

The State of Michigan
Public Service Commission

Ameritech
OSS Evaluation Project
Master Test Plan

**Baseline Draft for Initial Mark-up by Interested Parties
Version 0.1**

**Copyrighted 2000
KPMG Consulting, LLC**

April 12, 2000

Contents

- I. DOCUMENT CONTROL 1**
- A. DISTRIBUTION 1
- B. APPROVED BY 1
- II. INTRODUCTION 3**
- A. BACKGROUND 3
- B. SCOPE 3
- C. OBJECTIVE 5
- D. AUDIENCE 5
- E. ASSUMPTIONS 7
- F. LIMITATIONS 8
- G. DOCUMENT STRUCTURE 8
- III. TEST PLAN FRAMEWORK 10**
- A. TEST SCENARIOS 10
 - 1.0 Scenario Purpose 11*
 - 2.0 Scenario Use 11*
- B. TEST DOMAINS 12
- C. TEST FAMILIES 13
- D. TEST PROCESSES 14
 - 1.0 Transaction-Driven System Analysis 14*
 - 2.0 Operational Analysis 16*
- E. EVALUATION CRITERIA 16
- F. TEST PROCESS ELEMENTS 17
 - 1.0 Entrance Criteria 17*
 - 2.0 Exit Criteria 19*
 - 3.0 Evaluation Techniques 19*
- IV. PERFORMANCE METRICS REVIEW TEST SECTION 21**
- A. PURPOSE 21
- B. ORGANIZATION 21
- C. SCOPE 21
- D. TEST PROCESS 21
 - 1.0 Test PMR1: Data Collection and Storage Verification and Validation Review 23*
 - 2.0 Test PMR2: Metrics Definition and Standards Development and Documentation Verification and Validation Review 25*
 - 3.0 Test PMR3: Metrics Definition and Standards Change Management Verification and Validation Review 26*
 - 4.0 Test PMR4: Metrics Data Integrity Verification and Validation Review 28*
 - 5.0 Test PMR5: Metrics Calculations Verification and Validation Review 30*
- V. PROCESSES AND PROCEDURES REVIEW TEST SECTION 31**
- A. PURPOSE 31
- B. ORGANIZATION 32
- C. SCOPE 32
- D. TEST PROCESS 32
 - 1.0 Test PPR1: Change Management Practices Verification and Validation Review 34*
 - 2.0 Test PPR2: Account Establishment & Management Verification and Validation Review 36*

3.0 Test PPR3: OSS Interface Help Desk Functional Review	38
4.0 Test PPR4: CLEC Training Verification and Validation Review	40
5.0 Test PPR5: OSS Interface Development Verification and Validation Review	42
6.0 Test PPR6: Collocation and Network Design Verification and Validation Review	44
7.0 Test PPR7: POP Manual Order Processing Evaluation	47
8.0 Test PPR8: POP Work Center Support Evaluation	49
9.0 Test PPR9: Provisioning Process Evaluation	51
10.0 Test PPR10: Billing Work Center/Help Desk Support Evaluation	55
11.0 Test PPR11: Daily Usage Feed Returns – Process Evaluation	59
12.0 Test PPR12: Daily Usage Production and Distribution - Process Evaluation	61
13.0 Test PPR13: Bill Production and Distribution - Process Evaluation	63
14.0 Test PPR14: End-to-End M&R Process Evaluation	65
15.0 Test PPR15: M&R Work Center Support Evaluation	67
16.0 Test PPR16: Network Surveillance Support Evaluation	70
VI. TRANSACTION VERIFICATION AND VALIDATION TEST SECTION	73
A. PURPOSE	73
B. ORGANIZATION	73
C. SCOPE	73
D. TEST PROCESSES	73
1.0 Test TVV1: POP Functional Evaluation	75
2.0 Test TVV2: POP Volume Performance Tests	83
3.0 Test TVV3: Order “Flow Through” Evaluation	86
4.0 Test TVV4: Provisioning Verification and Validation	89
5.0 Test TVV5: M&R TAFI Functional Evaluation	91
6.0 Test TVV6: M&R ECTA Functional Evaluation	94
7.0 Test TVV7: M&R TAFI Performance Evaluation	98
8.0 Test TVV8: M&R ECTA Performance Evaluation	100
9.0 Test TVV9: End-to-End Trouble Report Processing	102
10.0 Test TVV10: Billing Functional Usage Evaluation	104
11.0 Test TVV11: Functional Carrier Bill Evaluation	107
APPENDIX A: TEST SCENARIOS	112
APPENDIX B. NORMAL AND PEAK VOLUME TEST SECTION	117
A. PURPOSE	117
B. SCOPE	117
C. DATA DEVELOPMENT	117
APPENDIX C: STATISTICAL APPROACH	118
A. OVERVIEW	118
B. MEASURES	118
C. SAMPLING	118
D. HYPOTHESIS TESTING	118
E. PARITY TESTS AND NON-PARITY TESTS	118
F. RESULTS	119
APPENDIX D: METRICS - QUANTITATIVE	120
APPENDIX E: REFERENCE DOCUMENTS	121
APPENDIX F: GLOSSARY	124

Table I-2: Approval List For Document

Person	Department	Date

Table I-3: Version Control

Version	Date	Reason

II. Introduction

A. Background

The Telecommunications Act of 1996 (the Act) requires Ameritech in Michigan to:

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

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

Ameritech's offers various systems, including both application-to-application interfaces and terminal-type/Web-based systems, which CLECs can use to access Ameritech's OSS in order to perform these tasks. The Michigan Public Service Commission (MPSC) has retained KPMG Consulting LLC (KPMG) to design a Master Test Plan which will assist it with assessing whether Ameritech is meeting these requirements.

B. Scope

This document describes the plan to evaluate Ameritech's OSS systems, interfaces, and processes that enable CLECs to compete with Ameritech's 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 combinations of UNEs, including the UNE Platform (UNE-P) — were included in the scope of the test.

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

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

Within each of the test families, the methods and processes to be applied to measure Ameritech's performance are described along with the specific points in the systems and processes where Ameritech performance will be evaluated.

The results of the test will be compared against measures and criteria identified by the MPSC and other measures and criteria as deemed appropriate by the MPSC.

This plan also describes the development and application of scenarios to be used within the TVV test families in evaluating Ameritech's OSS and related support services. KPMG developed these scenarios to test the functionality of Ameritech's pre-ordering, ordering, and provisioning (POP); maintenance and repair (M&R); and billing systems. The scenarios were designed to depict real-world situations that CLECs currently face or may face in the near future. The scenarios will be used to develop test cases that provide a detailed description of the transactions and introduce additional variables such as errors and supplements to further simulate real world transactions. The test will be conducted using the latest Ameritech interfaces in production. The interfaces are expected to include TAFI, ECTA, ODUF, ADUF, CRIS, CABS, LENS99, TAG, and EDI. TAG consists of two interfaces; RoboTag—the current name for the GUITAG interface and TAG—the machine-to-machine interface. Additionally, the test will be conducted using the most current release of the Ameritech business rules at the time of the test. The Phase II Test Manager is expected to test Ameritech's OSS '99, scheduled for release in December 1999.

Military Style Test

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

The process works as follows:

- If a problem is encountered during the test, the Phase II Test Manager will inform the MPSC and Ameritech by creating written Observations or Exceptions describing the problem and providing an assessment.
- An Observation will be created if the Phase II Test Manager determines that a test reveals one of Ameritech's practices, policies, or system characteristics might result in a negative finding in the final report.
- An Exception will be created if the Phase II Test Manager determines that a test reveals one of Ameritech's practices, policies, or system characteristics is not expected to satisfy one or more of the evaluation criteria defined for the test.
- Observation and Exception status will be discussed weekly by the MPSC, the Phase II Test Manager, and Ameritech. CLECs will be able to listen to the calls as observers, as well as ask clarifying questions.
- CLECs will be able to view Exceptions on the MPSC web site as well as provide input on them to the MPSC.
- Observations may or may not become Exceptions. Some Exceptions will not have been identified as Observations.
- Ameritech will respond to Observations verbally and to Exceptions in writing. These responses will describe either a clarification of the issue or Ameritech's intended fix(es) to the problem. The responses will be posted on the MPSC website.
- The Phase II Test Manager will be responsible for determining if an Exception is resolved. If in responding to an Exception Ameritech has made a change to a process, system, or document, the Phase II Test Manager will retest as appropriate.

- If an Exception is not resolved, the cycle will continue to iterate until closure is reached, no further action is warranted, or the MPSC specifically exempts the Exception from further testing.

Because of the potential extended time involved in these activities, it may not always be possible or practical to retest all activities within the scope of this test. At the conclusion of this test, there may be some Exceptions that remain open. The MPSC will decide and advise all parties on how to proceed with such Exceptions.

C. Objective

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

D. Audience

The audience for this document falls into two main categories:

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

The primary user of this document is the Phase II Test Manager. Others are the MPSC, Ameritech, the CLECs, the Department of Justice (DOJ), and the Federal Communications Commission (FCC).

Test Manager

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

Certified Software Interface (CSI)

The CSI is the entity responsible for the array of technologies, which enable transactions to be submitted to and received by Ameritech. These technologies will be developed and maintained by the Phase II Test Manager. Others, working under the direction of the Phase II Test Manager, may provide additional technology.

Michigan Public Service Commission

The Michigan Public Service Commission is responsible for providing input on additional tests, measures, or criteria that should be considered. The Phase II Test Manager will provide results and preliminary evaluation of the results to the MPSC. The MPSC is responsible for the final evaluation of the test results.

Ameritech Michigan

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

The CLEC Community

The CLECs will use this document to understand the breadth and depth of the test. In addition, this document describes the elements required of the CLECs to prepare for their role in the tests. The terms ALECs and CLECs are synonymous, and the term CLECs will be used throughout this document.

Department of Justice

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

The Federal Communications Commission

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

E. Assumptions

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

- Ameritech will provide suitable resources in sufficient numbers to assist the Phase II Test Manager and the Certified Software Interface with the evaluation effort.
- Ameritech will provide access to appropriate documentation.
- Ameritech will provide the necessary resources, facilities, and support for the Certified Software Interface to establish connectivity with its systems and to create the test bed required to execute the tests (e.g., office space; equipment; IDs; security access; customer accounts and addresses; and appropriate company codes).
- Ameritech will process test transactions as part of normal processing including the provisioning of some scenarios/test cases.
- Ameritech and, where appropriate, CLECs will provide the facilities required to execute the live scenarios.
- Ameritech and, where appropriate, CLECs will allow the Phase II Test Manager to observe retail and wholesale processes on-site during the evaluation effort.
- Ameritech and the CLECs will give the Phase II Test Manager access to historical data and current operational reports, as needed, to complete the evaluation.
- Ameritech will allow the Phase II Test Manager to inspect algorithms that may have a bearing on parity access, such as the algorithm used to manage trouble reports.
- Ameritech will maintain a stable environment for the duration of the evaluation.
- The Certified Software Interface will maintain a results database.
- The Certified Software Interface will evaluate the documentation, integration support, and interfaces that Ameritech provides CLECs trying to develop and access its OSS.

- Regulatory, legal, and confidentiality issues or concerns can be resolved without significant impact to either the intent of the tests, the ability to execute the tests, or the schedules for their execution.

F. Limitations

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

- In some cases, certain order types, troubles, and processes may not be practically tested by the Certified Software Interface. Examples include orders with very long interval periods (such as the establishment of collocation arrangements) or high volumes of test provisioning transactions. Accordingly, the test may take the form of an interview, inspection, live orders review, review of historical performance or operational reports, or some other method that will capture the performance of Ameritech with respect to the order types and processes in question. The Test Family Test Plans will identify the tests that can be executed live and those that must be executed by other means. Long interval tests that prove to have no alternative test methods that foreshorten the test will be referred, with a recommendation for disposition, to the MPSC. The MPSC will make the final decision regarding the disposition of such tests.
- Operational, time and resource constraints make it impossible to construct a completely, exhaustive test suite. Significant effort has been expended to clearly portray the scope of the proposed suite, and it is believed this suite does provide both extensive and sufficient coverage. Provision has been made in the plan to amend or extend the test coverage if, in the judgment of the MPSC, an amendment or extension is deemed justified.
- It is not practical or desirable to execute certain live tests that would disrupt service to Ameritech or CLEC customers. An example would be a Maintenance and Repair test that requires an equipment failure. Ameritech performance for these test cases will be evaluated by other means. The Test Family Evaluation Plans will identify the tests that can be executed live and those that must be executed by other means.

G. Document Structure

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

Table II-1 Document Overview

Sect. No.	Section	Content
I	Document Control	Identifies document distribution and necessary approvals.
II	Introduction to the Document	Documents project background, scope, and objectives, assumptions, and limitations. Includes who should read the document, and how it is structured.
III	Test Plan Framework	Describes the methodologies for testing Ameritech's systems, interfaces and processes. Includes how testing is segmented and organized, testing components, entrance and exit criteria, data acquisition, and traceability.
IV	Performance Metrics Review Test Section	Describes the methods and procedures for evaluating Ameritech's data collection, transfer, and processing into its performance metrics.

Sect. No.	Section	Content
V	Policies and Procedures Review Test Section	Describes the methods and procedures for evaluating the Ameritech Wholesale's business rules.
VI	Transaction Verification and Validation Test Section	Describes the methods and procedures for verifying and validating Ameritech's core systems through a series of transaction tests.
Appendix A	Test Scenarios	Describes the scenarios to be used in this test.
Appendix B	Normal and Peak Volumes Test Section	Describes the volumes to be used in testing.
Appendix C	Statistical Approach	Describes the statistical methods and tests used to determine whether parity exists.
Appendix D	Metrics Criteria	Lists metrics for process areas gathered from sources such as the Interim Guidelines.
Appendix E	References / Documents	References used in developing this document.
Appendix F	Glossary	Testing terms and definitions used in this document.

