure that those bills are accurate and that they are distributed to CLECs on a timely basis. The process by which CLECs can request and obtain historical bill copies is also tested.

BA-MA will need to run a bill cycle from the initial test bed prior to any POP tests to use as a baseline set of bills. This will reduce the need to run multiple bill cycles during the test.

Monthly charges will be examined for both Resale and UNE billing on CABS and CRIS bills. The following Table VI-7 reflects a number of key characteristics of Resale and UNE customers' billing information to use in the design of test cases for billing in Phase 3. Information includes the various charge components and their destination bill.

Table VI-6: Key Characteristics Of Billing Information for Resale and UNE Customers

	Billing Components	Account Information (source)	Rating System (usage and/or MRC/NRC)	Usage	Bills (output)	Bill Inquiries (output)
Resale	Usage	CRIS	MPS	DUF	CABS (via CASH)	CRIS
	MRC/NRC	CASH	CASH	N/A	CABS (via CASH)	CRIS

	Billing Components	Account Information (source)	Rating System (usage and/or MRC/NRC)	Usage	Bills (output)	Bill Inquiries (output)
UNE-P	UNE-P usage (line port)	CABS	CABS	DUF	CABS (via MCRIS)	CABS
	UNE-P MRC/NRC	CABS	CABS	N/A	CABS	CABS
UNE	UNE-loops usage and MRC/NRC	CASH	MPS/CASH	DUF	CRIS	ICRIS
UNE-Other	UNE-ports, IOF, collocation, SS7	CABS	CABS	DUF	CABS	CABS
	High Cap Loops (D3) MRC/NRC	CABS	CABS	N/A	CABS	CABS
	Main Directory Listings	CABS	CABS	N/A	CABS	CABS
	Additional Directory Listings	CRIS	CASH	N/A	CRIS	CRIS
Retail	Non-unbundled Services MRC/NRC (Ancillary services)	CRIS	CASH	N/A	CRIS	ICRIS

6.2 Objective:

The objective of this test is to evaluate 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 changes for resale and UNE. Details to be evaluated include:

- Appropriate proration of charges for new and/or disconnected service.
- Customer charges are what they have ordered and are accurate (order matches billing).
- New/disconnected products appear (or do not appear) on the bill.
- Bill dates are correct and match appropriate date from provisioning process.
- Payments and adjustments appear on the bill.
- Administrative charges appear on the bill.

- Bills are delivered to CLECs and Resellers in a timely manner.

6.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
All CRIS and CABS baseline bills produced from the initial test bed	BA-MA
Contents verified for each baseline bill.	BA-MA
Calls made during BLG5: Functional Usage Evaluation processed through to the DUF and available for billing.	BA-MA
Availability of BA-MA resources to test and produce CRIS and CABS bills	BA-MA
Product descriptions and business rules for all transactions to be tested are available	BA-MA
Test Results defined for each test case	KPMG
Test Results defined for each bill cycle	KPMG
Bill Validation Checklist complete for each bill cycle	KPMG
Rates/charges to be used in producing the bills	BA-MA
BOS/BDT record layouts (Version 31 and 32) and BA-MA differences list	BA-MA
Method for printing the bills CRIS and CABS	BA-MA, KPMG
Information available on customers from test bed	KPMG

6.4 Test Scope:

Table VI-8 below outlines the processes and sub-processes involved in evaluating the completeness, accuracy, controllability, and timeliness of providing bills to CLECs for resale and UNE products on a monthly basis.

Table VI-7 Test Target: Carrier Bills

Process Area	Sub Process	Evaluation Measure	Evaluation Technique	Criteria Type
Maintain Bill Balance	Carry balance forward	Accuracy of bill balance	Inspections	Qualitative
Verify Billing Account	Verify Billing Accounts Selected	Completeness and accuracy of extraction	Inspections, report review	Quantitative

Process Area	Sub Process	Evaluation Measure	Evaluation Technique	Criteria Type
Review Bills	Verify normal recurring charges	Completeness and accuracy of data	Inspections	Qualitative
	Verify one-time charges	Completeness and accuracy of data	Inspections	Qualitative
	Verify prorated recurring charges	Completeness and accuracy of data	Inspections	Qualitative
	Verify usage charges	Completeness and accuracy of data	Inspections	Qualitative
	Verify discounts	Completeness and accuracy of data	Inspections	Qualitative
	Verify adjustments (debits and credits)	Completeness and accuracy of data	Inspections	Qualitative
	Verify late charges	Completeness and accuracy of data	Inspections	Qualitative
Balance Cycle	Define balancing and reconciliation procedures	Availability of balancing and reconciliation procedures	Inspections	Existence
	Produce Control Reports	Completeness and accuracy in generation of control elements	Report review	Qualitative
	Release cycle	Compliance to balancing and reconciliation procedures	Inspections	Qualitative
Deliver Bill	Deliver Bill Media	Timeliness of media arrival	Inspections, logging	Qualitative
Maintain Bill History	Maintain billing information	Timeliness and controllability of billing information	Inspections	Existence
	Access billing information	Accessibility and availability of billing information	Inspection	Parity
Request Resend		Timeliness of the delivery	Inspections, logging	Existence

The Table VI-9 below shows the entire list of bill types for Resale and UNE. Relevant types will be selected for review based upon the product mix and anticipated charges as defined in the expected test results.

Table VI-8: Resale and UNE Bill Types

UNE charge categories	Bill Code	Billing Title	Comment
Other	K02	Billing and Collection Services (MRC/NRC)	Miscellaneous charges
Other	K91	Expanded Interconnection Service	Physical Collocation (cage and associated FCC tariffed charges)
Other	K41	Cage Account for 914 Tariff	
Line Port, Unbundled Loop, and Unbundled Dedicated Transport	M40	Unbundled Facility Access Service (analog) (MRC/NRC)	Inter-Office Facility (IOF), channelized Hi Cap loops, & Network Interface Devices (NID). Transport also includes ISDN PRI, DTS, EEL, DS1 and trunk ports.
Other	M41	Unbundled Facility Access Service (MRC/NRC)	Virtual Collocation
Line Port	U09	Unbundled LIDB (per event usage charges)	Line Information Database dips
Other	U10	Local Number Portability (per event charges)	CSR database dips (on a contract and casual basis)
Other	Y38	CLEC (MRC/NRC, interconnection usage charges)	Facilities Based CLEC (New York only)
Line Port, Other	Y40	Unbundled Line Port (MRC/NRC, unbundled usage charges)	TN Level
Unbundled Dedicated Transport	Y41	Unbundled Trunk Port (MRC/NRC, unbundled usage charges)	Facilities-based CLEC and Meet Point A&B Usage, IP charges. (This contains only facilities. Trunk ports are billed on the M40.)
Line Port, Other	Y42	Unbundled Line Port (MRC/NRC, unbundled usage charges)	DS1 Level. Includes ISDN PRI.

UNE charge categories	Bill Code	Billing Title	Comment
Other	Y77	Unbundled Access Loop Service (per event usage charges)	Unbundled SS7-STP Connections (Currently no usage is billed on this account).
Unbundled Loop	CRIS	Unbundled Loop Summary (of SBNs) (MRC/NRC)	2- & 4-wire analog loop and Network Interface Device (NID)
N/A	CRIS	SNB - Retail	Billing of retail product not available as an unbundled wholesale product

6.5 Scenarios:

A selection of scenarios has been identified for billing purposes for all products that include, specifically:

- Test cases for 'as-is/conversion' customers (some of which have Supplements)
- Test cases for disconnects
- Test cases for changes to other items (e.g., features)
- Test cases with based on errored conditions from upstream systems.All migration situations should be adequately represented for customers' transitioning billing from:
- BA-MA to a CLEC
- CLEC to BA-MA
- CLEC to CLEC

6.6 Approach:

In the New York test, the test was separated into "Procedural Evaluations" and "Transactional Evaluations". The first type of test relied on the development of various evaluation checklists to facilitate a structured walkthrough of the bill production and delivery process.

The "Transactional Evaluation" used a combination of systems and operational analysis to evaluate the completeness and accuracy of charges that should appear on the bill based on the staged input data (usage information from the BLG5: Functional Usage Evaluation and selected scenarios). Expected results were defined for each test case and test cycle.

Three bill periods will be processed for the same set of customers.

The first bill period consist of the baseline bills where customers created for this test were billed for the first time directly from the initial test bed. These bills were produced prior to the execution of any POP scenarios.

The second bill period and third periods consist of bills produced after selected scenarios had been executed. The subsequent set of bills will be items such as prorates, disconnects, migrations, adjustments, and usage, etc. Some customers will be created during test execution, and will only receive second period bills.

BA-NY's customers ordered many products that were billed through both CABS and CRIS over many bill cycles.

Many OSS distinctions exist between the systems operating in the regions formerly known as New York Telephone and New England Telephone with regards to Bill Production and Distribution. Significant differences exist for resale billing (CRIS billing). While processes, procedures and supporting systems perform similar functions, the system components for resale billing in Massachusetts are not common to New York and may perform differently in production.

This test will be conducted in its entirety with regards to CRIS billing in Massachusetts.

Production of CABS bills is identical throughout all of BA-North. Processes, procedures and supporting systems / personnel are the same for all states. Thus, the New York test results are directly applicable to Massachusetts. The Massachusetts tests relating to CABS may therefore be limited to verifying that CABS billing is indeed the same in all cases.

Some test objects are significantly similar. KPMG will ensure the objects are significantly similar by validating the results of the New York test where appropriate, and retesting areas of difference.