III. Test Plan Framework

The overall test of Ameritech's OSS is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces, and processes that fall within the scope of the testing effort. In constructing a master test plan, many factors were considered, including the systems and processes to be tested, the measurement points and respective evaluation criteria, and the necessary conditions required to stage a successful, efficient, and objective test. The Phase II Test Manager is expected to execute all tests listed in this plan.

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

- Test Scenarios
- Test Families
- 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 families* organize the systems and processes to be tested. The *test domains* 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

Based on KPMG's industry experience, the knowledge gained from the New York Public Service Commission Test, the Pennsylvania Public Utility Commission Test, and the Georgia third party test, as well as a review of the available offerings in Michigan, KPMG has developed a representative set of test scenarios.

The test scenarios describe at a high level realistic situations in which CLECs purchase wholesale services and network elements from Ameritech to be resold or repackaged to the CLEC's end-user customer on a retail basis. The key principles applied in generating the scenarios included: (1) emulating real world coverage, mix, and 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 that will be used to create test cases.

1.0 Scenario Purpose

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

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

2.0 Scenario Use

A list of the scenarios is provided in table form in Appendix A. In general, they specify a high-level description of a transaction situation. For example, one scenario is to change features for an existing CLEC Resale business POTS customer. These scenarios are used to generate specific test cases.

The test cases represent variations on the basic scenario. For example, from the scenario mentioned above, there could be several test cases. One such test case might be to delete Call Waiting and add Caller ID to each line of a ten-line business customer with sequential hunting among the lines. Another case might be to add hunting to a five-line business customer account and then cancel the order after two days. Yet another case might be to remove hunting from a seven-line business customer and then supplement the order three days later to remove Call Waiting from the auxiliary lines. A further case might be to introduce a specific intentional error in this order and then supplement to correct the error.

Each of these test cases would drive the definition of detailed test instances for various components of the total test. These test instances would correspond to the test case for a specific customer account. The Phase II Test Manager is expected to transmit numerous test instances for each of more than 500 test cases. KPMG requests that the Phase II Test Manager solicit input from CLECs operating in Michigan to supply test scenarios. Only the high-level scenarios, and not the more detailed test cases or instances are listed in this document to assure that the test will be as blind as possible.

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

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

For volume testing, normal expected volumes will then be assigned to a selected set of the test cases based on expected real world production in the July 2001 timeframe. Individual test instances that match the test cases will be generated based on the volume that has been assigned.

In addition, a stress volume test will be conducted to test the capacity and identify potential choke points of the interfaces. Stress volumes will be assigned to a subset of the test case types based on some multiplier of the normal expected volumes.

B. Test Domains

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

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

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

Pre-Order, Order, and Provisioning Domain

This domain is comprised of the systems, processes, and other operational elements associated with Ameritech's support for Pre-Ordering, Ordering, and Provisioning activities for wholesale services and unbundled network elements. The purpose of the specified tests is to evaluate functionality, to evaluate compliance with prescribed measurements, and to provide a basis for comparing this operational area to parallel systems and processes supporting Ameritech's Retail Operations.

Maintenance and Repair Domain

This domain is comprised of the systems, processes, and other operational elements associated with Ameritech's support for Wholesale Maintenance and Repair activities. Tests associated with this domain provide a basis for comparing this operational area to parallel systems and processes supporting Ameritech's Retail Operations and Industry Standards.

Billing Domain

This domain is comprised of the systems, processes and other operational elements associated with Ameritech's support for Wholesale Billing. Tests associated with this domain are designed to evaluate Ameritech's compliance to measurement agreements and to ensure adherence to sound management practices.

Relationship Management & Infrastructure Domain

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

C. Test Families

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

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

These three test families are useful in organizing the areas to be tested and the specific tests to be conducted. The Transaction Verification and Validation (TVV) test family will be comprised of transaction-based tests, while the Processes and Procedures Review (PPR) test family will review Ameritech’s wholesale business rules and management practices. The third test family, Performance Metrics Review (PMR), will review Ameritech’s service quality measurement data collection, calculation, and reporting functions.

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

Figure III-5: Domain/Test Family Matrix

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

D. Test Processes

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

In general, two kinds of tests have been developed:

- Transaction-Driven System Analysis
- Operational Analysis

1.0 Transaction-Driven System Analysis

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

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

Certified Software Interface (CSI)

The CSI provides the capability to generate the full suite of real world test cases by submitting transactions via Ameritech’s electronic interfaces and collecting information about the response times, intervals, and other compliance measures.

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

Further, the CSI will be required to document its ability to build, test, and place in operation the functionality required to successfully process transactions utilizing Ameritech's documentation, account management, help desk, and training support.

CLEC Involvement in Transaction Testing

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

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

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

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

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

Additionally, the Phase II Test Manager will host weekly meetings with the MPSC, the CLECs, and Ameritech to address and keep them apprised of all relevant aspects of the project.

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.

E. 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.

There are four types of evaluation criteria:

Table III-1: Evaluation Criteria

Evaluation Criteria Type	Description	Examples
Quantitative	These criteria set a threshold for performance where a 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 quality values is possible, such as level of customer satisfaction.	Arrangement defining daily usage feeds is satisfactory.
Parity	These are criteria that require two measurements to be taken and compared, such as whether external response time is as good as internal response time.	Local completion time no greater than Retail transaction time.
Existence	These are criteria where only two possible test results are possible (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 Ameritech'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, federal and state statutes, and other binding requirements resulting from judicial or MPSC regulations, governmental proceedings.
Consensus Requirements	Norms, benchmarks and standards developed by formal consensus proceedings.
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 benchmark performance goals, and guidelines derived from industry and topic area experts, Ameritech and CLEC performance targets, publications, academic journals and other sources.

F. Test Process Elements

For every test defined within each test family, the test process includes 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 MPSC.

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 MPSC has verified measurements to be used in the test.

The Performance Metrics to be used in the test must be determined by the MPSC and fully defined. In addition they must be fully functional, tested, and operationally ready. Fully functional Ameritech measurements are required to support collection of test results and to ensure a method exists to monitor on-going compliance. With assistance from the Phase II Test Manager, the MPSC will assess the operational readiness of all required Ameritech measurements and verify that all requirements have been met.

4. All required Ameritech interface capabilities must be operationally ready.

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

5. For transaction tests to begin, the Certified Software Interface must be operationally ready.

The CSI is to be developed by the Phase II Test Manager based on specifications and documentation provided by Ameritech. The successful operation of the CSI will demonstrate the feasibility of developing, testing, and operating the CLEC side of the OSS interface based upon documentation supplied by Ameritech.

6. The Phase II Test Manager will review relevant source documentation from the other states in the Ameritech region.

The Phase II Test Manager will review OSS testing in other states in the Ameritech region to determine whether the results of those tests may be duplicative of any specific portion of this Master Test Plan. The Phase II Test Manager may rely on the results of those tests rather than conducting duplicative testing, where the Phase II Test Manager can attest that the testing done in the other states is independent and reliable and can be used as a basis for evaluation acceptable to the Michigan Public Service Commission. To be considered duplicative, a test must meet the specifications listed in the Michigan MTP.

Table III-3 Global Entrance Criteria

Criteria	Responsible Party
The Test Plan has been approved.	MPSC
All legal dependencies have been resolved.	Ameritech, MPSC
Resolutions to legal dependencies approved.	MPSC
The MPSC has completed the definition of interim metrics to be used in Michigan for the purpose of this test based on input from the Work Groups and the MPSC has verified all other relevant measurements to be used in the test.	MPSC
All required Ameritech interface capabilities must be operational.	Ameritech
The Certified Software Interface must be operationally ready.	CSI, Phase II Test Manager
Phase II Test Manager has reviewed relevant source documents for the other states in the Ameritech Region.	Phase II Test Manager, MPSC

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 test activities required by the MTP must be completed.

For each test, all fact finding and analysis activities must be completed. All results and test methodologies have been documented. Any exceptions must be resolved or retesting completed, unless specifically exempted by the MPSC.

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 plan.

Table III-4 Exit Criteria

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

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.
Inspection	Physical review of process activities and products, including site visits, walk-throughs, read-throughs, and work center observations.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
Document Review	Compilation and review of books, manuals, and other publications related to the process and system under study.

IV. Performance Metrics Review Test 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 Ameritech's support for Performance Metrics (Service Quality Measurements).

B. Organization

The Performance Metrics Review is organized into three test target areas, which represent the key focus areas for testing in this domain. The Performance Metrics scope section contains a series of tables that identify the specific tests to be associated with each target test area. The tables are organized based upon subject test matter.

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

C. Scope

The Performance Metrics Review test family is comprised of three test target areas, representing important and generally distinct areas of effort undertaken by Ameritech. The three test target areas are:

- Standards & Definitions
- Data Processing
- Data Retention

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

Five tests have been designed to address the three test target areas. The organization of the subject test processes is as follows:

- PMR1: Data Collection and Storage Verification and Validation Review
- PMR2: Metrics Definitions and Standards Development and Documentation Verification and Validation Review
- PMR3: Metrics Definitions and Standards Change Management Verification and Validation Review
- PMR4: Metrics Data Integrity Verification and Validation Review
- PMR5: Metrics Calculations Verification and Validation Review

The three test target areas and five metrics tests will review all of the service quality measures that Ameritech is currently reporting, in part based on requirements of state and federal regulators. The metrics to be used in the test will be determined by the MPSC before the test commences. This determination will be based on input from a Work Group consisting of representatives from CLECs active in Michigan, Ameritech, and the MPSC Staff. When these metrics have been determined, they will be listed in Appendix D.

The metrics tests will involve an examination of both live industry data and, where applicable, data from the test transactions performed by the Phase II Test Manager. The tests will involve an investigation of the processes both for developing the metrics and for deriving the standards derived from retail analogs. That is, both CLEC and Retail data will be included in the test. In addition, the MPSC Staff Proposal indicated that the test should “[analyze] the adequacy and appropriateness of the measures provided in Ameritech’s SQM.” To address this need, the Phase II Test Manager will make an assessment, based on its professional judgement, of whether there are any major gaps in the coverage of, or in design problems with the Ameritech metrics. This judgement could be based in part on the results of the Processes and Procedures Reviews and the Transactions Verification and Validation tests described elsewhere in this test plan.

1.0 Test PMR1: Data Collection and Storage Verification and Validation Review

1.1 Description

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

1.2 Objectives

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

1.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager

1.4 Test Scope

Table IV-1 Test Target: Data Collection and Storage Verification and Validation Review

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

1.5 Scenarios

This test does not rely on scenarios.

1.6 Test Approach

1.6.1 Inputs

1. Ameritech Metrics Policies and Processes documentation
2. PMAP Documentation
3. Other procedural and technical documentation
4. Evaluation checklists
5. Interview guides

1.6.2 Activities

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

1.6.3 Outputs

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

1.7 Exit Criteria

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

2.0 Test PMR2: Metrics Definition and Standards Development and Documentation Verification and Validation Review

2.1 Description

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

2.2 Objectives

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

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager

2.4 Test Scope

Table IV-2 Test Target: Metrics Definition and Standards Development and, Documentation Verification and Validation Review

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

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

2.6.1 Inputs

1. Ameritech Metrics Development Documentation
2. PMAP Documentation
3. Other procedural and technical documentation that may be appropriate
4. Evaluation checklists
5. Interview guides

2.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Analyze the adequacy and appropriateness of the measures provided in Ameritech’s SQM.

5. Develop and document findings

2.6.3 Outputs

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

2.7 Exit Criteria

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

3.0 Test PMR3: Metrics Definition and Standards Change Management Verification and Validation Review

3.1 Description

This test evaluates the overall policies and practices for managing the change of the standards and definitions of the Ameritech metrics and the calculation of the metrics, and the communication of these changes to the CLECs. This would include policies and practices associated with both CLEC and, where the standards are retail analogs, retail measurements. This test will rely on checklists, document reviews and inspection.

3.2 Objectives

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

3.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager

3.4 Test Scope

Table IV-3 Test Target: Metrics Definition and Standards Change Management Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Change Management	Developing Change Proposals	Completeness and consistency of change development process	Inspection Document review Report review	Qualitative
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	Inspection Document review Report review	Qualitative
	Implementing Change	Completeness and consistency of change implementation process	Inspection Document review Report review	Qualitative
	Intervals	Reasonableness of change interval	Inspection Document review Report review	Qualitative

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

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

3.6.1 Inputs

1. Ameritech Metrics Development Documentation
2. PMAP Documentation
3. Other procedural and technical documentation that may be appropriate
4. Evaluation checklists
5. Interview guides

3.6.2 Activities

1. Gather information
2. Perform interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. 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 PMR4: Metrics Data Integrity Verification and Validation Review

4.1 Description

This test evaluates the overall policies and practices for processing the data used by Ameritech in the production of the reported performance metrics and standards. This test will rely on document reviews, inspections, and sampling

of partially converted data. Both CLEC and retail data will be included in the test. In addition, both retrospective data and data derived from the transactions submitted by the Phase II Test Manager will be included.

4.2 Objectives

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

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager

4.4 Test Scope

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

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

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

4.6.1 Inputs

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

4.6.2 Activities

- Gather documentation.
- documentation reviews.
- id interview summaries.

- 4. Gather sample of data.
- 5. Analyze data and document findings.

4.6.3 Outputs

- and interview summaries
- Summary report

4.7 Exit Criteria

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

5.0 Test PMR5: Metrics Calculations Verification and Validation Review

5.1 Description

This test evaluates the processes used to calculate performance metrics and retail analogs. The test will rely on re-calculating metrics and retail analogs and reconciling any discrepancies to verify and validate the reporting of the metrics. The test will use both retrospective data and data collected by the Phase II Test Manager and Ameritech from the execution of transactions. This test will also analyze the documentation published by Ameritech about metrics and the consistency between the documentation and the procedures used for calculating metrics. The test will rely on checklists, document reviews, inspections, and standard statistical techniques.

5.2 Objectives

The objectives of this test are to determine the accuracy of recent metrics calculations and to verify that the metrics as produced by Ameritech are consistent with its documentation and stated objectives.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Successful Completion of PMR 3	Phase II Test Manager

5.4 Test Scope

Table IV-5 Test Target: Metrics Calculations Review Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Metrics Calculations	Accuracy of metrics calculations	Ability to recreate calculations of metrics values and retail analogs	Calculation	Quantitative
	Documentation	Consistency between documentation and metrics programs	Document review	Qualitative

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

5.6.1 Inputs

1. Ameritech definitions and standards as verified by PMR2
2. Ameritech's target database as verified and validated by PMR1
3. PMAP Documentation
4. Other procedural and technical documentation that may be appropriate
5. Evaluation checklists
6. Interview guides

5.6.2 Activities

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

5.6.3 Outputs

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

5.7 Exit Criteria

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

V. Processes and Procedures Review Test 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 Ameritech's establishment and maintenance of business relationships with the CLECs. Areas to be evaluated include the provisioning of on-going operational support to CLECs in a manner both adequate to CLEC business needs and comparable to that provided to Ameritech retail operations.

B. Organization

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

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

C. Scope

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

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

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

D. Test Process

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

- PPR1 Change Management Practices Verification and Validation Review
- PPR2 Account Establishment & Management Verification and Validation Review
- PPR3 OSS Interface Help Desk Functional Review
- PPR4 CLEC Training Verification and Validation Review
- PPR5 OSS Interface Development Verification and Validation Review
- PPR6 Collocation and Network Design Verification and Validation Review
- PPR7 POP Manual Order Processing Evaluation
- PPR8 POP Work Center/Help Desk Support

- PPR9 Provisioning Process Evaluation
- PPR10 Billing Work Center/Help Desk Support Evaluation
- PPR11 Daily Usage Feed Returns – Process Evaluation
- PPR12 Daily Usage Production and Distribution – Process Evaluation
- PPR13 Billing Production and Distribution – Process Evaluation
- PPR14 End-to-End M&R Process Evaluation
- PPR15 M&R Work Center Support Evaluation
- PPR16 Network Surveillance Support Evaluation

1.0 Test PPR1: Change Management Practices Verification and Validation Review

1.1 Description

This test evaluates Ameritech’s policies and procedures for managing changes to the OSS interfaces and business processes utilized by CLECs. The change management practices for Ameritech-initiated and CLEC-initiated changes shall be considered. Additionally, data will be reviewed to evaluate change management of a major software release from initiation through implementation. Ameritech’s OSS ’99, scheduled for release in December 1999 is the anticipated major software release to be tested by the Phase II Test Manager.

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	Phase II Test Manager
Interview guides	Phase II Test Manager

1.4 Test Scope

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

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

1.6.1 Inputs

process documentation
 technical documentation
 and interpreting change management activities
 Evaluation checklists
 Interview guides
 .EC data and interviews
 es, change management notifications and updated specifications

1.6.2 Activities

and other relevant data
 documentation reviews
 and interview summaries
 and document findings

1.6.3 Outputs

id interview summaries
 Summary report

1.7 Exit Criteria

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

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

2.1 Description

This test evaluates Ameritech-FL's policies and practices for establishing and managing CLEC account relationships. Account establishment and management activities such as requests for account manager assistance are included in the scope of this test.

2.2 Objectives

The objectives of this test are to determine the adequacy, completeness, and compliance with procedures for developing, publicizing, conducting, and monitoring account management. Additionally, account establishment and management practices will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager
Retail analogs	Phase II Test Manager/MPSC
Interval standards for account management responsiveness to CLEC requests	MPSC

2.4 Test Scope

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

Process Area	Sub Process/Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Establishing an Account Relationship	Staffing	Appropriateness of roles and responsibilities	Inspection Document review	Qualitative Parity
Maintaining an Account Relationship	Customer contact	Capacity, coverage, and account allocation Adequacy and completeness of procedures for response to customer requests	Inspection Document review Interviews Logging Report Review	Qualitative Parity Qualitative Parity
	Intervals	Responsiveness to customer contacts relative to established interval standards	Inspection Document review	Quantitative
	Escalation	Adequacy, completeness and effectiveness of escalation procedures	Inspection Document review Interviews	Qualitative Parity
	Routine and urgent customer communications	Adequacy and completeness of communication and notification procedures	Inspection Document review Interviews	Qualitative Parity
	Customer documentation	Adequacy and completeness of procedures for developing, distributing, and maintaining customer documentation	Inspection Document review Interviews	Qualitative Parity
Account Management Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

2.6.1 Inputs

1. Ameritech account management procedural documentation
2. Ameritech instructions to CLECs for interacting with account managers
3. Other procedural, technical, and customer documentation

4. Evaluation checklists
5. Interview guides
6. CLEC data (such as documented, independently verifiable account management contacts)
7. Retail analogs (as applicable)

2.6.2 Activities

1. Gather documentation and other relevant data
2. Perform Ameritech and CLEC interviews and documentation reviews
3. Complete evaluation checklists and interview summaries
4. Develop and document findings

2.6.3 Outputs

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

2.7 Exit Criteria

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

3.0 Test PPR3: OSS Interface Help Desk Functional Review

3.1 Description

This test is an evaluation of the Ameritech’s help desk functions, which provide technical and system administration support for its OSS interfaces.

3.2 Objectives

The objectives of this test are to:

- Determine adequacy, completeness and consistency of help desk processes
- Ensure help desk functions have effective management oversight
- Determine whether help desk escalation procedures are correctly maintained, documented and published
- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining help desk performance
- Ensure existence of reasonable security measures to ensure integrity of help desk data and the ability to restrict access to parties with specific access permissions

3.3 Entrance Criteria

Criteria	Responsible Party
Limited to Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager

Criteria	Responsible Party
Interview guides	Phase II Test Manager

3.4 Test Scope

Table V-3 Test Target: OSS Interface 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 and Ameritech 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	Security 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
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

3.6.1 Inputs

- 1. Help desk procedure manuals)
- 2. Help desk functions
- 3. Evaluation checklists
- 4. Interview guides

3.6.2 Activities

- 1. Gather information
- 2. Documentation reviews
- 3. Prepare evaluation checklists
- 4. Prepare and document findings

3.6.3 Outputs

- ed evaluation checklists
- Summary report

3.7 Exit Criteria

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

4.0 Test PPR4: CLEC Training Verification and Validation Review

4.1 Description

This test evaluates key aspects of Ameritech’s training program for CLECs. Additionally, the CLEC training program will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

4.2 Objectives

The objectives of this test are to:

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

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist and interview guides	Phase II Test Manager
Retail analogs	Phase II Test Manager/MPSC

4.4 Test Scope

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

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Training Program Development	Develop curriculum	Completeness of training curriculum and forums	Document review Inspection	Qualitative Parity
		Adequacy of procedures to respond to information and training quality and utilization	Document review Inspection	Qualitative Parity
	Publicize training opportunities	Adequacy of procedures to accept CLEC input regarding training curriculum	Document review Inspection	Qualitative Parity
		Availability of information about training opportunities	Document review Inspection	Qualitative Parity
Training Program Quality Assurance	Attendance/ utilization tracking	Adequacy of process to track utilization and attendance various training tools and forums	Document review Inspection	Qualitative Parity
	Session effectiveness tracking	Adequacy of process to survey training recipients on effectiveness of training	Document review Inspection	Qualitative Parity

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Instructor oversight	Adequacy of procedures to monitor instructor performance	Document review Inspection	Qualitative Parity
Process Management	Performance measurement process	Controllability, efficiency, reliability of process	Inspection Document review	Qualitative Parity
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative Parity

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

4.6.1 Inputs

- 1. Training manuals
- 2. Ameritech training
- 3. Evaluation checklists
- 4. Interview guides
- 5. (as applicable)

4.6.2 Activities

- 1. Gather information
- 2. Documentation review
- 3. Interview summaries and document findings

4.6.3 Outputs

- 1. Interview summaries
- 2. Summary report

4.7 Exit Criteria

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

5.0 Test PPR5: OSS Interface Development Verification and Validation Review

5.1 Description

This test evaluates Ameritech’s methods and procedures for developing, providing, and maintaining OSS interfaces

for pre-ordering, ordering, and maintenance & repair. The interfaces that are relevant to this test include Ameritech's TAG, EDI, LENS99, TAFI, and ECTA products.

5.2 Objectives

The objectives of this test are to determine the adequacy, consistency and completeness of Ameritech's methods and procedures for developing, providing and maintaining OSS interfaces. The test shall also evaluate the capacity management practices used by Ameritech for its OSS interfaces and gateway systems.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager

5.4 Test Scope

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

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

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

5.6.1 Inputs

- Technical documentation
- Compatibility with interfaces
- Evaluation checklists
- Interview guides
- CLEC data and interviews

5.6.2 Activities

- Gather information
- Documentation reviews
- and interview summaries
- and document findings

5.6.3 Outputs

- Interview summaries
- Summary report

5.7 Exit Criteria

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

6.0 Test PPR6: Collocation and Network Design Verification and Validation Review

6.1 Description

This test evaluates Ameritech’s policies and practices for collocation and network design related to establishing and maintaining CLEC ability to access unbundled network elements. This test also evaluates Ameritech’s trunk forecasting process. (This test is not intended to examine interconnection for other purposes, such as an interexchange carrier’s network-to-network level interconnection.)

6.2 Objectives

The objectives of this test are to:

- Determine whether CLECs have sufficient information and Ameritech technical support to adequately prepare for and implement network designs and collocations
- Determine whether collocation and network design processes are well structured and managed to produce intended results
- Determine the existence and functionality of procedures for developing, publicizing, conducting, and monitoring trunk forecasting efforts with CLECs
- Verify integration of trunk forecasting procedures with Ameritech facilities planning procedures

- Ensure the trunk forecasting effort has effective management oversight

6.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Phase II Test Manager
Interview guides	Phase II Test Manager

6.4 Test Scope

Table V-6 Test Target: Collocation and Network Design Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Network design and collocation	Planning	Adequacy and completeness of network design and collocation planning processes	Document review Inspection	Qualitative
	Project management	Adequacy and completeness of collocation project management procedures	Document review Report review Inspection	Qualitative
	Resources	Availability and adequacy of resources and qualified technical support to facilitate collocation activities	Document review Report review Inspection	Qualitative
	Testing and implementation	Adequacy and completeness of network design and collocation testing processes	Document review Report review Inspection	Qualitative
Trunk Forecasting	Forecast Development	Adequacy and completeness of trunk forecasting procedures	Document review Inspection	Qualitative
	Forecast Security	Adequacy and completeness of procedures for ensuring confidentiality of CLEC-provided forecast information	Document review Inspection	Qualitative
	Forecast usage	Availability and integration of published trunk forecasts Ameritech facilities planning process	Document review Inspection	Qualitative
Collocation Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

6.5 Scenarios

This test does not rely on scenarios.

6.6 Test Approach

6.6.1 Inputs

1. Procedural and technical documentation
2. Ameritech instructions to CLECs for planning and implementing network designs and collocations

- 3. Evaluation checklists
- 4. Interview guides
- 5. CLEC data

6.6.2 Activities

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

6.6.3 Outputs

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

6.7 Exit Criteria

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

7.0 Test PPR7: POP Manual Order Processing Evaluation

7.1 Description

The POP Manual Order Processing Evaluation is a comprehensive review of the methods and procedures used to handle orders that have been manually submitted or require manual intervention by Ameritech during order processing. Operational analysis techniques will be used to conduct this test. It will rely on the development of various checklists to facilitate a structured walk through of the order handling process. Additionally, practices related to the manual processing of orders will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

7.2 Objective

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

7.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Manual Orders Procedures	Phase II Test Manager
Interview checklist	Phase II Test Manager
Process review checklist	Phase II Test Manager
Interview list	Ameritech, Phase II Test Manager
Retail analogs	Phase II Test Manager/MPSC

7.4 Test Scope

The table below outlines the processes and subprocesses involved in evaluating the timeliness, consistency, and accuracy of manual processing of orders.

Table V-7 Test Target: Manual Order Processes

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

7.5 Scenarios

Not Applicable

7.6 Test Approach

7.6.1 Inputs

- 1. methods and procedures
- 2. Interview checklist
- 3. Process review checklist
- 4. Manual to conduct interviews
- 5. Analogous (as applicable)

7.6.2 Activities

- 1. procedure documents.
- 2. Ameritech personnel.

- Monitor/walk through process.
- Observe management oversight system

Process review checklist.
 Evaluation summary.

7.6.3 Outputs

Process review checklists
 Interview checklists
 Evaluation summary

7.7 Exit Criteria

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

8.0 Test PPR8: POP Work Center Support Evaluation

8.1 Description

The POP Work Center Support Evaluation is a comprehensive operational analysis of the work center/help desk processes developed by Ameritech to support Resellers and CLECs with OSS questions, escalations, problems, and issues related to pre-ordering, ordering, and provisioning. Basic functionality, performance and escalation procedures will be evaluated.

8.2 Objectives

The objectives of this evaluation are to:

- Determine completeness and consistency of work center/help desk processes and responses
- Determine whether the escalation procedure is documented and known to work center agents and management
- Determine the accuracy and completeness of procedures for measuring work center/help desk performance

8.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Work Center/Help Desk Evaluation Checklist completed	Phase II Test Manager
CLEC Problem Feedback Survey completed	Phase II Test Manager
POP Problem Response Survey with standard questions completed	Phase II Test Manager

8.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the timeliness, consistency, and

accuracy of handling work center and help desk activities related to pre-ordering, ordering, and provisioning performed by Ameritech.