For the Massachusetts test, the following steps will be performed:

6.6.1 Procedural Evaluations

6.6.1.1 Inputs

1. Detailed test plan
2. BA-MA personnel to review procedures, systems and tools
3. Process documentation
4. BA-NY results, where appropriate.

6.6.1.2 Activities

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

6.6.1.3 Outputs

1. Completed final report for the Bill Production and Distribution Process Evaluation

6.6.2 Transactional Evaluations

6.6.2.1 Inputs

1. Detailed Test Plan
2. Test cases from the POP Domain
3. Scenarios have been executed. Test bed has data required to bill (e.g., customers, payments and adjustments)
4. Expected results for each test case
5. Expected results for each test cycle
6. BA-MA people and resources available to run bill cycles
7. CLEC Survey
8. BA-NY results, where appropriate

6.6.2.2 Activities

1. Run Billing for CABS billing Cycle
2. Validate test results for each test case (e.g., proration for new / disconnects)
3. Identify discrepancies.
4. Run Billing CRIS billing Cycle(s)
5. Validate test results for each test case (e.g., full month of charges)
6. Identify discrepancies.
7. Run additional bill cycles, if necessary.
8. CLECs will log delivery of bills

6.6.2.3Outputs

1. A report showing each test case, expected results, and discrepancies.
2. A report showing CLEC's bill delivery dates.

6.7 Exit Criteria:

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

7.0 BLG7: Capacity Management Evaluation

7.1 Description

The CRIS/CABS Invoicing Capacity Management Evaluation is a detailed review of the safeguards and procedures in place to plan for and manage projected growth in the use of CRIS/CABS applications for bill generation and invoicing. The test will evaluate the functions for business volume tracking and forecasting, resource usage tracking and forecasting, performance management procedures and capacity management.

7.2 Test Objective

The objective of this evaluation is to determine the extent to which procedures to accommodate increases in the CRIS/CABS invoicing transaction volumes and users are being actively managed.

7.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria	See Table III-3
Availability of information identified as input	BA-MA, KPMG
Interview Guide/Questionnaire Developed	KPMG
Interviewees Identified and Scheduled	BA-MA, KPMG
Detailed evaluation checklists developed	KPMG

7.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the management processes and capabilities of BA-MA to support capacity changes in the billing processes.

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
CRIS / CABS Capacity Management	Data collection and reporting of business volumes, resource utilization, and performance monitoring	Existence of procedures and reports	Inspection Interviews	Qualitative
	Data verification and analysis of business volumes, resource utilization, and performance monitoring	Existence of procedures and reports	Inspection Interviews	Qualitative
	Systems and capacity planning	Existence of procedures	Inspection Interviews	Qualitative

7.5 Scenarios

Scenarios are not used in this test.

7.6 Test Approach

Operational analysis techniques will be used to test the CRIS / CABS invoicing capacity management process. Interviews will be conducted with business process owners and system administration personnel responsible for the operation of CRIS / CABS invoicing. These interviews will be supplemented with an analysis of BellSouth capacity management procedures as well as evidence of related activities such as: periodic capacity management reviews; system reconfiguration / load balancing; and, load increase induced upgrades.

7.6.1 Inputs

1. CRIS/CABS and related system documentation
2. Capacity management evaluation checklist
3. Interview guides
4. Personnel to perform evaluation

7.6.2 Activities

1. Review procedural and other documentation related to CRIS/CABS capacity management.
2. Conduct interviews with key systems administration and support personnel as appropriate

3. Document findings.

7.6.3 Outputs

1. Completed capacity management evaluation checklist
2. Interview summaries
3. Summary Findings and Conclusions

7.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Documentation reviews completed	KPMG
Interviews completed	KPMG
Capacity Management review report completed	KPMG

VII. Relationship Management and Infrastructure Domain Test Section

A. Purpose

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

B. Organization

The Relationship Management and Infrastructure "Scope" section identifies the types of tests to be associated with each Target Test Area and is organized based upon test subject matter.

The subsequent section, Relationship Management and Infrastructure "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 Relationship Management and Infrastructure Domain is comprised of seven Target Test Areas, representing important and generally distinct areas of effort undertaken by BA-MA to establish and subsequently support the CLEC relationship. These Target Test Areas include:

- Change Management
- Interface Development
- Account Establishment & Management
- Network Design, Collocation, and Interconnection Planning
- System Administration Help Desk
- CLEC Training
- Forecasting

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

Ten test processes have been designed to address the seven Test Target Areas. The organization of the subject test processes is as follows:

- RMI1 - Change Management Practices Verification and Validation Review
- RMI2 - Interface Development Verification and Validation Review
- RMI3 - Account Establishment & Management Verification and Validation Review
- RMI4 - Account Establishment & Management Performance Data Review
- RMI5 - Network Design Request, Collocation, and Interconnection Planning Verification and Validation Review
- RMI6 - System Administration Help Desk Functional Review
- RMI7 - System Administration Help Desk Performance Data Review
- RMI8 - System Administration Help Desk Verification and Validation Review
- RMI9 - CLEC Training Verification and Validation Review
- RMI10 - Forecasting Verification and Validation Review

1.0 Test RMI1: 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-MA / 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

Criteria	Responsible Party
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

1.4 Test Scope

Table VII-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 updates	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

This test will consist of a full-scale qualitative review of BA-MA's policies and practices related to the Change Management Process.

BA-MA has represented that it employs the same processes across its entire market footprint and the same personnel currently support it.

KPMG will validate information obtained about the Change Management processes in New York and Pennsylvania which appear to be identical to Massachusetts. In addition, KPMG will conduct interviews and collect and analyze data from outputs of these processes.

For the Massachusetts test, the following steps will be performed:

1.6.1 Inputs

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

1.6.2 Activities

1. Determine areas that require validation or retest.
2. Gather documentation.
3. Perform interviews and documentation reviews as required to validate or retest.
4. Complete evaluation checklists and interview summaries.
5. 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 RMI2: Interface Development Verification and Validation Review

2.1 Description

This test evaluates key policies and practices for developing and maintaining OSS interfaces which support the BA-MA / CLEC relationship. These policies and practices apply to interfaces such as the Internet GUI interfaces and the

application-to-application interfaces. 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 developing and maintaining interfaces.

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

2.4 Test Scope

Table VII-2 Test Target: Interface Development Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Developing and Maintaining Interfaces	Software development	Adequacy and completeness of software development methodology	Inspection Document review Report review	Qualitative
Develop Interface Documentation	Document development and distribution	Adequacy and completeness of interface document development and distribution procedures	Inspection Document review Report review	Qualitative
	Document structure	Adequacy and completeness of interface document structure	Inspection Document review Report review	Qualitative
Developing and Maintaining Interfaces	Implementation	Compliance with schedule of interface development deliverables (as defined in the TIS Change Management Process document)	Inspection Document review Report review	Qualitative

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

In New York, this test consisted of qualitative reviews of policies and practices for Interface Development.

Overall, the processes and systems utilized by BA-MA have been represented by BA-MA as appearing significantly similar to those in BA-NY. The systems employed by BA-NY and BA-MA are presumed to be the same and the organizations, processes, and procedures supporting the system are presumed to be identical; however, since the original test took place changes have occurred to the processes. At the close of the New York test KPMG had not tested or verified BA-NY's latest documentation and implementation of its interface development test environment. Furthermore, BA-NY introduced a new interface development test environment in September 1999 for the New York market only.

In October this environment became available in Massachusetts. KPMG will conduct a full test reviewing processes, documentation, and environments.

For the Massachusetts test, the following steps will be performed:

2.6.1 Inputs

1. Telecom Industry Services Change Management Process document
2. Other procedural and technical documentation
3. CLEC Handbook(s)
4. Evaluation checklists
5. Interface development products as a result of change management efforts
6. Interview guides
7. BA-MA System Development Methodology documentation
8. Relevant data acquired from the New York test

2.6.2 Activities

1. Determine areas that require validation or retest.
2. Gather information.
3. Review interface development products to assess whether their successful completion were performed as anticipated by the timelines in the Telecom

Industry Services Change Management Process document.

4. Perform interviews and documentation reviews as required for validation or retest.
5. Complete evaluation checklists and interview summaries.
6. Develop and document findings.

2.6.3 Outputs

1. Completed evaluation checklists and interview summaries.
2. Comparison of actual versus expected results for interface development deliverables (as defined in the TIS Change Management Process).
3. Summary report.

2.7 Exit Criteria

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

3.0 Test RMI3: Account Establishment & Management Verification and Validation Review

3.1 Description

This test evaluates the overall policies and practices for establishing and managing the account relationship. This test will rely on checklists and inspections.

3.2 Objectives

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

3.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

3.4 Test Scope

Table VII-3 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	Escalation	Adequacy and completeness of escalation procedures	Inspection Document review	Qualitative
	Communications	Compliance with pre-filing commitment for industry letters and conferences	Inspection Document review	Qualitative
		Adequacy and completeness of emergency communication and notifications	Inspection Document review	Qualitative
Documentation - CLEC Handbook(s)	Document development and distribution	Adequacy and completeness of CLEC Handbook(s) development and distribution procedures	Inspection Document review	Qualitative
	Document structure	Adequacy and completeness of CLEC Handbook(s) structure	Inspection Document review	Qualitative

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

In New York, this test consisted of reviews and inspections of procedures and practices for Account Establishment and Management.

BA-MA has represented that the processes and practices used by BA-MA are identical to those employed by BA-NY and BA-PA.

KPMG will validate the data from New York and Pennsylvania that appears to be identical and retest items that have changed or are different, as appropriate.