Table V-8 Test Target: POP Work Center/Help Desk Support

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

8.5 Scenarios

Not applicable

8.6 Test Approach

8.6.1 Inputs

Work Evaluation Checklist
Procedural Documentation

8.6.2 Activities

1. Conduct work center/help desk evaluation using the Work Center/Help Desk Support Checklist.

8.6.3 Outputs

Task Evaluation Checklist
Summary Report

8.7 Exit Criteria

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

9.0 Test PPR9: Provisioning Process Evaluation

9.1 Description

The Provisioning Process Evaluation is a parity and evaluative review of the processes, systems, and interfaces that provide provisioning for CLEC and Reseller orders. The test will also review the procedures, processes, and operational environment used to support coordinated provisioning with CLECs. The review will focus on these areas:

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

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

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

The evaluation will address products and situations that require coordinated provisioning to minimize customer disruption. The requirement for coordination may come from either Ameritech policy or a CLEC requirement.

Ameritech has indicated that the provisioning systems for Wholesale and Retail are the same, with both using SOCS and the same downstream provisioning and maintenance systems. The Phase II Test Manager will verify that the same processes and systems are used to provision orders. An operational analysis test approach will be used to evaluate Ameritech’s coordinated provisioning processes. It will consist of targeted interviews of key development personnel along with structured reviews of process documentation facilitated by an evaluation checklist. Case studies

of actual coordination processes will be created or selected from live CLEC situations. Case studies will be selected and tracked to determine process operation.

9.2 Objective

The objectives of this evaluation are to:

- Determine completeness and consistency of provisioning processes and to verify that the processes and systems utilized to provision retail and wholesale orders are in parity
- Determine whether the provisioning processes are correctly documented, maintained, and published
- Determine the accuracy, completeness, and functionality of procedures for measuring, tracking, projecting, and maintaining provisioning processes performance
- Ensure the provisioning coordination processes have effective management oversight
- Ensure responsibilities for provisioning coordination processes performance improvement are defined and assigned

9.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Detailed Provisioning Process Parity Evaluation Checklist developed	Phase II Test Manager
Required system documentation available	Ameritech
Provisioning process documentation available	Ameritech
Technical platforms specifications available	Ameritech
Databases specifications available	Ameritech
Data communications and interfaces specifications available	Ameritech
Interview guide/questionnaire developed	Phase II Test Manager
CLEC Case Study Request completed	Phase II Test Manager
CLEC Case Study Monitoring Form completed	Phase II Test Manager
Detailed Provisioning Coordination Process Checklist developed	Phase II Test Manager
Interviewees identified and schedule developed	Ameritech, Phase II Test Manager
Retail analogs	Phase II Test Manager/MPSC

9.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating Ameritech provisioning systems and processes to the CLECs and resellers.

Table V-9 Test Target: Provisioning Process

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

	Service design process	Consistency and repeatability compared to Retail	Inspection	Parity
	Assignment process	Consistency and repeatability compared to Retail	Inspection	Parity
	Service activation/ install intervals	Consistency with Retail	Inspection	Parity
Support Provisioning Coordination Process	Provision orders requiring coordination with CLB	Availability of personnel, procedures and methods	Document Review	Existence
		Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Request coordination	Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Notification of provision schedule	Completeness and consistency of processes	Document Review, Inspection	Qualitative
		Timeliness of notification	Document Review, Inspection	Qualitative
	Coordinate provisioning	Completeness and consistency of operating management practice	Inspection	Qualitative
		Controllability, efficiency and reliability of process	Inspection	Qualitative
		Completeness of process improvement practices	Inspection	Qualitative
Provisioning Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

9.5 Scenarios

Not Applicable

9.6 Test Approach

9.6.1 Inputs

1. Product and Service process flow for understanding of complex versus simple services
 2. Applicable Ameritech provisioning process documentation
 3. Interview guides/questionnaires
 4. Interviewees (per process area)
- Provisioning process owners
 - Provisioning process staff
 - User requirements project leader
4. Interview schedule
 5. Provisioning process parity evaluation checklists

- 6.Appropriate system documentation
- 7.Appropriate methods and procedures (determined via interviews)
- 8.CLEC case studies
- 9.Coordinated provisioning process evaluation checklists
- 10. Retail analogs (as applicable)

9.6.2 Activities

- 1 Identify all process documentation needed for review
- 2.Identify relevant systems and interfaces
- 3.Identify all system documentation available for review
- 4.Compare and contrast systems used for Wholesale and Retail
- 5.Send case study requests to CLECs
- 6.Receive and compile CLEC case study input suggestions
- 7.Conduct structured reviews of documentation
- 8.Conduct interviews
- 9.Select and record case studies to monitor
- 10. Monitor case studies and record results
- 11. Inspect physical systems and communications environments
- 12. Review case studies
- 13. Document findings

9.6.3 Outputs

- 1. Completed evaluation checklists
- 2. CLEC case study submission and selection matrix
- 3. A Summary report highlighting the differences and contrasting the systems used for Wholesale and Retail.
- 4. Conclusion

9.7 Exit Criteria

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

10.0 Test PPR10: Billing Work Center/Help Desk Support Evaluation

10.1 Description:

The Billing Work Center/Help Desk Support Evaluation is an operational analysis of the work center/help desk processes and documentation developed by Ameritech to provide support to Resellers and CLECs with usage (Daily Usage Feed) and/or billing related claims, questions, problems and issues. Basic functionality, performance, escalation procedures, and security will be evaluated. Additionally, the billing work center will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

10.2 Objectives:

The objectives of this evaluation are to:

- Determine completeness and consistency of work center/help desk processes, documentation and responses.
- Determine whether the escalation procedure is correctly documented, maintained, published and followed.
- Determine the 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.

10.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Ameritech Billing Process and System specialists available for observation and interviews	Ameritech
Work Center/Help Desk documentation identified and available	Phase II Test Manager
Retail analogs	Phase II Test Manager/MPSC

10.4 Test Scope:

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

Table V-10 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 Parity
	Interface with user	Usability of user interface	Inspections	Qualitative Parity
Availability of user interface		Inspections	Quantitative Parity	
	Log call	Existence of call logging	Document Review	Quantitative Parity
		Accuracy of call logging	Inspections	Qualitative Parity
	Record severity code	Compliance of call logging severity coding	Inspections	Qualitative Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Help Desk Call	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review, inspections	Quantitative Parity
		Accuracy of response	Inspections	Quantitative Parity
Receive Claim	File claim	Completeness and consistency of process	Documentation Review, inspections	Qualitative Parity
		Accuracy of response	Inspections	Qualitative Parity
	Process claim	Completeness, consistency, timeliness of process	Inspections, report review	Qualitative Parity
	Issue adjustment when necessary	Completeness and consistency of process	Documentation review, inspection	Qualitative Parity
	Disposition claim	Accuracy, completeness and reliability of disposition report	Inspections, report review	Quantitative Parity
Close Help Desk Call	Post closure information	Completeness, consistency, timeliness of process	Inspections	Quantitative Parity
		Accuracy of posting	Inspections, report review	Quantitative Parity
Monitor Status	Track Status	Existence of status tracking capability	Inspections	Existence Parity
		Consistency and frequency of follow-up activities	Document Review	Qualitative Parity
		Availability of jeopardy notification	Document Review	Quantitative Parity
	Report Status	Completeness and consistency of reporting process	Inspections, report review	Qualitative Parity
		Accuracy and timeliness of report	Inspections, report review	Quantitative Parity
		Accessibility of status report	Inspections	Quantitative Parity
Request Escalation	Identify escalation procedure	Existence of procedure	Document Review	Existence Parity
	Evaluate escalation procedure	Completeness of the procedure	Document Review	Qualitative Parity
		Consistency of the process	Inspection	Qualitative Parity
Capacity Management	Capacity management plan	Adequacy and completeness of capacity management procedure	Inspection Document review Interview	Qualitative Parity
Provide Security and Integrity	Provide secured access	Completeness and application of security procedures, protocols and restrictions	Document Review, Inspections	Qualitative Parity
		Controllability of intra-company access	Document Review, Inspections	Qualitative Parity

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

10.5 Scenarios:

Not applicable.

10.6 Test Approach:

This test utilizes operational analysis to evaluate Ameritech Billing Work Center Support/Help Desk Support processes and related documentation. It will rely on the development of various evaluation checklists to facilitate a structured walk-through of the major Work Center/Help Desk processes with Ameritech representatives and to review process documentation.

This test will initiate calls to the Work Center/Help Desk. These calls will be generated based on data (DUF and Bills) received during the Usage and Billing transactions test. Results will be evaluated based on Ameritech’s timeliness and consistency of response to the calls.

10.6.1 Inputs

1. Detailed operational test plan
2. Ameritech Work Center/Help Desk specialists.

Process documentation
 s for placing of test calls
 l analogs (as applicable)

10.6.2 Activities

1. Develop Work Center/Help Desk process evaluation checklist
2. Develop Work Center/Help Desk call questions, logging forms and expected answers
3. Conduct Work Center/Help Desk process walk-through and interviews
4. Place and log Help Desk test calls
5. Compile findings

10.6.3 Outputs

1. Completed Work Center/Help Desk Evaluation

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

10.7 Exit Criteria:

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

11.0 Test PPR11: Daily Usage Feed Returns – Process Evaluation

11.1 Description:

The Daily Usage Feed Returns Process Evaluation is an operational analysis of the usage return process and related documentation used by Ameritech to accept, investigate and where necessary, correct Daily Usage Feed return requests from CLECs. Additionally, the daily usage feed return process will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

11.2 Objectives:

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

11.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Documentation on Daily Usage Feed Returns Process available	Ameritech
Interview and walk-through arrangements finalized	Ameritech
Retail analogs	Phase II Test Manager/MPSC

11.4 Test Scope:

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-11 below.

Table V-11 Test Target: Daily Usage Feed Returns – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Daily Usage Feed Returns Requests	Returned usage receipt	Completeness and accuracy of documentation and processes for creating, submitting and receiving returned usage	Inspections	Qualitative Parity
	Returned usage processing	Accuracy, completeness and timeliness of corrections	Inspections	Qualitative Parity
	Provision of status for all retail records	Accuracy, completeness and timeliness of status report	Inspections, report review	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

11.5 Scenarios:

Not applicable.

11.6 Test Approach:

The test will rely on the development of various evaluation checklists to facilitate a structured walk-through of the Daily Usage Feed Returns processes with Ameritech representatives and to review process documentation.

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

11.6.1 Inputs

1. Detailed operational test plan
2. Ameritech personnel to review procedures, systems and tools
3. Process documentation
4. Retail analogs (as applicable)

11.6.2 Activities

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

11.6.3 Outputs

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

11.7 Exit Criteria:

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

12.0 Test PPR12: Daily Usage Production and Distribution - Process Evaluation

12.1 Description:

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

12.2 Objectives:

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

distribute the DUF. Additionally, the daily usage feed production and distribution process will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

12.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-4
Documentation on subject processes available	Ameritech
Interview and walk-through arrangements finalized	Ameritech
Retail analogs	Phase II Test Manager/MPSC

12.4 Test Scope:

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-12 below.

Table V-12 Test Target: Daily Usage Production and Distribution – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Produce Daily Usage Feed	Balancing and reconciliation Daily Usage feed.	Completeness of balancing and reconciliation procedures	Inspections	Qualitative Parity
	Route Daily Usage	Controllability of usage	Inspections	Qualitative Parity
Transmit Daily Usage Feed	Data transmission and data tape delivery to CLEC	Completeness, consistency and timeliness of the process	Inspections	Qualitative Parity
Maintain and Re-transmit Usage History	Create Daily Usage backup	Reliability of repeatable process	Inspections	Qualitative Parity
	Retrieve and re-transmit Usage backup data	Reliability and timeliness of prior period usage data to CLEC	Inspection	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

12.5 Scenarios:

Not applicable.

12.6 Test Approach

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

Arrangements will also be made to observe from a CLEC perspective the submission and Ameritech responses to re-transmission requests.

12.6.1 Inputs

1. Detailed operational test plan
2. Ameritech personnel to review procedures, systems and tools
3. Process documentation
4. Availability of CLEC re-transmission test cases
5. Retail analogs (as applicable)

12.6.2 Activities

1. Develop Daily Usage Production and Distribution Process Evaluation checklist

2. Conduct process observations and interviews
3. Compile findings

12.6.3 Outputs

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

12.7 Exit Criteria:

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

13.0 Test PPR13: Bill Production and Distribution - Process Evaluation

13.1 Description:

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

13.2 Objectives:

The objective of this test is to determine whether the processes employed by Ameritech to produce and distribute carrier bills ensure that those bills are accurate and are distributed to CLECs on a timely basis. The processes that enable a CLEC to request and obtain copies of previously received bills are also tested. Additionally, the bill production and distribution processes will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

13.3 Entrance Criteria:

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-4
Documentation on subject processes available	Ameritech
Interview and walk-through arrangements finalized	Ameritech
Retail analogs	Phase II Test Manager/MPSC

13.4 Test Scope:

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

Table V-13 Test Target: Bill Production and Distribution - Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Balance Cycle	Define balancing and reconciliation procedures	Completeness and effectiveness of balancing and reconciliation procedures	Inspections	Qualitative Parity
	Produce Control Reports	Completeness and accuracy in generation of control elements	Inspections	Qualitative Parity

	Release cycle	Compliance to balancing and reconciliation procedures	Inspections	Qualitative Parity
Deliver Bill	Delivery of bill media	Timeliness and controls of media delivery	Inspections	Qualitative Parity
Maintain Bill History	Maintain billing information	Timeliness and controllability of information	Inspections	Qualitative Parity
	Access billing information	Accessibility and availability of information	Inspections	Qualitative Parity
Request Resend		Timeliness and accuracy of the delivery	Inspections	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

13.5 Scenarios:

Not applicable.

13.6 Test Approach

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

13.6.1 Inputs

1. Detailed operational test plan.
2. Ameritech personnel to review procedures, systems and tools.
3. Process documentation.
4. Retail analogs (as applicable) .

13.6.2 Activities

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

13.6.3 Outputs

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

13.7 Exit Criteria:

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

14.0 Test PPR14: End-to-End M&R Process Evaluation

14.1 Description

This test will evaluate the functional equivalence of M&R processing for wholesale and retail trouble reports, by reviewing and evaluating the wholesale and retail process flow.

14.2 Objective

The objectives of this test are to evaluate Ameritech’s wholesale M&R process, and the equivalence of Ameritech’s end-to-end processes for trouble reporting and repair of retail and wholesale services. The end to end maintenance and repair process also will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

14.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Wholesale & Retail M&R process flow documentation	Ameritech
Process Evaluation Checklists	Phase II Test Manager
Interview Guides	Phase II Test Manager
Retail analogs	Phase II Test Manager/MPSC

14.4 Test Scope

Table V-14 Test Target: End-to-End M&R Process Evaluation

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

14.5 Scenarios

This test does not rely on scenarios.

14.6 Test Approach

14.6.1 Inputs

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

5. Retail analogs (as applicable)

14.6.2 Activities

1. Review and compare wholesale and retail process flows.
2. Identify differences between the two processes.
3. Analyze process
4. Assess the potential impact of each difference if possible.
5. Document process flow analysis results.

14.6.3 Outputs

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

14.7 Exit Criteria:

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

15.0 Test PPR15: M&R Work Center Support Evaluation

15.1 Description

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

15.2 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. TAFI).

Specifically, this evaluation is designed to:

- Determine adequacy, 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

- Determine the existence of Maintenance and Repair coordination processes and procedures, and other operational elements associated with M&R coordination activities between Ameritech and CLEC operations organizations.

15.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Process Evaluation Checklist	Phase II Test Manager
Interview Guides	Phase II Test Manager
Required data and documentation provided	Ameritech

15.4 Test Scope

Table V-15 Test Target: Work Center Support Evaluation

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

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Log Status and Close	Accuracy	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Work Center Procedures		Accuracy Completeness	Inspections Logging Interviews	Qualitative
Joint Meet Procedures	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Coordinated Testing	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Manual Handling Resale		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Manual Handling UNE/UNE Combinations		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Capacity Management	Capacity management process	Accuracy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

15.5 Scenarios

This test does not rely on scenarios.

15.6 Test Approach

15.6.1 Inputs

1. Interview guides
2. Observation checklists
3. Work center/help desk evaluation checklists
4. Work center contact logs
5. Process and procedure documentation
6. Ameritech notification procedures for coordinated repair meetings and coordinated repair testing

15.6.2 Test Activities

1. Conduct Maintenance and Repair center visits
2. Conduct work center/help desk evaluations
3. Establish work center contact logs
4. Analyze and collate contacts by type

15.6.3 Outputs

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

15.7 Exit Criteria

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

16.0 Test PPR16: Network Surveillance Support Evaluation

16.1 Description

The network surveillance support evaluation is a review of the processes and other operational elements associated with Ameritech’s network surveillance and network outage notification processes and procedures as they relate to wholesale operations. It also involves a review of the procedures followed by the INSAC and NRC.

16.2 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.

16.3 Entrance Criteria

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

16.4 Test Scope

Table V-16 Test Target: Network Surveillance Support Evaluation

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

16.5 Scenarios

This test does not rely on scenarios.

16.6 Test Approach

16.6.1 Inputs

1. Operational analysis plan and task checklist
2. Evaluation guides
3. Interview Guides
4. Documentation of all notification and network surveillance procedures for wholesale
5. Designated personnel for interviews

16.6.2 Activities

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

16.6.3 Outputs

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

16.7 Exit Criteria

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

VI. Transaction Verification and Validation Test Section

A. Purpose

The purpose of this section is to describe the specific tests to be undertaken in evaluating the systems, and other operational elements associated with Ameritech's support for application-to-application, manual, and GUI (graphical user interface) transactions. The tests are designed to evaluate Ameritech's compliance to measurement agreements, ensure documented functionality exists and works properly, and provide a basis for comparing the operational areas to Ameritech's Retail Operations.

B. Organization

The Transaction Verification and Validation (TVV) test family is organized into three sections that represent the key focus areas for testing in this domain. These three sections are:

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

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

C. Scope

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

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

D. Test Processes

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

- TVV1: POP Functional Evaluation
- TVV2: POP Volume Performance Tests
- TVV3: Order Flow-Through Evaluation
- TVV4: Provisioning Verification and Validation
- TVV5: M&R TAFI Functional Evaluation

- TVV6: M&R ECTA Functional Evaluation
- TVV7: M&R TAFI Performance Evaluation
- TVV8: M&R ECTA Performance Evaluation
- TVV9: End-to-End Trouble Report Processing
- TVV10: Billing Functional Usage Evaluation
- TVV 11: Functional Carrier Bill Evaluation

1.0 Test TVV1: POP Functional Evaluation

1.1 Description

The POP Functional Evaluation is a comprehensive review of all of the functional elements of Pre-Ordering, Ordering, and Provisioning; the achievement of the prescribed measures; and an analysis of performance in comparison to Ameritech’s Retail systems. The Phase II Test Manager will examine Ameritech’s conformance documented specifications, and an analysis of its functional comparison to Ameritech’s Wholesale and Retail systems. The test has two phases, a basic functional evaluation, and a comparative functional evaluation.

The test will include the submission of live transactions over three Ameritech-supported interfaces: 1) interactively via graphical user interfaces, 2) machine-machine interfaces, and 3) manually. In addition to the manual submission of orders, current plans call for testing the following electronic Ameritech interfaces: LENS99, TAG, and EDI. TAG consists of two interfaces: 1) RoboTAG—current name for the GUITAG interface, and 2) TAG—the name of the machine-machine interface. In addition, LENS99 will also be based on the TAG architecture but will continue to have the “look and feel” of the current LENS interface.

The following table depicts the functionality and mechanism with which each interface will be tested:

System	Pre-Order			Order		
	GUI	Machine-Machine	Manual	GUI	Machine-Machine	Manual
LENS99	X			X		
TAG	X	X		X	X	
EDI					X	
Manual			X			X

The master interface list will be finalized during Phase II to allow for any corrections/additions to be made as actual testing nears.

The machine-machine interfaces will be tested using interfaces built by/for the Phase II Test Manager according to specifications and processes provided to CLECs by Ameritech. The GUI will be tested through transactions entered directly into the appropriate GUI interface. Manual transactions will be submitted as well.

Data on all of the POP processes will be collected and analyzed and used to produce the output reports. The POP Functional Evaluation will look at an end-to-end view of the pre-ordering through provisioning process. It will include a mix of stand-alone pre-ordering and ordering transactions, along with pre-order transactions followed by orders, supplements, and cancels. The Phase II Test Manager will collect data on transaction submissions and responses, and on provisioning activities. Where possible and appropriate, this information will be collected and maintained electronically. Both ASR and LSR orders will be tested. Erred as well as error free transactions will be tested. Not all orders will go through the physical provisioning process. Some will be future dated, and others will

Master Test Plan

April 12, 2000

be canceled before provisioning activities commence. The verification and validation of the provisioning activities will be performed in TVV4.

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

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

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

1.2 Objective

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

1.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Interfaces are built and tested	Phase II Test Manager
Ameritech Interfaces are “certified” by Ameritech	Ameritech
Initial Ameritech measurement evaluation completed	Phase II Test Manager, MPSC
Ameritech measurements available at the CLEC level	Ameritech
Measurement collection process is defined	Phase II Test Manager
Dial-up connectivity to GUI interface established	Phase II Test Manager, Ameritech
Product descriptions and business rules for all transactions to be tested are available	Ameritech
Test bed databases and facilities in place	Ameritech
CLEC test volunteers identified	Phase II Test Manager
Test Scenarios developed	Phase II Test Manager
Test Cases developed	Phase II Test Manager
Specific Test Cases to test in conjunction with CLEC volunteers identified	Phase II Test Manager
Functional Checklist created	Phase II Test Manager
Specific Evaluation techniques developed	Phase II Test Manager
Evaluation Criteria defined and approved	Phase II Test Manager
Detailed “Go/No Go” checklist created	Phase II Test Manager
Help Desk log and contact checklists created	Phase II Test Manager

1.4 Test Scope

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

- Pre-Order Processing—submission of requests for information required to complete orders;
- Order Processing—submission of orders required to add/delete/change a customer’s service; and

Master Test Plan
April 12, 2000

- Provisioning—physical work performed by Ameritech as a result of the submitted orders.

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

- Migrate “as is”
- Migrate “as specified”
- New customer
- Feature Change
- Directory Change
- Number Change
- Add lines
- Suspend/Restore
- Disconnect (full/partial)
- Move (inside/outside)
- Number Portability (LNP/INP)
- Line reclassification
- Change to New Local Service Provider
- UNE Loop Cut Over

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

- Resale
- Unbundled Loops
- UNE Combinations
- Other Unbundled Network Elements, including xDSL capable Loops
- Any other service delivery methods that may become available at the time of the test

The orders will be placed using Ameritech’s existing interfaces: GUI, machine-machine, and manual. The following assumptions pertain to ordering interfaces:

- Orders and pre-orders will be sent over every applicable in-scope interface,

Master Test Plan
April 12, 2000

- Orders will be issued using both the ASR and LSR format, as appropriate, and
- The GUI will be tested from multiple terminals at the same time.

Other important aspects of ordering will be tested:

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

In addition to normal orders, orders with planned errors will be sent to Ameritech to check the accuracy of its system edits and LCSC (Local Carrier Service Center) representatives.

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

The test will be conducted using the most current release of the Ameritech business rules at the time of the test. Ameritech’s scheduled release of OSS ’99, planned for December 1999, incorporates functionality from LSOG2, LSOG3, and LSOG4 reflecting the priority items requested by the CLEC community. Any Ameritech updates to these rules released during the test period will be incorporated into the remaining orders, which may cause delays. In addition, any interface business rules and format changes necessitated during the course of the test to conduct the test scenarios stated in Appendix A, and which may lead to a Change Control initiative, will be included in the test transaction formats.

Documentation affecting the POP domain given to the CLECs and the resellers – including the LEO volume set, training materials, and other appropriate documentation – will be used to submit the transactions, and the accuracy and usefulness of this documentation will be evaluated.

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

Table VI-1 POP Processes

Process Area	Sub-Process
Pre-ordering	Retrieve customer CSR from CRIS
	Validate Customer Address
	Reserve and release telephone numbers
	Request information about services, features, facilities, and PIC/LPIC choices available to customers
	Determine due date/appointment availability
Ordering	Submit an order for the migration of a customer from Ameritech to a CLEC “as is”

Master Test Plan
April 12, 2000

Process Area	Sub-Process
	Submit an order for the migration of a customer from Ameritech to a customer "as specified"
	Submit an order for the partial migration of a customer from Ameritech to a CLEC
	Submit an order for establishing service for a new customer of a CLEC
	Submit an order for feature changes to an existing CLEC customer
	Submit an order for adding lines/circuits to an existing CLEC customer.
	Submit an order for a telephone number change for an existing CLEC customer
	Submit an order for a directory change for an existing CLEC customer
	Submit an order for an inside move of an existing CLEC customer
	Submit an order for the outside move of an existing CLEC customer
	Submit an order for suspending service of an existing CLEC customer
	Submit an order for restoring service to an existing CLEC customer
	Submit an order for disconnecting service from an existing CLEC customer
	Submit an order for disconnecting some lines/circuits for an existing CLEC customer
	Submit an order for migration of a customer from another CLEC
	Change service delivery method for an existing CLEC customer
	Order interoffice facilities
	Receive order confirmation
Provisioning	Receive notification of jeopardy or delay
	Receive completion notification

Ameritech's pre-ordering, ordering, and provisioning functionality and performance:

Table VI-2 POP Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Clarity, accuracy and completeness of documentation	Document Review, Transaction Generation	Qualitative Quantitative
Accessibility of GUI (excluding Interoffice facilities)	Transaction Generation	Quantitative
Accessibility of machine-machine (excluding Interoffice Facilities)	Transaction Generation	Quantitative
Accessibility of manual processing (excluding Interoffice facilities)	Transaction Generation	Quantitative
Accuracy and completeness of functionality	Transaction Generation	Quantitative
Timeliness of response	Logging	Quantitative
Accuracy and completeness of response	Transaction Generation, Inspection	Qualitative Quantitative
Clarity and accuracy of error messages	Transaction Generation, Inspection, Document Review	Quantitative
Accuracy, responsiveness, and completeness of Help Desk support	Transaction Generation, Logging	Qualitative Quantitative
Usability of information	Transaction Generation, Inspection	Qualitative Quantitative
Consistency with retail capability	Inspection	Qualitative Quantitative

The Provisioning process has different measures:

Table VI-3 Provisioning Evaluation Measures

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

Master Test Plan
April 12, 2000

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

1.5 Scenarios

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

1.6 Test Approach

1.6.1 Inputs

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

1.6.2 Activities

1. Determine functionality of both Ameritech wholesale and retail ordering, preordering, and provisioning systems.
2. Compare wholesale and retail functionality.
3. Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s).
4. Interview CLEC volunteers and coordinate joint testing activities.
5. Submit transactions. Submittal date and time and appropriate transaction information logged.
6. Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) logged.
7. Match transaction response to original transaction.
8. Verify transaction response contains expected data and flags unplanned errors.
9. Manually review unexpected errors. Identify error source (the Phase II Test Manager, or Ameritech). Identify and log reason for the error. Determine if test should be discontinued.
10. 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.

Master Test Plan
April 12, 2000

11. Correct expected errors and resubmit. Re-submittal date, time, and appropriate information logged.
12. 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.
13. Record missing responses.
14. Review status of pending orders. Verify and record accuracy of response.
15. Generate Certified Software Interface reports.
16. Generate Ameritech metrics report for test date range.
17. Compare Certified Software Interface metrics to Ameritech retail metrics.