For the Massachusetts test, the following steps will be performed:

3.6.1 Inputs

1. Telecom Industry Services Change Management Process document
2. CLEC Handbook(s)
3. Other procedural and technical documentation
4. Evaluation checklists
5. Interview guides
6. Relevant data acquired from the New York and Pennsylvania tests

3.6.2 Activities

1. Determine areas that require validation or retest.
2. Gather information.
3. Perform interviews and documentation reviews as required for validation or retest.
4. Complete evaluation checklists and interview summaries.
5. Develop and document findings.

3.6.3 Outputs

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

3.7 Exit Criteria

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

4.0 Test RMI4: Account Establishment and Management Performance Data Review

4.1 Description

This test evaluates the performance of the account management function responsiveness with respect to call return and call escalation norms established by BA-MA. This test will rely on reviews of historical data and measurements, where available. No volume testing is defined for this test.

4.2 Objectives

The objectives of this test are to determine compliance of the account management with response time norms.

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Agreement of performance measures and norms	KPMG
Agreement on statistical approach	KPMG
Provision of relevant historical data	BA-MA
Access to CLEC account management calls	CLEC

4.4 Test Scope

Table VII-4 Test Target: Account Establishment and Management Performance Data Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Maintaining an Account Relationship	Respond to account inquiry/ request for assistance	Timeliness of response	Report review Logging	Quantitative

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

In New York, this test consisted of performance reviews of the Account Establishment and Management response.

Although Account Establishment and Management performance expectations for BA-MA have been represented by BA-MA as identical to those in BA-NY and BA-PA, performance data is assessed on a state-by-state basis; thus, data from BA-NY and BA-PA cannot be reused when assessing BA-MA.

KPMG will test BA-MA's Account Establishment and Management's performance data with a specific emphasis on Massachusetts CLECs.

For the Massachusetts test, the following steps will be performed:

4.6.1 Inputs

1. Procedural documentation

2. CLEC Handbook(s)
3. Statistical approach definition
4. Historical data (if available) on the time it takes the account managers to respond to a CLEC call; data may be from manual logs or other data sources
5. Relevant data acquired from the New York and Pennsylvania tests

4.6.2 Activities

1. Gather and verify information.
2. Create log to track live CLEC calls.
3. Determine and verify sample size, measurement, and statistical approach.
4. Calculate time (distribution) between CLEC contact with the account managers and account management response.
5. Compile results.
6. Develop and document findings.

4.6.3 Outputs

1. Report of response times by call type, including distribution, mean, and standard deviation
2. Summary report

4.7 Exit Criteria

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

5.0 Test RMI5: Network Design Request, Collocation, and Interconnection Planning Verification and Validation Review

5.1 Description

This test evaluates the key policies and practices for processing the Network Design Request, Collocation planning, and Interconnection planning.

This test will rely on checklists, interviews and inspections.

5.2 Objectives

The objectives of this test are to:

- Determine whether the CLEC has sufficient information to adequately prepare for NDR, Collocation, and Interconnection planning.
- Determine whether the NDR planning process is sufficiently well structured and managed to yield the desired results.
- Determine whether the Collocation planning process is sufficiently well structured and managed to yield the desired results.
- Determine whether the Interconnection planning process is sufficiently well structured and managed to yield the desired results.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

5.4 Test Scope

Table VII-5 Test Target: Network Design Request, Collocation, and Interconnection Planning Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
NDR Process	Preparation for NDR meetings	Usability and completeness of NDR forms	Document review Inspection	Qualitative
	NDR Meetings	Adequacy and completeness of process	Program managed process	Qualitative
Collocation	Collocation requirements forecasting	Usability and completeness of collocation forecast forms	Document review Inspection	Qualitative
	Evaluation of collocation requirements process	Adequacy and completeness of process	Program managed process	Qualitative
	Forecast analysis	Availability of results to commission and CLECs	Document review Inspection	Existence

Table VII-5 Test Target: Network Design Request, Collocation, and Interconnection Planning Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Interconnection Planning	Interconnection planning information requirements	Completeness and usability of instructions for preparing for the Interconnection Planning meeting	Document review Inspection	Qualitative
	Evaluation of Interconnection Planning process	Adequacy and completeness of process	Program managed process	Qualitative

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

In New York, this test involved the review and observation of processes, procedures, and the performance of BA-NY.

BA-MA has represented the Network Design Request process as significantly similar between BA-NY and BA-MA. As well, the Collocation and Interconnection processes have also been represented by BA-MA as being significantly similar between BA-NY, BA-PA, and BA-MA. The product/service offerings and delivery intervals are presumed identical between BA-NY and BA-MA. Portions of the processes are supported by common groups in BA-MA for the New York, Pennsylvania, and Massachusetts markets; however, other portions of the processes are supported by state specific organizations such as the Local Collocation Coordinators.

KPMG will validate the data from New York and Pennsylvania that appear to be identical, and retest items that have changed or are different, as appropriate.

For the Massachusetts test, the following steps will be performed:

5.6.1 Inputs

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

5. Relevant data acquired from the New York and Pennsylvania tests

5.6.2 Activities

1. Determine areas that require validation or retest.
2. Gather information.
3. Perform interviews and documentation reviews as required for validation or retest.
4. Complete evaluation checklists and interview summaries.
5. 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 RMI6: System Administration Help Desk Functional Review

6.1 Description

This test is the process-oriented evaluation of the system administration help desk function. This test will rely on checklists, inspections, and walkthroughs.

6.2 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.

6.3 Entrance Criteria

Criteria	Responsible Party
Limited to Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

6.4 Test Scope

Table VII-6 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
Capacity Management	Capacity planning process	Completeness and consistency of process	Inspection Document review	Qualitative
Security and Integrity	Data access controls	Safety of process	Inspection Document review	Qualitative
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

Table VII-6 Test Target: System Administration Help Desk Functional Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

6.5 Scenarios

This test does not rely on scenarios.

6.6 Test Approach

In New York, this test involved the functional review of the system administration help desk.

BA-MA has represented that it employs a central help desk based in Silver Spring, MD that serves all of its markets. The system administration help desk function and processes that support it are presumed to be identical to those utilized by BA-NY and BA-PA. Since this test target was last tested in New York, BA-MA has implemented new functionality, organization, and systems for the call center that handles the telephone calls.

KPMG will validate the data from New York and Pennsylvania for items that appear to be identical and retest items that have changed or are different, as appropriate.

For the Massachusetts test, the following steps will be performed:

6.6.1 Inputs

1. Procedural documentation (such as internal help desk procedure manual)
2. CLEC Handbook(s)
3. Evaluation checklists
4. Interview guides
5. Relevant data acquired from the New York and Pennsylvania tests.

6.6.2 Activities

1. Determine areas that require validation or retest.
2. Gather information.

3. Perform walkthroughs and documentation reviews as required for validation or retest.
4. Complete evaluation checklists.
5. Develop and document findings.

6.6.3 Outputs

1. Completed evaluation checklists
2. Summary report

6.7 Exit Criteria

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

7.0 Test RMI7: System Administration Help Desk Performance Data Review

7.1 Description

This test gathers together performance tests for the system administration help desk function.

Historical results from Bell Atlantic will be examined to measure the initial response and end-to-end response times for help desk calls. Response time distribution statistics, qualified as necessary by severity code, will be tabulated. This test will rely on reviews of historical data and measurements, where available. No volume testing is defined for this test.

7.2 Objectives

The objectives of this test are to:

- Determine timeliness of the help desk process from inception to closure.

7.3 Entrance Criteria

Criteria	Responsible Party
Includes all Global Entrance Criteria requirements	See Table III-3
Agreement on statistical approach	KPMG
Required data and documentation provided	BA-MA

7.4 Test Scope

Table VII-7 Test Target: System Administration Help Desk Performance Data Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Close Help Desk Call	Closure posting	Timeliness of process	Transaction generation Report review	Quantitative

7.5 Scenarios

This test does not rely on scenarios.

7.6 Test Approach

In New York, this test consisted of reviewing BA-NY's system administration help desk's performance.

BA-MA has represented that it employs a central help desk that serves all of its markets; thus, processes are presumed to be identical to those deployed in BA-NY and BA-PA markets.

KPMG will validate data from New York and Pennsylvania that is presumed to be identical, and retest items that have changed or are different as appropriate.

For the Massachusetts test, the following steps will be performed:

7.6.1 Inputs

1. Procedural documentation (such as internal help desk procedure manual)
2. CLEC Handbook(s)
3. Statistical approach
4. Historical data (if available) on the time it takes the help desk to respond to a user call and to complete and close a help desk call event; data may be automated data from automated call distributor or automated call response systems as deployed or from manual logs.
5. Relevant data acquired from the New York and Pennsylvania tests.

7.6.2 Activities

1. Gather and verify information.

2. If no historical information is available, create log to track live CLEC help desk calls.
3. Determine and verify sample size, measurement, and statistical approach.
4. Calculate time (distribution) between caller connection with the help desk and initiation of substantive dialog about the problem (with service technician or automated response system).
5. Compile results and validate or retest as required.
6. Develop and document findings.

7.6.3 Outputs

1. Report call initiation to closure times, including distribution, mean, and standard deviation
2. Summary report

7.7 Exit Criteria

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

8.0 Test RMI8: System Administration Help Desk Verification and Validation Review

8.1 Description

This test gathers validation tests for the help desk function. A document review will be conducted to ensure that current and adequate instructions on the use of the interface are available to users. The tester will render an opinion as to whether any substantive errors, omissions, or findings of significant impact are present.