1.6.3 Outputs

1. A Summary report comparing the relative functionality of Ameritech's Wholesale and Retail ordering, preordering, and provisioning systems.
2. Reports that provide the metrics to support the standards of performance defined in Appendix D.
3. Variance between actual performance and the standards of performance defined in Appendix D.
4. Report of expected results versus actual test case results
5. Unplanned error count by type and percentage of total
6. Report of unplanned 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. Minimum, maximum, mean, average, and aggregate response time/interval per transaction set
10. Transaction counts per response time/interval range per transaction set
11. Orders erred after initial confirmation
12. "Flow through" orders by order type, product family, etc.
13. Completed help desk logs and checklists
14. Help desk accuracy and timeliness report
15. CSI measurement reports
16. Measure of parity performance between retail and wholesale

1.7 Exit Criteria

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

2.0 Test TVV2: POP Volume Performance Tests

2.1 Description

The Volume Performance Test will identify the capacity and potential choke points, at projected future transaction volumes, of the Ameritech GUI, manual, and machine-machine interfaces and Ameritech systems and processes for responding to pre-ordering queries and for initial processing of orders. There will be three parts to the test: 1) a “normal volume” test using anticipated transaction volumes for the July 2001 time frame, 2) a “peak” test using volumes at 150% (1.5 times) of the normal volume test, and 3) a “stress” test using volumes at 250% (2.5 times) of the normal volume test. The “normal volume” and “peak” tests will be conducted in Ameritech’s production environment.

The Volume Performance Test will look at the performance of Ameritech’s pre-ordering and ordering systems and processes from the submission of queries to the creation of internal service orders and the return of an order confirmation. The orders submitted in the Volume Performance Test will not go through the physical provisioning process. The test will include a mix of stand-alone pre-ordering and ordering transactions. Included in this mix will be planned errors—both business rules errors and flow-through drop-out errors. Transactions will be submitted using the manual, GUI, and machine-machine interfaces.

While transactions will be submitted throughout the entire transaction test period as part of the POP Functional Evaluation, the volume tests will only run on certain days during the testing period. There will be two 24-hour “normal volume” days of testing. There will be one 24-hour “peak” test. There will be one 4-hour, off-peak “stress” test. The “stress” test will be run off-peak to limit the impact of the test on real customers. All the attributes and activities that apply to the POP Functional Evaluation for pre-ordering and ordering also apply to this test.

2.2 Objective

The objective of the Volume Performance Test is to measure Ameritech’s capability and identify potential choke points of the manual, GUI, and machine-machine interfaces and systems put in place to access pre-ordering information and submit orders to Ameritech at projected future volumes.

2.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See Table VI-1.3
Agreement on volumes and distribution by scenario and entry mode	Phase II Test Manager, MPSC
Test Scenarios selected	Phase II Test Manager
Specific Test Cases developed	Phase II Test Manager
Test Case execution schedule developed	Phase II Test Manager

2.4 Test Scope

The scope for this test includes the following test processes:

1. Pre-Ordering
2. Order Processing

2.5 Scenarios

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

2.6 Test Approach

2.6.1 Inputs

1. Test cases
2. Test case execution schedule
3. Documentation (LEO guides, pre-ordering/ordering business rules, etc.)
4. Personnel to execute test cases
5. Test “Go/No Go” Checklist
6. Help Desk log and contact checklists
7. Certified interfaces

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. Submittal date, time and appropriate transaction information are logged.
3. Receive transaction responses. 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 unplanned errors.
6. Manually review unplanned errors. Identify error source (Phase II Test Manager or Ameritech). 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. 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.
9. Review status of pending orders. Verify and record accuracy of response.
10. Generate CSI reports.
11. Compare CSI metrics to Ameritech detail metrics. Review CSI Ameritech measures.

2.6.3 Outputs

Performance metrics
Standards of performance
Plots versus actual results
and percentage of total
documentation problems
by and delivery method
Average per transaction set
Average per transaction set
After initial confirmation
Desk logs and checklists
by and timeliness report
Between retail and wholesale
Summary Report

2.7 Exit Criteria

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

3.0 Test TVV3: Order “Flow Through” Evaluation

3.1 Description

The Order “Flow Through” Evaluation tests the ability of orders to flow through from the CLEC through the interface into the Ameritech ordering system, SOCS, without any human intervention. Only orders that qualify as “flow through”, orders not needing manual action, will be tested. The list of “flow through” types will be updated during the testing period. Additions and deletions to the list will be incorporated into the test.

As appropriate, “flow through” orders will be submitted through the GUI, and machine-machine interfaces. Any supplements and cancels that are considered to be “flow through” will also be submitted. The order transactions will be monitored to verify that they do not “fall out” for manual handling in the Ameritech work center.

As a separate part of this test, the Phase II Test Manager will conduct an analysis of the Ameritech retail ordering functionality. Based on this analysis, a comparison of the “flow through” capabilities of the retail and wholesale systems will be made.

This test will be conducted as a part of the POP functional and normal volume testing (TVV1, TVV2)

3.2 Objective

The objective of the Order “Flow Through” Test is to verify the ability of Ameritech to flow through their front end systems, without manual intervention, all order types that at the time the transactions are submitted as designated by Ameritech or otherwise considered to be “flow through”.

3.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See Table VI-1.3
Documentation specifying which orders are expected to flow through	Ameritech
Test Scenarios selected	Phase II Test Manager
Specific Test Cases developed	Phase II Test Manager
Test Case execution schedule developed	Phase II Test Manager

3.4 Test Scope

The scope for this test includes the following test processes:

1. Ordering

3.5 Scenarios

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

3.6 Test Approach

3.6.1 Inputs

ses and expected results
case execution schedule
rfaces built and certified
nel to execute test cases
“Go/No-Go” checklist
through documentation

3.6.2 Activities

esale and retail systems.
ransaction information.
and response condition
flags unplanned errors.
rd manual handling and
(Phase II Test Manager

(valid vs. reject).

order attributes.

or Ameritech). Identify and log reason for the error. Ameritech errors will not be corrected by the Phase II Test Manager.

ders now flow through.

Master Test Plan
April 12, 2000

ed but do not appear as processed or erred by Ameritech.
manual handling report.
General CSI reports.
Ameritech Retail metrics.

3.6.3 Outputs

Wholesale and Retail systems.
product family, etc.
product family, etc.
by reason code
in various arbitrated agreements
actual results
not processed
manual handling report
Summary Report

3.7 Exit Criteria

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

4.0 Test TVV4: Provisioning Verification and Validation

4.1 Description

The Provisioning Verification and Validation test is a comprehensive review of Ameritech's ability to complete accurately and expeditiously the provisioning of CLEC orders. This test will be conducted as a part of the POP functional testing (TVV1). It will incorporate orders submitted via the following interfaces: manual, machine-machine, and GUI. While most kinds of orders will be included, the test will concentrate on those types of orders that require physical provisioning.

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

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

4.2 Objective

Master Test Plan
April 12, 2000

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

4.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See Table IV-1.3
Test Scenarios selected	Phase II Test Manager
Specific Test Cases developed	Phase II Test Manager
CLEC volunteers identified	Phase II Test Manager
Provisioning log and activity checklists created	Phase II Test Manager
Test case execution schedule developed	Phase II Test Manager

4.4 Test Scope

The scope for this test includes the following processes:

1. Pre-Ordering
2. Order Processing
3. Provisioning

4.5 Scenarios

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

4.6 Test Approach

4.6.1 Inputs

1. Test Cases and expected results
2. Test case execution schedule
3. Provisioning documentation
4. Provisioning log and activity checklists
5. Trained personnel to execute test cases
6. Test "Go/No Go" checklist

4.6.2 Activities

actions provided in the appropriate documentation
e-machine transactions.
and manual transactions.
operations of transactions.

Master Test Plan
April 12, 2000

g jeopardies and delays.
provisioning interactions.
on provisioned services.
g and activity checklist.
Generate CSI reports.
retail and other CLECs.

4.6.3 Outputs

1. Reports that provide the metrics to support standards of performance listed in Appendix D.
2. Variance between actual performance and standards of performance listed in Appendix D.
3. Report of expected results versus actual test case results.
4. Completed provisioning logs and checklists
5. Help desk accuracy and timeliness report
6. Provisioning accuracy and timeliness report
7. CSI to other CLEC comparison
8. Measure of parity performance between retail and wholesale

4.7 Exit Criteria

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

5.0 Test TVV5: M&R TAFI Functional Evaluation

5.1 Description

The Trouble Analysis Facilitation Interface (TAFI) Functional Evaluation is a comprehensive review of all of the functional elements of the TAFI System, their conformance to documented specifications, and an analysis of its functionality in comparison to Ameritech's Retail Residence and Business TAFI. The test has two major phases, Phase 1 — a basic functional evaluation, and Phase 2 — a comparative functional evaluation.

5.2 Objective

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

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria have been satisfied	See Table III-3
Detailed Test Plan completed	Phase II Test Manager
Test Scenarios selected	Phase II Test Manager
Specific Test Cases and Transaction Sets developed	Phase II Test Manager

Master Test Plan
April 12, 2000

Criteria	Responsible Party
Product descriptions and business rules for all transactions to be tested are available	Ameritech
Basic documentation review completed	Phase II Test Manager
Detailed Functional Checklist created	Phase II Test Manager
Test bed of working services selected and/or established	Ameritech
Specific Evaluation techniques developed	Phase II Test Manager
Physical access to Ameritech Web site established	Ameritech
Security access to TAFI established	Ameritech
Evaluation Criteria defined and approved	MPSC
Checklists and Interview Guides created	Phase II Test Manager

5.4 Test Scope

CLEC TAFI functionality will be reviewed within the context of specific documentation addressing its use and in comparison to Ameritech's retail Residence and Business TAFI. The following chart contains the processes, sub-processes, and methods for evaluating the functionality of TAFIs:

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

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

5.5 Scenarios

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

5.6 Test Approach

This test is broken down into two phases:

Master Test Plan
April 12, 2000

- Phase 1 involves the use of test cases created for this test to evaluate CLEC TAFI functionality and to determine if the system behaves as documented.
- Phase 2 involves observation and interviews of Retail Maintenance Administrators (MA) processing trouble calls and entering trouble reports into Residence and Business TAFI to assess functionality in comparison to CLEC TAFI.

5.6.1 Inputs

1. Test cases
(TAFI Student Guide, etc.)
Functionality checklists
Interview guide
Method to execute test cases
Residence and Business
TAFI.

5.6.2 Activities – Phase 1

1. To perform each of the functions listed on the checklist provided via the TAFI GUI interface, the system behaves as documented. The test cases provided on the checklist represent the system's presentation and behavior. If the test cases have been canceled.

5.6.3 Activities – Phase 2

1. From the Residence and Business M&R work centers, the test cases on the checklist provided are identified on the checklist. The functions being observed are system capabilities, performance, etc.). The test cases are executed in Residence and Business TAFI Workstation that are not available in CLEC TAFI. The test cases are executed in CLEC TAFI and Retail Residence and Business TAFI.

5.6.5 Activities – Common

1. Executed in Phases 1 and 2.

5.6.6 Outputs

Master Test Plan
April 12, 2000

Phases 1 and 2 activities
 ed interview summaries
 id relevant observations

relating to usability and timeliness of each system interface

ence and Business TAFI

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

5.7 Exit Criteria

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

6.0 Test TVV6: M&R ECTA Functional Evaluation

6.1 Description

The Electronic Communication Trouble Administration (ECTA) Functional Evaluation is a comprehensive review of all of the functional elements of the ECTA System, their conformance to documented interface specifications, and an analysis of its functionality in comparison to M&R electronic bonding industry standards. The test has two major phases, Phase 1 — a basic functional evaluation, and Phase 2 — an industry standard comparison.

6.2 Objective

The objective of this test is to validate the existence and behavior of ECTA functional elements as documented for CLEC trouble entry and other applicable documents, and to evaluate the equivalence of the ECTA interface functionality to Ameritech documentation and industry standards for electronic bonding trouble entry sy

6.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria have been satisfied	See Table III-3
Detailed Test Plan completed	Phase II Test Manager
Test Scenarios selected	Phase II Test Manager
Specific Test Cases and Transaction Sets developed	Phase II Test Manager
Product descriptions and business rules for all transactions to be tested are available	Ameritech
Basic documentation review completed	Phase II Test Manager
Detailed Functional Checklist created	Phase II Test Manager
Test bed of working services selected and/or established	Ameritech
Specific Evaluation techniques developed	Phase II Test Manager
Physical access to Ameritech Trouble entry site established	Ameritech
Security access to ECTA established	Ameritech
Evaluation Criteria defined and approved	MPSC
Checklists and Interview Guides created	Phase II Test Manager

Master Test Plan
April 12, 2000

6.4 Test Scope

ECTA functionality will be reviewed within the context of specific documentation addressing M&R Trouble Entry in comparison to industry standards. The following chart contains the processes, sub-processes, and methods for evaluating the functionality of Ameritech's ECTA interface: Methods of access will be tested using Internet access and the ECTA T1 interface.

Table VI-5 Test Target: M&R ECTA Functional Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Trouble Reporting	Create/Enter Trouble Report (TR)	Functionality exists as documented	Inspection	Existence Qualitative
	Modify TR	Functionality exists as documented	Inspection	Existence Qualitative
	Close/Cancel TR	Functionality exists as documented	Inspection	Existence Qualitative
	Retrieve TR Status	Functionality exists as documented	Inspection	Existence Qualitative
	Create non-designed TR	Functionality exists as documented	Inspection	Existence Qualitative
	Create complex and designed TR	Functionality exists as documented	Inspection	Existence Qualitative
Trouble History Access	Retrieve Trouble History	Functionality exists as documented	Inspection	Existence Qualitative
Access To Test Capability	Initiate MLT Test	Functionality exists as documented	Inspection	Existence Qualitative
	Receive MLT Test Results	Functionality exists as documented	Inspection	Existence Qualitative
Functionality	Functional Comparison to Industry Standards	Existence of Specific Functions	Inspection Interviews Observations	Existence Qualitative

6.5 Scenarios

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

6.6 Test Approach

This test is broken down into two phases:

- Phase 1 involves the use of test cases created for this test to evaluate ECTA functionality and to determine if the system behaves as documented.
- Phase 2 involves comparing the ECTA functionality against industry standards.