This test will also validate that help desk calls are logged at the help desk in accordance with existing rules and procedures. This test will be accomplished by having the tester directly observe the help desk operation.

The tester will examine the available help desk reports to determine whether call logging and severity coding appears appropriate to the description of the problem. Apparent mismatches may be referred to BA-MA personnel for additional explanation. The tester will render an opinion as to whether any findings of significant impact are present.

This test will rely extensively on reviews of checklists and inspections. No volume testing is defined for this test.

8.2 Objectives

The objectives of this test are to validate the:

- usability of user interface
- accuracy and completeness of call logging and severity coding

8.3 Entrance Criteria

Criteria	Responsible Party
Includes all Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

8.4 Test Scope

Table VII-8 Test Target: System Administration Help Desk Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Initiate Help Desk Call Processing	User interface	Ease of use of user interface	Inspection Document review	Qualitative
	Call logging	Accuracy and completeness of call logging	Inspection Document review	Qualitative
	Severity coding	Accuracy and completeness of severity coding	Inspection Document review Report review	Qualitative

8.5 Scenarios

This test does not rely on scenarios.

8.6 Test Approach

Four areas will be examined in this test: user interface, call logging, severity coding, and capacity management.

In New York, this test involved the verification and validation of the system administration help desk.

BA-MA has represented that it employs a central help desk based in Silver Springs, MD that serves all its markets. The system administration help desk function and processes that support it are presumed to be identical to those utilized by BA-NY and BA-PA. Since this test target was last tested in NY, BA-

MA has implemented new functionality, organization, and systems for the call center that handles the telephone calls.

KPMG will validate data from New York and Pennsylvania that is presumed to be identical, and retest items that have changed or are different, as appropriate. Where Massachusetts specific and/or more up-to-date data is required, the data will be reviewed and assessed accordingly.

8.7 Resolution of user question, problem, or issue

For the Massachusetts test, the following steps will be performed:

8.7.1 Inputs

1. Procedural documentation
2. CLEC Handbook(s)
3. Relevant data acquired from the New York and Pennsylvania tests

8.7.2 Activities

1. Gather and verify information.
2. Generate test data cases/scripted dialogs of help desk inquiries and expected results.
3. Conduct help desk inquiries using test cases as required for validation or retest.
4. Compare help desk responses to expected results.
5. Develop and document findings.

8.7.3 Outputs

1. Summary report showing actual versus expected results

8.8 User interface

For the Massachusetts test, the following steps will be performed:

8.8.1 Inputs

1. CLEC Handbook(s)
2. Evaluation checklists
3. Relevant data acquired from the New York and Pennsylvania tests

8.8.2 Activities

1. Gather information.
2. Perform walkthroughs and documentation reviews of user interfaces as required for validation or retest.
3. Complete evaluation checklists.

8.8.3 Outputs

1. Completed evaluation checklists regarding currency and adequacy of instructions on contacting and interacting with the system administration help desk

8.9 Call logging, severity coding, and closure posting

For the Massachusetts test, the following steps will be performed:

8.9.1 Inputs

1. Procedural documentation
2. CLEC Handbook(s)
3. Evaluation checklists
4. Relevant data acquired from the New York and Pennsylvania tests

8.9.2 Activities

1. Evaluate whether BA is conducting these activities consistently and in accordance with stated procedures (as assessed in RMI 6).
2. Gather, analyze, and report data from Help Desk database for these measures as required for validation or retest.
3. External CLEC verification of data accuracy will not be conducted.

8.9.3 Outputs

1. Completed evaluation checklists regarding whether system administration help desk calls are logged in, closed, and classified by severity in accordance with existing rules and procedures
2. Summary report

8.10 Exit Criteria

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

9.0 Test RMI9: CLEC Training Verification and Validation Review

9.1 Description

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

9.2 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.

9.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

9.4 Test Scope

Table VII-9 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

Table VII-9 Test Target: CLEC Training Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
		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
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

9.5 Scenarios

This test does not rely on scenarios.

9.6 Test Approach

In New York, the CLEC training processes, systems, and documentation were assessed based on interviews, inspections, and documentation review.

BA-MA has represented that its CLEC training processes, systems, and documentation are significantly similar to those in BA-NY. The curriculum, training staff, and registration process are presumed to be the same as BA-NY. There may be differences in training material due to state specific items such as tariffs, rates, products, etc. The training facilities in New York are shared with Massachusetts.

KPMG will validate data from the New York test that appears to be identical and retest any areas of change or difference, as appropriate.

For the Massachusetts test, the following steps will be performed:

9.6.1 Inputs

1. Procedural documentation (such as training manuals)
2. CLEC Handbook(s)
3. Evaluation checklists
4. Interview guides
5. Relevant data acquired from the New York test

9.6.2 Activities

1. Determine areas that require validation or re-testing.
2. Gather information.
3. Perform interviews and documentation reviews as required for validation or retest.
4. Complete evaluation checklists and interview summaries.
5. Develop and document findings.

9.6.3 Outputs

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

9.7 Exit Criteria

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

10.0 Test RMI10: Forecasting Verification and Validation Review

10.1 Description

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

10.2 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.

10.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	KPMG
Interview guides	KPMG
Interviewees identified and scheduled	BA-MA, KPMG
Required data and documentation provided	BA-MA

10.4 Test Scope

Table VII-10 Test Target: Forecasting Verification and Validation Review

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

10.5 Scenarios

This test does not rely on scenarios.

10.6 Test Approach

In New York, this test verified and validated the forecasting process. Testing methodologies included interviews, inspections, and documentation review.

BA-MA has represented that the same forecasting process applies across all of BA-MA's markets and is supported by the same personnel. Consequently, the forecasting processes and procedures for BA-MA appear to be identical to those in BA-NY and BA-PA, and information obtained in New York and Pennsylvania can be reused.

KPMG will validate data from the New York and Pennsylvania tests that appear to be identical, and retest any areas of change or difference, as appropriate.

For the Massachusetts test, the following steps will be performed:

10.6.1 Inputs

1. CLEC Handbook(s)
2. Evaluation checklists
3. Interview guides
4. Relevant data acquired from the New York and Pennsylvania tests

10.6.2 Activities

1. Gather information.
2. Perform interviews and documentation reviews as required for validation or retest.
3. Complete evaluation checklists and interview summaries.
4. Develop and document findings.

10.6.3 Outputs

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

10.7 Exit Criteria

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

VIII. Performance Metrics Reporting Test Domain

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 Performance Metrics Reporting.

B. Organization

The Performance Metrics Reporting Scope section identifies the types of tests to be associated with each Target Test Area, as defined in Table VIII-1, and is organized based on test subject matter.

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

C. Scope

The scope of the Performance Metrics Reporting test covers the performance metrics contained in BA-MA's 271 filing (the Consolidated Arbitration metrics and the Supplemental metrics), as well as the additional metrics defined by the DTE in its 11/19/99 Letter Order Performance Assurance Plan. The test will also include those metrics above that are still under development. For those metrics not yet reported by BA-MA, KPMG will review and comment on BA-MA's ability to collect the necessary data and report on them. KPMG will also report on the status of these metrics in its final report.

To the extent that these metrics are identical to those investigated in the BA-NY test, information and test results from the BA-NY test will be taken into account, but will not substitute for results in Massachusetts.

The scope of the Performance Metrics Reporting test also includes the procedures used by BA-MA to gather and process source data as well as internal procedures to implement changes to the reported metrics.

D. Test Processes

This section describes the specific evaluations/tests to be performed in the analysis of Bell Atlantic's support for Performance Metrics Reporting.

PMR1: BA-MA Performance Metrics Reporting Evaluation

1.1 Description

The Performance Metrics Reporting Evaluation is a comprehensive investigation of the procedures and systems used to capture BA-MA retail and wholesale metrics for all domains, including Pre-Ordering, Ordering, Provisioning, Maintenance and Repair, and Billing.

The test relies on operational and statistical analyses to facilitate a structured review of BA-MA's information processing, metric calculation and reporting procedures. The process has three components:

- Data Integrity Investigation – The purpose of this investigation is to determine if the appropriate data are being used in the calculations of the BA-MA metrics. Samples of data are analyzed to evaluate BA-MA's data filtering processes.
- Metrics Validation – The purpose of this validation is to ensure that BA-MA's performance metrics are calculated and reported accurately. Independent metric calculations are performed for all metrics for at least three separate months and the results are compared with BA-MA's results. For metrics under development, KPMG will collect the necessary data and report the results, if possible, and comment on BA-MA's capability to do the same.
- Transaction Test Report Generation – For the transaction tests, KPMG metrics team will use the results in the validation stage to calculate any and all metrics required by the POP, M&R, and Billing teams.

The Metrics evaluation will determine the accuracy of the metric values calculated from the filtered data and will investigate the systems used to prepare the filtered data.

1.2 Objective

The objective of this test is to evaluate the capture, tracking, and reporting of the metrics described above.

1.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
List of tested metrics finalized	MA-DTE
Interview guide / questionnaire developed for process evaluation	KPMG
Process evaluation checklists completed	KPMG

Criteria	Responsible Party
Report Validation checklist completed and approved	KPMG, MA-DTE
BA-MA Metrics Reporting Process and System specialists available for interviews	BA-MA

1.4 Test Scope

Table VIII-1 below outlines the processes and sub-processes involved in evaluating the Process Performance Measurements.

Table VIII-1 Test Target: BA-MA Process Performance Measurements

Process Area	Sub Process	Evaluation Measure	Evaluation Technique	Criteria Type
Metrics Documentation (e.g. definitions, processes, flow-charts, systems & change management tools)	BA-MA internal documentation	Availability Completeness	Documentation review	Qualitative
	BA-MA published documentation	Availability Completeness	Documentation review	Qualitative
Data Integrity and Metrics Information Gathering Process	Control points where measurements are taken	Applicability and measurability of control points	Inspection	Quantitative Qualitative
	Data sources for each reported metric	Accuracy, Applicability and completeness of data sources	Analysis	Quantitative Qualitative
	Tool(s) used by BA-MA to collect data	Applicability and reliability of tools	Analysis	Quantitative Qualitative
Metric values generated	Calculations	Accuracy and applicability of calculations	Analysis	Quantitative
	Tools used in calculations	Accuracy, security and controllability of data housed in tools	Inspection Checklists	Quantitative Qualitative
Metric Reports	Report format	Consistency of reported results with data collected	Analysis	Qualitative

Process Area	Sub Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Report content	Accuracy Completeness Applicability of measures	Analysis	Quantitative Qualitative
Reporting (e.g. Collection & storage of data, retention policies, Change Management Control processes)	Procedures	Availability Compliance	Documentation Review Interviews Analysis	Quantitative Qualitative

1.5 Scenarios

Not Applicable

1.6 Test Approach

As described above, the test will consist of three main parts:

- Data Integrity Investigation: This will focus on whether BA-MA's internal processes correctly transform raw ordering data to filtered data suitable for calculating metrics. It will also consider the process that creates the raw data.
- Metrics Replication: This will evaluate whether the filtered data is correctly used to generate the figures on the metrics reports.
- Transaction Test Report Generation: This will support the KPMG transaction tests. The evaluation of the transaction tests with respect to metrics will occur individually by domain.

Below is the summary of inputs necessary for the test, as well as a summary of activities.

1.6.1 Inputs

1. Detailed Operational Test Plan and task checklist
2. BA-MA metric data sources
3. Metric standards & definitions
4. BA-MA Metrics Report
5. BA-MA filtered data up to and including the period of the transaction test
6. BA-MA raw data up to and including the period of the transaction test

7. Interview guide / questionnaire
8. Process evaluation checklists
9. Report validation checklist
10. Personnel to review procedures and systems and conduct interviews
11. KPMG transaction test results and BA-NY results during the transaction test, where appropriate

1.6.2 Activities

1. Review processes and systems for translating raw data to filtered data
2. Evaluate integrity of data process from raw to filtered
3. Review BA-MA algorithms and reports for producing metrics
4. Compare BA-MA algorithms to metrics described in the DTE's Performance Assurance Plan
5. Calculate metrics using filtered data and BA-MA algorithms
6. Compare KPMG calculations to BA-MA reports
7. Calculate or evaluate metrics under development
8. Appraise BA-MA capability to produce metrics under development
9. Calculate metrics for transaction test

1.6.3 Outputs

1. Report on results of data integrity investigation
2. Report on replication results, including metric by metric analysis and results
3. Report on those transaction test metrics that are required by KPMG domain leads

1.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4
All operational analysis tasks / activities completed	KPMG
Operational review report completed	KPMG

IX.Phase 3 Overview

The objectives of Phase 3 include the development of detailed, executable test plans, the provision of assistance to all parties in the preparation for these tests, execution of tests, and reporting the test results. These results will be used by the DTE to evaluate the BA-MA OSS and OSS interface system used for the following business functions:

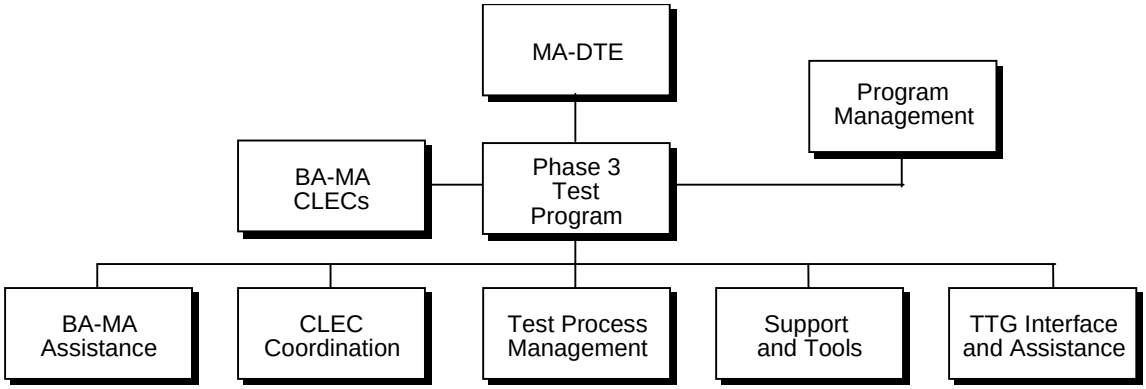
- Pre-Ordering
- Ordering
- Provisioning
- Maintenance and Repair
- Billing
- Relationship Management and Infrastructure
- Performance Metrics Reporting

Phase 3 also includes several preparatory activities including the creation of a test-bed and the execution of tests to confirm electronic connectivity with BA-MA, as a pre-cursor to transaction testing.

A. Phase 3 Organization

The organization of the testing effort is shown in the figure below.

Figure IX-1: Phase 3 Organization



B. Major Stakeholders

Successful completion of Phase 3 testing depends upon the cooperation and contribution of a number of the stakeholders. The roles of the four major stakeholders are described in the table below.

Table IX-1: Major Stakeholders

Stakeholder	Roles
Massachusetts Department of Telecommunications and Energy (MA-DTE)	The MA-DTE is the owner of the Phase 3 Test Plan with general responsibilities for: • Reviewing the test plans • Observing the overall test process to ensure fairness in test preparation, execution and data collection • Receiving test reports and results
KPMG	KPMG provides overall management of the tests: • Assisting the other stakeholders in preparing for and conducting the tests • Providing change control throughout the testing cycle • Reporting the results
BA-MA	BA-MA OSS interface systems are the subject of the testing, and BA-MA will: • Establish a CLEC-ILEC relationship with the CLEC Test Transaction Generator • Provide a test bed for data-driven tests • Provide data for transaction, operational and metrics tests • Make relevant BA personnel available for interviews as necessitated by the individual test requirements • Perform all actions required to prepare and execute the tests
CLECs	Through discussions with the MA-DTE, the CLECs will be invited to: • Make available for review any in-process transactions, assist in data entry in limited and controlled cases (where appropriate) • Provide facilities for specific test cases (where appropriate)

Table IX-1: Major Stakeholders

Stakeholder	Roles
	• Contribute to the BA-MA testing effort in a timely fashion

C. Major Tasks

This section identifies the major tasks and sub-tasks associated with the evaluation of BA-MA Operational Support Systems.

The Phase 3 effort involves test management and test execution. The tasks associated with test management are described in the table below.

Table IX-2: Phase 3 Test Management Tasks

Task Area	Description
Overall Test Management	• Overall work plan development and maintenance • Plan coordination with stakeholders • Issues management and resolution • Status tracking and reporting • Resource acquisition, allocation, and coordination • Management reporting • Maintenance of effective two way communications • Communication and / or resolution of BA-MA concerns • Review of tests and test schedules with BA-MA • Review of test entrance and exit criteria • Review of test results • Establishment of causes of test failures and communication of remedies
Coordinating with the CLECs	• Maintenance of effective two way communications • Communication and / or resolution of CLEC concerns regarding participation • Review of tests and schedules requiring CLEC participation
Set-up and Manage the Testing Process	• Development and maintenance of detailed test schedules • Assignment of committed resources • Tracking, escalation, and resolution of detail test issues • Scheduling and managing entrance and exit conferences • Ensuring the availability of work center facilities • Managing the work center • Identifying and acquiring training resources
Quality Assurance	• Review of test plans, test execution, and test deliverables for conformance to applicable standards and norms • Examination of outcomes of individual tests for unexpected results requiring additional analysis or explanation • Ensuring in cases of failed tests that the test itself was not at fault and reported results reflect actual circumstances • Ensuring appropriate statistical conventions and measures are applied
Reporting the Test Results	• Establishment of standards and formats for reporting results of

Table IX-2: Phase 3 Test Management Tasks

Task Area	Description
	individual tests • Development of reports summarizing individual test findings at the scenario, domain, or test process level as necessary • Development of the final report and accompanying documentation for MA-DTE
Change Management	• Acceptance of stakeholder requests for changes • Identification of need for test changes based upon findings and recommendation from the individual test processes • Analysis of change requests and requirements and development of disposition recommendations for the MA-DTE • Introducing approved changes into the test cycle • Publishing change details to affected stakeholders • Maintaining logs and history of all changes

Test processes are organized by test domain within the test plan. For each test process, the test execution activities described in the table below will be accomplished.

Table IX-3: Phase 3 Test Execution Tasks

Task Area	Description
Preparation Phase Activities	• Satisfaction of Entrance Criteria • Development of detailed test plans • Development of the test tree • Development of detailed checklists, questionnaires, interview guidelines • Development of test data specifications • Identification of live data instances • Gathering of test data • Creation of test data, scripts, etc. • Definition of CLEC gauge requirements • Definition of final reporting requirements
Execution Phase Activities	• Generation of transactions • Submission of transactions • Implementation of CLEC gauges • Implementation of Testing gauges • Collection of transaction responses • Logging of events • Collection of gauge provided information • Conduct reviews, walkthroughs, interviews, surveys • Documentation of reviews, walk- throughs, interviews, surveys • Creation of data summaries and analyses • Reporting test process exceptions
Completion Phase Activities	• Production of reports, findings, conclusions as defined in Test Plan • Reporting on exceptions, other observations, etc. • Satisfaction of Exit Criteria

D. Responsibilities

The following responsibility matrices provide guidance on how the above major Phase 3 tasks will likely be allocated among these stakeholders.