6.6.1 Inputs

1. Test cases (provided by Ameritech) / standard requirements
- Functionality checklists
- related to execute test cases

6.6.2 Activities – Phase 1

to perform each of the functions listed on the checklist provided via the ECTA interface. Behaves as documented. Provided on the checklist. of the ECTA interface. have been canceled.

6.6.3 Activities – Phase 2

in the results of Phase 1. standard functionality. meet industry standards. the ECTA interface and specified industry standards.

6.6.5 Activities – Common

conducted in Phases 1 and 2.

6.6.6 Outputs

Phases 1 and 2 activities
 interview summaries
 relevant observations relating to usability and timeliness of each system interface
 by standards highlighting differences

6.7 Exit Criteria

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

Master Test Plan
April 12, 2000

Criteria	Responsible Party
All activities completed	Phase II Test Manager
Checklists and reports completed by personnel participating in the test.	Phase II Test Manager

7.0 Test TVV7: M&R TAFI Performance Evaluation

7.1 Description

The TAFI performance evaluation is a transaction driven test designed to evaluate the behavior of the TAFI system and its interfaces under load conditions. This test will be conducted twice. The first execution will use transaction sets established to simulate projected July 2001 volumes for peak busy hour and peak busy day operations. The second execution will use a multiple of the volumes used in the first execution.

7.2 Objective

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

7.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Certified Software Interface has been fully tested and is operational for the submission of test cases	Phase II Test Manager
Test transaction sets have been built and validated	Ameritech
Product descriptions and business rules for all transactions to be tested are available	Ameritech
System test bed has been established	Phase II Test Manager
TAFI test coordination details have been worked out	

7.4 Test Scope

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

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

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

7.5 Scenarios

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

7.6 Test Approach

Test transactions will be sent to TAFI. The transaction sets are structured to provide a transaction mix consistent

with current system usage, projected normal volumes, and stress/load volumes. Submission rates should mirror peak busy hour and peak busy day behaviors.

7.6.1 Inputs

uses and transaction sets
 defined software interface
 observed test execution
 and associated test beds
 defined software interface

5.0.1 Activities

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

7.6.3 Outputs

and observation reports
 performance reports
 FI performance reports
 Summary report

7.7 Exit Criteria

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

Master Test Plan
April 12, 2000

8.0 Test TVV8: M&R ECTA Performance Evaluation

8.1 Description

The ECTA performance evaluation is a transaction driven test designed to evaluate the behavior of the ECTA interfaces under load conditions. This test will be conducted twice. The first execution will use transaction sets established to simulate projected July 2001 volumes for peak busy hour and peak busy day operations. The second execution will use a multiple of the volumes used in the first execution.

8.2 Objective

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

8.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Certified software interface has been fully tested and is operational for the submission of test cases	
Test transaction sets have been built and validated	Phase II Test Manager
Product descriptions and business rules for all transactions to be tested are available	Ameritech
System test bed has been established	Ameritech
ECTA test coordination details have been worked out	Phase II Test Manager

8.4 Test Scope

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

Table VI-7 Test Target: M&R ECTA Performance Evaluation

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

8.5 Scenarios

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

8.6 Test Approach

Test transactions will be sent using the ECTA interface. The transaction sets are structured to provide a transaction mix consistent with current system usage, projected normal volumes, and stress/load volumes. Submission rates should mirror peak busy hour and peak busy day behaviors.

8.6.1 Inputs

1. Test cases and transaction sets
2. Personnel to operate certified software interface
3. Personnel to supervise and observe test execution
4. ECTA interface and associated test beds
5. Certified software interface

8.6.2 Activities

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

8.6.3 Outputs

1. Test execution and observation reports
2. Certified software interface performance reports
3. ECTA performance reports
4. Summary report

8.7 Exit Criteria

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

9.0 Test TVV9: End-to-End Trouble Report Processing

9.1 Description

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

9.2 Objective

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

9.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Test scenarios selected	Phase II Test Manager
Product descriptions and business rules for all transactions to be tested are available	Ameritech
Test-bed circuits provisioned	Ameritech
Faults inserted into test-bed circuits as required by the test scenarios	Phase II Test Manager

9.4 Test Scope

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

Table VI-8 Test Target: Execution of M&R Test Scenarios

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

9.4 Scenarios

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

9.5 Test Approach

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

9.5.1 Inputs

1. Test-bed circuits with embedded faults
2. Personnel to create trouble tickets and track the trouble ticket status for each scenario.

9.5.2 Activities

le for each test scenario.

Note test results.

trouble ticket via TAFI.

is transactions in TAFI.

rections, trouble ticket

submission time, time cleared, etc.).

scenario fault repaired.

document observations.

9.5.3 Outputs

: for each fault repaired.

report of observations.

9.6 Exit Criteria

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

10.0 Test TVV10: Billing Functional Usage Evaluation

10.1 Description

The Functional Usage Evaluation is an analysis of Ameritech's daily message processing to ensure usage record types including Access records, Rated records, Unrated records and Credit records appear accurately on the Daily Usage Feed (DUF) according to the defined schedule.

10.2 Objective

The objective of this test is to evaluate the following:

- Accuracy and completeness of all usage record types on the DUF including access records that should appear, not receiving records that should not appear, and not receiving empty set files.
- Timeliness of the DUF and access records delivery

10.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3

Master Test Plan
April 12, 2000

Criteria	Responsible Party
Test bed completed and ready	Ameritech
Product descriptions and business rules for all transactions to be tested are available	Ameritech
Techniques and instrumentation developed and approved	Phase II Test Manager
Ameritech resources are available to participate in the test	Ameritech
Detailed Test Plan completed and approved	Phase II Test Manager

10.4 Test Scope

Table VI-9 Scope of the Functional Usage Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Usage and Delivery	Track valid usage	Timeliness of DUF files and records	Inspections	Quantitative
	Account for no usage	Completeness of data	Inspections	Quantitative

10.5 Scenarios

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

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

10.6 Test Approach

This test will use operational analysis to evaluate the accuracy and completeness of records contained in the DUF. This analysis will also examine the age of calls on the DUF. The evaluations will be accomplished by dispatching testers to various locations within Michigan. These testers will place test calls and will record information about these calls including the "call from" number, "call to" number, "bill to" number, call time and duration. The data contained in these Daily Usage Feeds will then be compared to the call logs. The Test Team will also record information about the contents of DUFs received by Phase II Test Manager.

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

For example, an Ameritech retail customer migrates to a CLEC during the test. Call made by the customer prior to migration should be routed to Ameritech. Calls made by the customer after migration should be routed to the new CLEC.

Test calls should be placed from around the Ameritech calling region. Test calls will be made throughout the workday. Test calls will include a variety of call types with the exception of 911, and will be placed from locations where 5E, Siemens and DMS switches are used. Local and toll test calls terminating on the test lines will also be made. These calls will be subject to evaluation.

10.6.1 Inputs

1. Detailed Test Plan

2. Test bed, including lines, telephones and facilities

10.6.2 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 assemble tester resources, provide instructions and dispatch testers to calling locations.
3. Testers will complete calls and log results.
4. Test Team will receive DUF files from Ameritech.
5. Test Team will verify that appropriate data is on the DUF.
6. Test Team will verify that calls that do not belong on the DUF are not on the DUF.
7. Test Team will verify that appropriate calls present in the DUF match the testers call log.
8. Test Team will identify DUF files that contain no billable records.
9. 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.
10. Test Team will compile results.

10.6.3 Outputs

1. Call Logs Report – A report of the testers logs.
2. DUF Accuracy and Completeness Report – A report showing the validation of calls made during the test.
3. Empty DUF Files Report – A Report showing the number of empty DUF files sent by Ameritech.
4. Final report.

10.7 Exit Criteria

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

11.0 Test TVV11: Functional Carrier Bill Evaluation

11.1 Description

The Functional Carrier Bill Evaluation is an analysis of Ameritech's ability to accurately bill usage plus monthly recurring charges (MRC) and non-recurring charges (NRC) on the appropriate type of bill. An accurately billed item

Master Test Plan
April 12, 2000

will contain the correct price and correct supporting information, such as start/end dates, duration, standard amounts, and discount amounts. This test will also evaluate the timeliness of bill delivery to the CLECs.

Ameritech 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.

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

**Table VI-10 Key Characteristics Of Billing Information
for Resale and UNE Customers**

	Billing Component	Rating	Usage	Billing
Resale	Usage	CRIS	DUF	CRIS
Resale	MRC/NRC	CRIS	N/A	CRIS
UNE	UNE loops, usage, MRC/NRC, and Combinations	CRIS	DUF	CRIS
UNE-Other	IOF, collocation	CABS	DUF	CABS
UNE-Other	High Cap Loops (DS1/MRC/NRC)	CABS	N/A	CABS
Other	Directory Listings	CRIS	N/A	CRIS
Retail	Non-unbundled Service MRC/NRC (Ancillary services)	CRIS	N/A	CRIS

11.2 Objective

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

- Appropriate prorating of charges for new and/or disconnected service.
- Charges are accurate (order matches billing).
- Totals are accurate.
- New/disconnected products appear (or do not appear) on the bill.
- Bill dates are correct and match appropriate date from provisioning process.
- Adjustments appear on the bill.

in a timely manner.

and billed correctly.

11.3 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	Ameritech
Test bed matches requirements.	Ameritech
Techniques and instrumentation developed and approved	Phase II Test Manager

Master Test Plan
April 12, 2000

Criteria	Responsible Party
Product descriptions and business rules for all transactions to be tested are available	Ameritech
Test bed completed and ready	Ameritech
Calls made during Functional Usage Evaluation processed through to the DUFA and available for billing.	Ameritech
Availability of Ameritech resources to test and produce CRIS and CABS bills	Ameritech
Method for viewing bills implemented	Ameritech, Phase II Test Manager

11.4 Test Scope

Table VI-11: Test Scope for Carrier Bill Evaluation

Process Area	Sub Process	Evaluation Measure	Evaluation Techniques	Criteria Type
Maintain Bill Balance	Carry balance forward	Accuracy of bill balance	Inspection	Quantitative
Verify Billing Accounts	Verify Billing Account	Completeness and accuracy of extra charges	Inspection	Quantitative
Bills and Delivery	Verify normal recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify one-time charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify prorated recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify Usage Charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify discounts	Completeness and accuracy of data	Inspection	Quantitative
	Verify adjustments (debits and credits)	Completeness and accuracy of data	Inspection	Quantitative
	Verify late charges	Completeness and accuracy of data	Inspection	Quantitative
	Receive bill copy	Timeliness of media delivery	Logging	Quantitative

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

11.5 Scenarios

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

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

All migration situations should be adequately represented:

- Ameritech to a CLEC
- CLEC to Ameritech
- CLEC to CLEC

Master Test Plan
April 12, 2000

The scenarios utilized for billing and usage testing will apply to all service delivery methods (SDM) available in Ameritech at the time of the test(s).

11.6 Approach

This test will use systems and operational analysis to evaluate the completeness and accuracy of charges that should appear on the bill based on usage information from the Functional Usage Evaluation and selected scenarios. Expected results will be defined for each test case.

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

- The first bill period consists of the baseline bills where customers created for this test are billed for the first time directly from the initial test bed. These bills are produced prior to the execution of any transaction scenarios that affect selected customers.
- The second and third bill periods consist of bills produced after selected scenarios have been executed. This second set of bills will include items such as prorates, disconnects, migrations, adjustments, etc. Some customers will be created during the test execution, and will only receive second period bills.

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

11.6.1 Inputs

1. Detailed Test Plan
2. Verified Baseline Bills and CSRs
3. Selected usage from the Billing Functional Usage Evaluation (TVV 8.0)
4. CSRs and completions from relevant POP orders

11.6.2 Activities

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

Master Test Plan
April 12, 2000

11.6.3 Outputs

1. A report showing each test case, expected results, and discrepancies
2. A report showing Ameritech bill delivery dates compared to the expected delivery dates based on the bill cycle date
3. Final report

11.7 Exit Criteria

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

Master Test Plan
April 12, 2000

Appendix A: Test Scenarios

The scenarios listed in this appendix are based on a current understanding of the products and capabilities that are likely to be available at the time the test is executed. Depending on changes in availability, the scenarios may need to be modified before the test begins.

Resale

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

Please note: The scenarios will include variations such as planned errors and supplements to cancel, change an order, or revise due dates.

Master Test Plan
April 12, 2000

UNE

(Extended loops will be included in appropriate scenarios, if available.)

Activity	Res. Analog Loop	Bus. Analog Loop	Res. xDSL Capable Loop	Bus. xDSL Capable Loop	Bus. DS1 Loop	Inter-office Facility
Migration from Ameritech without number porting	X	X	X	X	X	
Migration from Ameritech with INP	X	X			X	
Migration from Ameritech with LNP	X	X			X	
Migration from CLEC to CLEC	X	X				
Add new loops to existing customer	X	X	X	X	X	
Add new interoffice DS1/DS3 facilities						X
Purchase loops for a new customer	X	X	X	X	X	
Disconnect (full and partial)	X	X			X	X
Moves (inside and outside)	X	X			X	
Standalone directory change	X	X				
Standalone INP	X	X				
Standalone LNP	X	X				
Convert from UNE combinations to UNE loop	X	X				
Convert from Resale to UNE loop	X	X				

Please note: The scenarios will include variations such as planned errors and supplements to cancel, change an order, or revise due dates.