Task	KPMG	BA-MA	CLEC	MA-DTE
BA-MA OSS Interface Testing Program Management	M	M	P	P
Assisting BA-MA	P		P	
Coordinating with the CLECS	M			Q
Set-up and Manage Testing Process	M	P	P	Q
Quality Assurance	M			Q
Reporting the Test Results	M	P		
Change Management	M	P	P	Q
Test Process	M	P	P	P

Stakeholders not tasked with primary responsibility may wish to establish comparable internal roles to further facilitate cooperation and coordination. It must be noted that the assigned responsibilities, particularly in the Test Process arena, are generalizations that may be overridden based upon the circumstances of any specific tests.

The table below provides further specificity on the roles and responsibilities of the stakeholders during execution of the test processes.

Task	KPMG	BA-MA	CLEC	MA-DTE
Preparation Phase	**M**	**P**	**P**	**Q**
Satisfy Entrance Criteria	M	P		Q
Develop detailed test plans	M	P		Q
Develop detailed checklists, questionnaires, etc.	M			Q
Develop test data specifications	M	P		Q
Identify live data instances	M	P		Q
Gather test data	M	P	P	
Create test data, scripts	M	P	P	Q
Define final reporting requirements	M			P
Execution Phase	**M**	**P**	**P**	**P**
Generate transactions	M	P	P	
Submit transactions	M	P	P	
Implement CLEC gauges	M		P	
Implement Testing gauges	M			
Collect transaction responses	M	P	P	
Log events	M	P	P	
Conduct reviews, walkthroughs, interviews, surveys	M	P	P	Q
Document reviews, walk- throughs, interviews, survey	M	P		
Create data summaries and analyses	M	P	P	Q
Report test process exceptions	M	P	P	Q

Task	KPMG	BA-MA	CLEC	MA-DTE
Completion Phase	**M**	**P**	**P**	**Q**
Produce reports findings, conclusions as defined	M	P	P	Q
Report on exceptions, other observations, etc.	M	P	P	Q
Satisfy Exit Criteria	M	P		Q

Legend:

M – Management responsibility for the task

P – Participant in carrying out the task

Q – Quality assurance and / or oversight role for the task

Table IX-6: Phase 3 Milestones-Dependencies

Milestone/Dependency	Responsible Party
BA EDI Interface development completed, tested, and operational	BA-MA
Test Bed created as specified and available for use	BA-MA
Test Transaction Generator completed, tested, and operational	KPMG
Capability to accurately assemble a high volume of LSRs.	KPMG / BA-MA
Active CLEC participation	CLECs
Test cases created, data constructed, and scripts with expected results written	KPMG
Allocation of necessary resources	KPMG / BA-MA / CLECs

F. Testing Deliverables

At the conclusion of each suite of tests, KPMG will provide the MA-DTE with a report produced in a standard format describing the following:

- The complete description of the test(s), including the attributes defined in this report
- The record of authorized test changes

- The entrance criteria met
- The exit criteria met
- The test results, as defined for the specific test(s)
- In the event of an uncorrected testing failure, an assessment of the root-cause of this failure and a recommendation for subsequent actions

At the conclusion of the testing, KPMG will provide the MA-DTE with a final summary report of Phase 3 activities and findings.

G. Testing Controls

To ensure the integrity and timely completion of testing, rigorous controls will be necessary.

1.0 Change Control Procedures

During the execution of the tests during Phase 3, situations may arise in which additional tests or modified tests are required in order to meet the objective of the testing process. KPMG will be responsible for instituting and enforcing change control procedures to accommodate these circumstances. In general, these change control procedures will include the following:

- Complete steps required to identify a change in an existing test or to define the requirement for a new test
- Complete an analysis of the change which includes:
  - The purpose of the change
  - A description of the changed (or new) test case
  - Identification of test domain(s), scenario(s), test process(es) and test case(s) impacted
  - A revised test plan
  - Identification of resources impacted (KPMG, BA-MA, and/or CLECs)
  - Identification of schedule impacts
- Recommendation for disposition.
- Required approvals.
- Updated test plan(s) and test schedule(s).
- Communication of revised plan(s) and schedule(s) to all affected parties.

2.0 Test Execution Oversight

The oversight of the test execution will be the responsibility of KPMG under the immediate direction of a dedicated Testing Manger.

3.0 Test Logs

KPMG will be responsible for maintaining logs of the tests, detailed test results, and other work products sufficient to reconstruct events and justify content of the test reports

Appendix A: Test Scenarios

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

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

* Will be included if commercially available to CLECs in MA.

UNE				
Activity	**Analog Loop – 2 wire POTS**	**Digital Loop – ASDL**	**Digital Loop – HDSL**	**Digital Loop - DS1**
Migrate lines from BA-MA w/o number port.	**X**	**X**	**X**	**X**
Migrate lines from BA-MA with INP				
Migrate lines from BA-MA with LNP	**X**			
Migrate from CLEC to CLEC	**X**			
Add new lines to existing customer	**X**	**X**	**X**	
Add new interoffice DS1/DS3 facilities				
Purchase lines for a new customer	**X**			**X**
Disconnect (full and partial)	**X**			**X**
Moves (inside and outside)	**X**			
Convert from UNE-P to UNE loop	**X**			
Convert from Resale to UNE loop	**X**			

UNE EEL		
Activity	**DS1/ DS3**	**2 wire POTS**
Migrate lines from BA-MA w/o number port.		**X**
Migrate lines from BA with INP		
Migrate lines from BA with LNP		
Add new lines to existing EEL		**X**
Purchase lines for a new customer		**X**
Disconnect (full and partial)		**X**

Stand-alone Preorder		
Activity	**Residence**	**Business**
Address Validation Inquiry / Direct TN Selection Inquiry	**X**	**X**
Conversational TN Selection Inquiry	**X**	**X**
Conversational TN Reservation Inquiry	**X**	**X**
Access Billing Customer Service Record (CSR) Inquiry	**X**	**X**
Customer Service Record Information, CRIS Inquiry	**X**	**X**
Directory Listing Inquiry	**X**	**X**
Feature and Service Availability Inquiry	**X**	**X**
Installation Status Inquiry	**X**	**X**
Loop Qualification Inquiry	**X**	**X**
xDSL Loop Qualification Inquiry	**X**	**X**
Scheduling &Availability Inquiry	**X**	**X**
Service Order from SOP Inquiry	**X**	**X**
Reservation Maintenance Inquiry	**X**	**X**
Reservation Maintenance Modification Inquiry	**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/INP not receiving incoming calls	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/ multiline 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: Metrics - Quantitative

The DTE's Performance Assurance Plan consists of the *Consolidated Arbitrations* metrics, the Supplemental 271 metrics, and those contained in Appendix A of the DTE's 11/19/99 Letter Order.

The *Consolidated Arbitrations* metrics can be found at http://www.state.ma.us/dpu/catalog/Telecom.htm.

Bell Atlantic's Supplemental 271 Metrics can be found in it's 271 filing with the Department at http://www.ba.com/policy/filings/1999/may/.

Appendix C: Glossary

Term	Definition
2-Wire Facility	A 2-wire facility is characterized by supporting transmission in two directions simultaneously, where the only method of separating the two signals is by the propagation directions. Impedance mismatches cause signal energy passing in each direction to mix with the signal passing in the opposite direction.
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.
4-Wire Facility	A 4-wire facility supports transmission in two directions, but isolates the signals by frequency division, time division, space division, or other techniques that enable reflections to occur without causing the signals to mix together. A facility is also called 4-wire criteria (even if 2-wire facilities are used internally), as long as crosstalk between the two transmission directions, as measured at the interface, is negligible.
A&B usage	Feature Group A&B usage recorded for Carrier Access Billing.
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).
AIN	Advanced Intelligent Network
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.
BAN	Billing Account Number. Used by telephone companies to designate a customer or customer location that will be billed. A single customer may have multiple billing accounts.
BDT	Bill Data Tape. Format in which end user account bills are transmitted to the CLEC / Reseller.
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. Bell Atlantic accomplishes assignments of cycle and period. 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.

Term	Definition
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. Bell Atlantic accomplishes assignments of cycle and period.
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 that are used to aggregate a Reseller's charges into a consolidated bill. Reseller's have several separate BTN accounts.
BTN AN	Billing Telephone Number Access Network.
CABS	Carrier Access Billing System
CABS BOS	Carrier Access Billing Specifications – Billing Output Specifications
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.
CASEWORKER	CASEWORKER is a tool used by Bell Atlantic retail to support maintenance and repair activity.
CASH	The BA system where invoice data is contained and available for access.
Casual Usage	Usage dialed through a calling card or 10XXXXX.
CCSR	CABS CSR. Carrier Access Billing System Customer Service Record.
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.
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.

Term	Definition
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.
Consolidated Arbitration	An ongoing arbitration concerning interconnection agreements between Bell Atlantic and AT&T, MCI, and Sprint. During this proceeding, the DTE established certain performance metrics, which are referred to as the Consolidated Arbitration metrics. See Appendix B of this document.
CRIS	Customer Record Information System. A database containing customer information used for billing.
CSA	Customer Service Attendants.
CSR	Customer Service Record. Details of a customer's fixed monthly charges billed by the local telephone company.
Customer Account Record Exchange (CARE)	Industry standard for formatting exchange of subscription information.
Daily Usage Feed (DUF)	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.
DLC	Digital Loop Carriers.
DLR	Design Layout Report.
Document review	Compilation and review of books, manuals, and other publications related to the process and system under study.
DS1, DS3	Digital Signal level 1 and level 3.
DSL	Digital Subscriber Line.
DTE	Department of Telecommunications and Energy Massachusetts.
DTS	Digital Termination System.
EDI	Electronic Data Interchange. A process for exchanging information that is subject to industry standards.
EEL	Enhanced Extended Loop. An EEL is a combination of dedicated Unbundled Network Elements such as interoffice transport (IOF), multiplexing (where required), and loops (M-Loops) which are installed by BA at the CLEC's request.

Term	Definition
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.
FCC	Federal Communications Commission.
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.
FLEXPATH	FLEXPATH Digital PBX service using a T1 circuit to provide a direct digital connection between a digital (PBX) Private Branch Exchange and the Central Office
Flow-through	A mechanized order placed by a CLEC's customer service representative that can be provisioned correctly without manual entry by BA's service representatives into BA's service order processor.
Good Management Practice (GMP) Guidelines criteria source	This includes benchmarks, performance goals, and guidelines derived from industry and topic area experts, BA-MA 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.
ILEC	Incumbent Local Exchange Carrier. The local exchange carrier for a particular area as of 1996. Bell Atlantic is the relevant ILEC.
INP	Intelligent Network Processor.
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.
IOF	Inter-Offices Facility.
IP charges	Internet Protocol Charges.

Term	Definition
ISDN	Integrated Services Digital Network.
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, MA DTE regulations, federal and state statutes, and other binding requirements resulting from judicial / governmental proceedings.
LIDB	Line Information Data Bases.
LMOS	Loop Maintenance Operations Systems.
LNP	Local Number Portability
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
LPIC	Predesignated 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.
LSC	Local Service Confirmation.
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.
MCRIS	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.
MLT	Mechanized Loop Testing.
MPS	Message Processing System. BA system used in the collection and process of usage detail records.
MRC	Monthly Recurring Charge.
MUXed	Multiplexed.
NDM	Network Data Mover.
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.
NID	Network Interface Devices.

Term	Definition
NRC	Non-Recurring Charge.
NSAC	Network Services Assurance Center.
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.
PRI	Primary Rate Interface.
Provisioning	The act of supplying telecommunications service or UNEs.
PSC	Public Service Commission. A state regulatory agency responsible for telecommunications companies.
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.
RCCC	Regional CLEC Coordination Center.
RCMC	Regional CLEC Maintenance Center.
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.

Term	Definition
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 resale 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).
RSSC	Resale Service Center.
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
Section 271 filing	Bell Atlantic's filing with the MA DTE.
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.
SOP	Standard Operating Procedure.
SS7	Signaling System 7.
SS7-STP	Signaling System 7 – Signal Transfer Point.
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)

Term	Definition
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 Target Area	BA Process or Sub-Process Area that will be evaluated as part of the OSS test.
Test Transaction Generator (TDG)	This system will be created to support the testing effort. The TTG will simulate CLEC behaviors by sending transactions through BA-MA'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 Index	Master list of scenarios from which specific scenarios will be selected to be used in the testing.
Test Scenarios	Scenarios describe realistic situations in which CLECs purchase wholesale services and network elements from the ILEC 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.
TIS	Technical Information Sheets.
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.
TR	Trouble Report.
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 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.
Trunk	A communication line between two switching systems. The term switching systems typically includes equipment in a central office (the telephone company) and PBXs. A tie trunk connects to PBXs. Central office trunks connect a PBX to the switching system in the central office.

Term	Definition
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.
Virtual collocation	CLEC's put switching and/or Internet equipment in the central office of an ILEC and rent some of the ILEC's circuits out to customers. Some of the central offices, however, are not large enough to accommodate all the equipment that the various new CLEC's are trying to locate in their central office. So the ILEC's came up with the idea of virtual collocation. The CLEC puts his equipment in the ILEC's central office. But the ILEC installs it, configures it, maintains it, fixes it, and does everything necessary. The CLEC can remotely monitor and remotely control his equipment as much as possible. But he can't physically go near it. Obviously, the CLEC has to train the ILEC's people and trust them to do the right thing with the equipment.
WFA	Work Force Administration.
WFA/C/DI/DO	WFA/C/DI/DO is the system that monitors and routes orders for the appropriate provisioning centers, creates trouble tickets; initiates a test if required; dispatches technicians to the field or central office; maintains status on trouble tickets; maintains a history log; and closes out trouble reports. There are two distinct WFA applications for NY and NE. However, all code and code development is the same for both NY and NE.

Term	Definition
WFA / C	WFA / C is the test centers' (e.g., Special Services Centers, MCSCs, CATCs) work management tool. For provisioning, it routes orders to the appropriate test center and technician, provides tracking and completion of orders as well as individual critical dates. For maintenance, WFA / C provides for the creation and tracking of trouble tickets. Functions common to both provisioning and maintenance include work / activity logs, generation of test requests, and generation of work requests for the central offices (WFA / DI) and / or the field (WFA / DO) dispatch organizations.
WTN	Working Telephone Number.

Appendix D: MA DTE LETTER ORDER

November 19, 1999

Participant Service List
D.T.E. 99-271

Mr. Raymond Sears, III
Principal
KPMG, LLP
1676 International Drive
McLean, VA 22102

Mr. Stuart J. Miller
Vice President
Bell Atlantic
1095 Avenue of the Americas
New York, NY 10036

Re: **Evaluation of Bell Atlantic-Massachusetts Operations Support Systems: Letter Order on Final Master Test Plan**

Dear Messrs. Sears, Miller and Participants:

On September 13, 1999, the Massachusetts Department of Telecommunications and Energy ("Department") issued to participants in D.T.E. 99-271 a request for comment on KPMG, LLP's ("KPMG") preliminary draft "Master Test Plan" ("MTP"). The final MTP will guide KPMG's evaluation of Bell Atlantic-Massachusetts' ("BA-MA") operations support systems ("OSS") on behalf of the Department, in conjunction with our inquiry of BA-MA's filing made pursuant to Section 271 of the Telecommunications Act of 1996. The participants' comments on the draft MTP were filed on October 15, 1999. On October 22, 1999, the Department sponsored a meeting between KPMG and any interested participants to review the comments that were filed. The Department then issued to BA-MA a series of questions about issues that had been raised by participants, and BA-MA's responses to those questions were filed on November 10, 1999. This letter responds to the participants' comments and BA-MA's responses, and directs KPMG to submit a final version of the MTP incorporating the changes outlined in this letter. This letter seeks only to address the major issues raised in the comments received. KPMG has advised the Department, as well as the participants, that a certain level of detail should be omitted from the MTP in order to preserve the integrity and "blindness" of the test, and we concur with that assessment.

The Department also expects that KPMG will endeavor to address other concerns raised in the comments based upon its professional judgment and expertise, without regard to whether these efforts are made explicit in the final MTP or this letter. The Department also reserves the option to make at any time changes to the scope of the test based on our own concerns or in response to the policy concerns of the United States Department of Justice ("DOJ") or the Federal Communications Commission ("FCC").

LSOG-4 and Normal, High, and Stress Volume Testing

Several participants argue in their comments that KPMG's test should include testing of Local Service Ordering Guidelines Release 4 ("LSOG-4"), which Bell Atlantic Corp. agreed to implement pursuant to the terms of an August 20, 1999 Settlement Agreement ("Settlement") among AT&T Corp., MCI WorldCom, Inc., and Bell Atlantic in an FCC proceeding. LSOG-4 is scheduled to enter production in the Bell Atlantic service territory in February, 2000. The enhancements agreed to in the Settlement are scheduled for deployment over the period February, 2000 through June, 2000. If the LSOG-4 release is an object of pre-order/order functional and transaction testing in Massachusetts, the duration of the test would be extended at least by two and possibly by five months. In order to test this major software release in the production environment, as opposed to the test environment, it would be necessary to wait for the June, 2000 release, thereby likely extending the completion of KPMG's evaluation to the summer of 2000.

The Department understands the arguments for testing of the LSOG-4 release. This release is unusual in that it is the product of an intensive collaborative effort, will add desirable functionality, and will dramatically increase the uniformity of Bell Atlantic wholesale interfaces across its entire service territory. Improving the uniformity of a Bell Operating Company's ("BOC") systems will lower the marginal costs of Competitive Local Exchange Carriers ("CLECs") seeking to extend local exchange service offerings throughout the BOC's region. A CLEC considering initial entry into the Massachusetts market in the next six months will likely build its electronic pre-order and order interfaces to conform to the enhanced functionality and wider relevance of the LSOG-4 release. The Department has carefully considered these arguments and has sought and received the advice of KPMG in analyzing the costs and benefits of extending the duration of the test to include testing of LSOG-4.

In our consideration of the relative costs and benefits of testing the LSOG-4 release, the Department has found a recent guidance letter from Lawrence E. Strickling, the Chief of the FCC's Common Carrier Bureau (" CCB ") ("CCB's OSS Policy Letter"), to be instructive. The CCB's OSS Policy Letter was issued on September 27, 1999, and it described the key elements of a third-party OSS test leading to a successful Section 271 application. Among these elements, Strickling stressed the "critical" importance of a

comprehensive and independent " change management test" including a review of a BOC's ability to implement at least one significant software release.