Master Test Plan
April 12, 2000

UNE Combinations Involving Switch Ports

(including UNE Platform, if available)

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

Please note: The scenarios will include variations such as planned errors and supplements to cancel, change an order, or revise due dates.

Master Test Plan
April 12, 2000

Stand-alone Preorder

Activity	Residence	Business
Obtain CSRs	X	X
Validate customer address	X	X
Reserve telephone numbers	X	X
Loop qualification (including xDSL)	X	X
Inquire about product/service availability	X	X
Determine availability of desired due date	X	X

Master Test Plan
April 12, 2000

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. Normal and Peak Volume Test Section

A. Purpose

This section provides the methodology the Phase II Test Manager will use to define volumes required to evaluate the systems, processes and other operational elements associated with Ameritech's support of the competitive market. The purpose of the volume tests is to evaluate the ability of Ameritech's systems interface to process representative future wholesale transaction volumes to support competitors' entry into the market. These tests are performed at both peak and normal volumes. In addition, stress or capacity tests will be performed to test overall system capacity on selected transactions. None of the volume tests are intended to assess Ameritech's ability to provision future transaction volumes.

B. Scope

Scope is defined within each appropriate domain section. Statistical analysis of volume data will be performed in accordance with the statistical principles developed during the collaborative process and described in Appendix C of this document.

C. Data Development

Overall normal daily test volumes will be developed through a synthesis of information obtained from Ameritech and various CLECs. The MPSC has solicited CLEC forecast data and will provide this data to the Phase II Test Manager for its analysis.

Orders by service will be developed using the Ameritech and CLEC forecasts of competitive lines viewed by service and order type. The Phase II Test Manager will develop a proportion for each service and order type based on forecasted net adds, and then will extend the normal daily volume figure by that proportion to determine the daily volume by service and order type. The daily order volume of supplements and order changes/disconnects and moves will be calculated by applying historic factors to daily volumes by service and order type.

The peak volumes are planned to be 150% of normal volumes. The stress volumes are planned to be 250% of normal volumes.

Appendix C: Statistical Approach

A. Overview

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

B. Measures

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

C. Sampling

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

D. Hypothesis Testing

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

E. Parity Tests and Non-Parity Tests

There are two basic types of tests. Parity tests compare an Ameritech retail average or percentage to a CLEC or test transaction average or percentage. The typical test for this type of comparison is a hypergeometric test for percentages and a two-sample t-test or z-test for averages. For those parity tests where sufficiently large samples can be drawn, hypothesis testing will be done by performing a “z-test” to calculate a “z-score.” A z-score is a single number, which indicates the differences between sample data. A low z-score supports the hypothesis of parity (i.e., both CLEC and ILEC performance are from the same “population” in terms of performance). In cases where this test is not appropriate due to small sample size (for tests of averages) or assumption violations, other tests, such as permutation tests, will be performed.

Non-parity tests compare a percentage or average to a fixed standard or benchmark. In this case, the typical test is a binomial test or a one-sample t-test. Once again, alternative statistical tests will be used, where appropriate, based on tests of assumptions and sample sizes.

F. Results

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

Appendix D: Metrics - Quantitative

The Performance Metrics and Standards to be used for this test will be determined by the MPSC Staff based on input from the Performance Metrics Work Group consisting of representatives from CLECs active in Michigan, Bell South, and the MPSC Staff. When these Metrics and Standards have been determined, they will be listed in this Appendix.

Master Test Plan
April 12, 2000

Appendix E: Reference Documents

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

Document Reference

Document Name	Sub-Category	Sub-Name
Facility Based Activation Requirements	Interconnection Svcs.	Issue 1a, May 1999
Facility Based Advisory Guide	Interconnection Svcs.	October 22, 1998
LEO Implementation Guide, Volume 1	Interconnection Svcs.	Issue 7G, June/July 1999
LEO Implementation Guide, Volume 2	Interconnection Svcs.	Issue 6a, June 1999
LEO Implementation Guide, Volume 3	Interconnection Svcs.	Issue 3a, August 1998
LEO Implementation Guide, Volume 4	Interconnection Svcs.	Issue 7e, June 1999
BS Ordering Guide for CLECs	Interconnection Svcs.	Issue 3a, March 1999
LENS User Guide	Interconnection Svcs.	Issue 7a, April 1999
CLEC TAFI End-User Training Guide	Interconnection Svcs.	Issue 6, January 1999
LENS Release 3.0 Work Aid	Interconnection Svcs.	Issue 1, July 1998
LENS Release 4.0 Work Aid	Interconnection Svcs.	Issue 1, November 1998
LENS Release 4.1 Work Aid	Interconnection Svcs.	Issue 1, December 1998
LENS Release 4.2 Work Aid	Interconnection Svcs.	Issue 1, March 1999
Work Aid for Ordering Complex Services	Interconnection Svcs.	Issue 1, March 1998
Electronic Interface Change Control Process	Interconnection Svcs.	Issue 1, April 14, 1998
Products & Services Interval Guide	Interconnection Svcs.	Issue 2, April 1999
Local Number Portability Ordering Guide/CLECs	Interconnection Svcs.	Issue 1a, March/April '99
Unbundled Local Loop Technical Specs	Interconnection Svcs.	TR73600 Issue B
Job Aid - Pending Order Status - Req'd Actions	Interconnection Svcs.	11/19/98
ENCORE System - Local Svc Request Error Msg	Interconnection Svcs.	5/7/99
BS Product Information	Interconnection Svcs.	
BS 1999 Carrier Notifications	Interconnection Svcs.	
Sample LSRs		
Resale CLEC Activation Requirements	Interconnection Svcs.	Issue 1, March 1999
TAG Training for CLEC Programmers	TAG Training	Rls. 2.2, July 13, 1999
TAG API Reference Guide for Release 2.2	TAG Training	Issue 7, June 22, 1999

Master Test Plan
April 12, 2000

Document Name	Sub-Category	Sub-Name
TAG Programmer's Job Aid	TAG Training	
Learning the Ropes of Local Exchange Service	Training	
PMP Raw Data User Manual	PMP	Preliminary Draft
PMP User Guide Version 2.0	Documentation	8/15/99
BS Service Quality Measurements Regional Performance Reports	Documentation	8/10/99
Test Plan Revisions & Cover email	Revisions	7/6/99
BS Service Quality Measurements	SQM	Version 063099
BS Service Quality Measurements	SQM	Version 3/4/99
Frequently Asked Questions	Documentation	
Accessing the SQM Reports	Documentation	
Legal Notices to Users of Ameritech Web Sites	Documentation	
BS Ordering Guide for CLECs; Cust Guide	Interconnection Svcs.	Issue 3a, March 1999
CLEC Training - UNE Overview	Interconnection Svcs.	c. 1997 BS
Provisioning Scenarios	Provisioning	7/18/99
Forecast of Volumes	Forecast	7/27/99
Elec. Interfaces System Downtime - Release 5.4	Letter	7/16/1999; SN91081527
Staged Test Testcase Specs for TAG CLEC Testing	TAG	7/26/99
TAG Application Architecture Design Document	TAG	V. 2.2.0.1, 7/29/99
TAG Release 2.2.0.2	TAG (Letter)	SN9108;
Unbundled Network Elements	UNE Information	(no date or version)
CLEC TAFI End-User Training and User Guide	TAFI	Issue 6 - September 1998
EDI Testing Operational Rules for CLECs	From LEO Impl. Guide	Version 2/16/99
Updated Version of SQM Documentation	Update	8/10/99
Telephone Number Reservation	Documentation	8/17/99
Michigan PSC Staff's Proposal for Independent Third-Party Testing of Ameritech's OSS		July 1999

Master Test Plan
April 12, 2000

Appendix F: Glossary

Term	Definition
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 criteria described in the 1996 Telecommunications Act.
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.
Ameritech Pre-Filing Statement Application	A filing with the State of Michigan that lists commitments from Ameritech with regards to Ameritech's Application
Bill Certification	Process by which Ameritech 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 W billing, all end-users belonging to the same bill cycle are aggregated onto a single CLEC bill. Assignments and period are accomplished by Ameritech. Bill cycles enable even distribution of a large number of customers so as to allow efficient use of computing resources and to mitigate risks associated with computer failures.
Bill Cycle Balancing	The procedure by which the charges associated with the inputs of a billing cycle are reconciled with the cost 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 per bill period and bill cycle for all end-users belonging to that period and cycle. Assignments of cycle and are accomplished by Ameritech.
Billing Domain	Tests related to creation of correct carrier bills.
Black Box	Internal processes within Ameritech's systems that are considered out of scope for the purposes of this test. Correct functioning of 'black box' systems can be inferred from input and output interface files.
BTN	Billing Telephone Number. The number to which charges from a given telephone service are billed.
BTN Accounts	Billing Telephone Number accounts. These accounts represent "dummy" phone numbers which are used to aggregate a Reseller's charges into a consolidated bill. Reseller's have several separate BTN accounts.
CABS	Carrier Access Billing System
CAP	Competitive Access Provider. Facilities-based carrier providing alternative access services.
Carrier Bill Code	Each bill format has its own unique code. Particular charges will cause the production of a specific bill format. The code is related to each product, and determines on which bill the product will appear.
Casual Usage	Usage dialed through a calling card or 10XXXXXX.
Central Office (CO)	Facility where subscribers' lines connect to switching equipment.
Change Management	The process by which changes are introduced at Ameritech. 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 change.
CLEC	Competitive Local Exchange Carrier
CLEC Live Data	Production data delivered through interfaces that are already operational for real CLEC customers.
CRIS	Customer Record Information System. A database containing customer information used for billing.
CSR	Customer Service Record. Details of a customer's fixed monthly charges billed by the local telephone carrier.
Customer Account Record Exchange (CARE)	Industry standard for formatting exchange of subscription information.
Daily Usage Feed	A daily download of usage data from the switch which is delivered to Ameritech'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 only extensions.
Document review	Compilation and review of books, manuals, and other publications related to the process and system under study.
EDI	Electronic Data Interchange. A process for exchanging information that is subject to industry standards.
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.
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.

Master Test Plan
April 12, 2000

Term	Definition
Expected Results Worksheet	A report format that lists the expected results for each test while allowing the tester to record the current of the test. This allows an easy comparison of numbers.
FID	Field Identifier. A code used when administering usage limits on residence and business end users. Also includes fields of information used in the service order.
Firm Order Confirmation	A response from the Ameritech Service Order Confirmation that acknowledges a successful receipt of an order from a CLEC.
Flow-through	An order placed by a CLEC's customer service representative that can be provisioned correctly without intervention by Ameritech's service representatives.
Good Management Practice (GMP) Guidelines criteria source	GMPs includes benchmarks, performance goals, and guidelines derived from industry and topic area expert Ameritech 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. Ameritech is the ILEC for the state of Michigan.
Inspection	Physical reviews of process activities and products, including site visits, walk-throughs, read-throughs, and center observations.
Interim Number Portability (INP)	The use of existing and available call routing, forwarding, and addressing capabilities to enable an end user to retain the same telephone number regardless of which local service provider is chosen.
LATA	Local Access and Transport Area. A geographic area established by law within which a Bell Operating Company may provide telecommunications services.
Legal and Regulatory Requirements criteria source	This includes requirements specified by statute and regulation, such as FCC orders, court orders, MPSC regulations, federal and state statutes, and other binding requirements resulting from judicial/government proceedings.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
LPIC	Pre-designated Intra-LATA Carrier, or Local Primary Interexchange Carrier. Telephone company chosen by the end user as being the default carrier for calls outside the local calling area, but within the same LATA. This is also known as regional toll calls.
LSR	Local Service Request. Form sent to Local Exchange Carrier requesting local telephone services.
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 Ameritech to receive and interpret office switch usage records.
MDF	Main Distribution Frame. The primary point at which outside plant facilities terminate within a Wire Center interconnection to other telecommunications facilities within the Wire Center.
OCN	Operating Company Number. A 4 character code to identify any service provider. Specifically used to identify the Reseller on usage detail records.
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, 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. Re-tests to determine if Ameritech'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 the 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 provisioning and notification of order status.
Provisioning	The act of supplying telecommunications service or UNEs.
MPSC	Michigan Public Service Commission. A state regulatory agency responsible for telecommunications consumer protection and regulation.
Qualitative Criteria Type	These criteria set a threshold for performance where a range of quality values is possible, such as level of customer satisfaction.
Recognized Standards Criteria Source	This includes widely recognized standards and guidelines promulgated by sanctioned industry and government organizations and other bodies.

Master Test Plan
April 12, 2000

Term	Definition
Relationship Management and Infrastructure Domain	Tests relating to activities, processes and documents that are focused on the establishment and maintenance of the CLEC/ILEC relationship.
Report Review	Reviews and analysis of historical data, reports, metrics, and other information in order to assess the effectiveness of a particular system or business function. This includes performance measurement reports and other management reports.
Scalability	The degree to which an application can be scaled to accommodate order of magnitude increases in transaction volumes and users
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 call way)
Test Bed	A set of fictitious customers that are designed to assist with testing. The test bed consists of working line provisioned products, although the owning customer is fictitious. The test bed is used to test all Ameritech 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 Domain	A specific testing area with defined targets, measures, scenarios, evaluation methods, and test processes.
Test Scenario Coverage Matrix	A list of products or processes that are involved with each scenario. Describes how testing elements are traced from the compliance requirements through the test process.
Traceability Matrices	
Test Scenario Index	Master list of scenarios from which specific scenarios will be selected to be used in the testing.
Test Scenario to Metrics Analysis Index Cross Reference	For each scenario, a list of metrics that are examined during the test.
Test Scenarios	Scenarios describe realistic situations in which CLECs purchase wholesale services and network elements from Ameritech 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.
TN	Telephone number.
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.
Unbundled Access	Ability of other LECs to access and use Ameritech 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
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 manual verification and validation.
WTN	Working Telephone Number