It is apparent from the CCB's OSS Policy Letter, and from Department consultations with the DOJ, that concerns about BOC change management processes are primarily based on the recognition of the inevitability of on-going OSS software changes. Thus, the paramount concern for telecommunications public policymakers in evaluating OSS software is the version change process and not the software *per se*. The features and functionality of a particular software release obviously are important, but secondary to a BOC's demonstrated ability to manage system updates to wholesale interfaces in a non-discriminatory fashion. Put another way, software change is inevitable and iterative and will remain so. How a BOC responds to this inescapable fact is ultimately more important than the characteristics of any particular OSS software version.

The Department also finds that participant concerns about the lack of normal, high and stress volume transaction testing, as recommended in the CCB's OSS Policy Letter and as conducted by KPMG in New York, are significantly interrelated to the LSOG-4 issues discussed above. The draft MTP contemplates limited interface functionality and transaction testing. The draft test plan seeks to rely on the results of the KPMG OSS test conducted in New York some time ago. While the Department acknowledges the similar, if not identical, nature of the current LSOG 2/3 interfaces in New York and Massachusetts, we conclude that a scenario by which KPMG neither extensively examines the functionality of the upcoming LSOG-4 release nor runs normal, high and stress volumes of transactions through existing interfaces in Massachusetts would simply not be representative of the "real world" conditions in which both BA-MA and the CLECs must operate today and in the future. Bell Atlantic is currently faced with rapidly increasing volumes of orders due to the market-opening events taking place in New York. These increased volumes necessarily affect wholesale operations in Massachusetts since both New York and Massachusetts are largely served by the same systems and organizations. The Department believes that an independent third-party OSS must seek to capture the current market conditions and circumstances within which the BOC must provide non-discriminatory access to its OSS.

Accordingly, for the reasons discussed above, the Department will not direct KPMG to test the LSOG-4 release in the production environment. However, the Department finds that the LSOG-4 software release should be a fundamental object of a revised and extended Change Management Test ("RMI1") in the Relationship Management and Infrastructure ("RMI") domain test section described in the draft MTP. Additionally, in order to maintain the integrity of the test results over time and to adequately capture the demands of the current and near-term marketplace, the Department finds that the current BA-MA pre-order and order interfaces (*i.e.* LSOG 2/3 and GUI III) should be subjected to normal, high, and stress transaction testing as the

foundation for a complete evaluation of the Pre-Ordering, Ordering, and Provisioning (“ POP “) domain. The Department expects that KPMG will not rely on data from New York or Pennsylvania to draw its conclusions about current and future BA-MA performance in these two domains, but will conduct a full-scale test in Massachusetts in the spirit of the relevant sections of the CCB OSS Policy Letter. Additionally, the Department in this letter directs KPMG to conduct a “new release“ test of LSOG-4, including the submission of a statistically significant sample of representative transactions in the test environment. The Department directs KPMG to revise and extend the scope of the draft MTP’s proposed RMI1 and POP domain tests accordingly.

OSS Performance Standards

Many participants expressed in their comments on the draft MTP the need for the establishment of an explicit set of performance standards or “metrics“ at the beginning of the OSS testing process, in order to facilitate an objective understanding of the criteria by which BA-MA’s performance is to be evaluated by KPMG. The underlying premise of these concerns is that the metrics established and reported by BA-MA as a result of the Department’s *Consolidated Arbitrations* proceeding provide an insufficient basis for evaluating BA-MA’s Section 271 filing. This argument derives some measure of credibility from the fact that when making its Section 271 filing with the Department, BA-MA supplemented the *Consolidated Arbitrations* metrics data with data derived from additional measures.

The Department notes that the establishment of a complete set of performance measures by which to evaluate BOC compliance with Section 271 is a highly subjective and difficult process. In the context of Section 271 compliance, however, the FCC and the DOJ have consistently emphasized the importance of an adequate set of metrics and corresponding self-executing remedies to a favorable evaluation. We also take note of the remarkable rate of change in the telecommunications marketplace and the corresponding need to ensure that measures of BOC performance capture relevant data from which to assess the statutory mandates of non-discriminatory access.

We are persuaded that the establishment of a Performance Assurance Plan (“PAP“), which will consist of the *Consolidated Arbitrations* metrics, BA-MA’s proposed supplements, and other metrics that will be listed in a forthcoming attachment to this letter order (“Attachment A“), represents a prudent policy course, given the opportunity for an independent evaluation of BA-MA’s ability to accurately compile and report relevant data. The CCB’s OSS Policy Letter explicitly endorses such an examination as the very first element of a useful test. We stress here that the PAP is to be used for purposes of assessing BA-MA’s compliance with the requirements of Section 271, and is not a replacement for the *Consolidated Arbitrations* metrics that are currently referenced in interconnection agreements. Changes to the contractual

Consolidated Arbitrations metrics must be undertaken according to the adjudicatory process outlined by the Department in its performance standards order (D.P.U./D.T.E 96-73, 96-75, 96-80/81, 96-83, 96-94-Phase 3-E (1996) issued September 25, 1998).

As noted above, we are not convinced that the *Consolidated Arbitrations* metrics, even as supplemented in BA-MA's Section 271 filing, adequately address FCC and DOJ concerns relating to Section 271 compliance. We note that the DOJ's recent evaluation of Bell Atlantic-New York's (" BA-NY ") Section 271 filing emphasized the need for additional measures and corresponding data by which to fully assess BA-NY's 271 application. For example, disaggregation of UNE-L and UNE-P flow-through data are explicitly identified by the DOJ as integral to the 271 review process, and these data are not currently reported by BA-MA. Accurate "hot-cut" measurement is another area of concern and the subject of extensive rebuttal and surrebuttal in the New York 271 proceeding. We also take note of the rapid rate of xDSL deployment which depends upon non-discriminatory access to new databases and provisioning processes. The CCB's OSS Policy Letter also includes as a critical element of a third-party OSS test, the submission of "significant volumes" of xDSL orders, which the Department has indicated previously and reiterates here that it expects KPMG to perform in its Massachusetts test.

The Department has already directed KPMG to develop a comparison study of the metrics proposed by BA-MA versus the metrics endorsed by the DOJ and reported in other jurisdictions including New York, Pennsylvania and Louisiana. This comparison clearly suggests the existence of many relevant, up-to-date measures of BOC performance not included by BA-MA in its Section 271 filing. As noted above, the Department therefore will issue shortly a supplemental list of measures to be referred to hereafter as "Attachment A" to this letter order. The Attachment A metrics, when combined with those proposed by BA-MA in its 271 filing, will constitute an adequate PAP to be examined by KPMG. Accordingly, we direct KPMG to modify the description of its Performance Metrics Reporting ("PMR") domain to reflect inclusion of the Department's PAP in the examination. We direct KPMG to proceed with its examination of an initial sample of *Consolidated Arbitrations* metrics.

We also direct KPMG thoroughly to examine and evaluate *all* of the supplemental measures included in BA-MA's Section 271 filing and *all* of the measures included in the forthcoming Attachment A. To this end we direct KPMG to strike references in the draft MTP to Global Entrance Criteria that "measurements must be fully functional, tested, and operationally ready." The Department finds the need to expand the scope of the KPMG test in this area to include investigation into the status of metrics "under development" (such as those that are the product of various efforts in New York), and to conduct and report on an appraisal of the relative capacity of BA-MA to collect and report on the measures in the PAP. The Department directs KPMG to revise the draft MTP to reflect this expanded scope. We note concerns about whether,

when, and to what extent BA-MA is able to provide KPMG with the six months of raw data and calculated metrics it has requested for the measures already proposed by BA-MA. We expect, however, that BA-MA will make all best efforts to produce this raw and calculated data in order to assist KPMG in its expanded PMR investigation, as outlined above. We direct KPMG to include a report on these efforts, including the status of each PAP metric, in its final report.

We also note here the absence in the draft MTP of reference to a "military-style" test in which problems are identified and fixed prior to completion of the test. The Department had assumed the adoption of this philosophy and directs KPMG to include a specific statement to this effect.

Order Flow-Through and Manual Processing

Commenting participants, as well as the DOJ in its recent evaluation of the BA-NY 271 filing, have expressed a variety of concerns about the level of order "flow-through" and the related issue of an undesirable amount of "manual order processing" leading to low levels of "achieved" and "actual" order flow-through. As the FCC and the DOJ have noted, there is substantial evidence of a direct relationship between the level of order flow-through and non-discriminatory access to a BOC's OSS. Consequently, we direct KPMG to expand its testing in these areas. Specifically, we direct KPMG to revise the draft MTP to include 3 separate flow-through investigations in the POP domain: (1) an "achieved flow-through test" similar to that conducted in New York and recommended in the CCB's OSS Policy Letter; (2) a "commercial flow-through test" focusing on the root causes of the discrepancies in the achieved flow rate measured by KPMG in New York and the commercial flow-through rates of CLECs; and (3) a "flow-through parity test" designed to investigate the actual flow-through rates of Bell Atlantic's retail operation and those of CLECs. We also direct KPMG to revise the draft MTP to include a more extensive and detailed examination of BA-MA's manual order processing within the POP domain.

Conclusion

Pursuant to the findings in this letter order, KPMG shall submit to the Department a final MTP that includes all of the modifications directed here by the Department, as well as any other modifications that KPMG deems necessary in response to concerns raised by the participants and BA-MA. The revised final MTP shall be filed with the Department on November 24, 1999.

By Order of the Department

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Janet Gail Besser, Chair

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James Connelly, Commissioner

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W. Robert Keating, Commissioner

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Paul B. Vasington, Commissioner

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Eugene J. Sullivan, Commissioner