

## **I. Test Results: Electronic Communications Trouble Administration (ECTA) Documentation Evaluation (M&R-9)**

### **1.0 Description**

The ECTA Documentation Evaluation was a review of the documentation provided by BellSouth for the set-up and use of an interface to BellSouth's ECTA Gateway for Maintenance and Repair trouble report processing. The objectives of this test were to evaluate the accuracy of the information contained in BellSouth's ECTA documentation, the conformance of BellSouth's ECTA documentation to industry standards, and the organization and ease of use of the documentation. The information used for this evaluation was taken from reviews of BellSouth's ECTA documentation and records of observations from M&R-2: ECTA Functional Test.

### **2.0 Methodology**

This section summarizes the test methodology.

#### *2.1 Business Process Description*

See Section VII, "M&R Overview" for a description of BellSouth's ECTA Gateway and CLEC interface options.

CLECs have two options to access BellSouth's ECTA Gateway to perform trouble administration activities. These options, to build their own interface or to use the BellSouth-supplied EC-CPM interface, are discussed in more detail in Section VII<sup>1</sup>.

If a CLEC elects to build its own interface to the ECTA Gateway, the CLEC will use the information contained in the publicly available American National Standards Institute (ANSI) T1.227, T1.228 and T1.262 standards as well as the General Network Information Model of which the ANSI standards are an extension<sup>2</sup>. Any CLEC endeavoring to build an interface to the ECTA Gateway would need to be familiar with this documentation.

As a supplement to the standards documentation discussed above, BellSouth negotiates the development of a Joint Implementation Agreement (JIA) with each CLEC intending to build an interface to ECTA. This JIA is intended to confirm points about a specific CLEC's implementation of an interface to the ECTA Gateway and is not intended to be an exclusive guide to allow CLECs to build an interface. Each JIA is therefore unique to a given CLEC's situation.

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<sup>1</sup> The EC-CPM interface is not currently used by any CLEC. The scope of the MTP does not include an evaluation of EC-CPM or its documentation.

<sup>2</sup> These standards collectively are known as T1M1.

BellSouth provides CLECs with no other documentation outside of the JIA relating to the implementation or usage of an interface to the ECTA Gateway. As CLECs are responsible for creating their own interface to the BellSouth ECTA Gateway, it is incumbent upon any CLECs that are programming an ECTA interface to create their own end-user functionality guides.

## 2.2 Scenarios

Scenarios were not applicable to this test.

## 2.3 Test Targets & Measures

The test target was the documentation provided by BellSouth for the ECTA Gateway. Sub-processes, functions, and evaluation criteria are summarized in the following table. The last column “Test Cross-Reference” indicates where the particular measures are addressed in Section 3.1 “Results & Analysis.”

**Table VII-9.1: Test Target Cross-Reference**

Sub-Process	Function	Evaluation Criteria	Test Cross-Reference
M&R Documentation	<i>Joint Implementation Agreement for Electronic Communications Trouble Administration (ECTA) Gateway for Local Service (JIA)</i>	Accuracy of Document	M&R-9-1-1
		Ease of Use of Document	M&R-9-1-2
		Conformance of Document to ANSI Standards	M&R-9-1-3

## 2.4 Data Sources

The data collected for the test are summarized in the table below.

**Table VII-9.2: Data Sources for M&R-9**

Document	File Name	Location in Work Papers	Source
<i>Joint Implementation Agreement for Electronic Communications Trouble Administration (ECTA) Gateway for Local Service</i> Version 10/07/98 <sup>3</sup>	CLEC_JIA.doc	M&R-2-A-1	BLS

<sup>3</sup> BLS provided KCI with a generic version of this document for use in the M&R-2, M&R-3 and M&R-4 evaluations as well as for evaluation in this test.

Document	File Name	Location in Work Papers	Source
<i>Joint Implementation Agreement for Electronic Communications Trouble Administration (ECTA) Gateway for Local Service between CLEC A and BellSouth<sup>4</sup></i>	No Electronic Copy	M&R-9-A-1	CLEC A
<i>Joint Implementation Agreement for Electronic Communications Trouble Administration (ECTA) Gateway for Local Service between CLEC B and BellSouth<sup>5</sup></i>	No Electronic Copy	M&R-9-A-2	CLEC B
<i>American National Standard for Telecommunications – Operations, Administration, Maintenance and Provisioning (OAM&amp;P) – Services for Interfaces between Operations Systems across Jurisdictional Boundaries to Support Fault Management (Trouble Administration) (ANSI T1.228-1995)</i>	ANSI+T1[1].228-1995+(R1999).pdf	M&R-2-A-3	American National Standards Institute
E-Mail Communication from KCI to Georgia Public Services Commission re: M&R-9 Content	No Electronic Copy	M&R-9-A-3	KCI

#### 2.4.1 Data Generation/Volumes

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

#### 2.5 Evaluation Methods

KCI tested ECTA functionality using a BellSouth Test Interface<sup>6</sup> and did not develop an interface to the ECTA Gateway. In structuring the ECTA Documentation Evaluation, KCI, based on discussions with the GPSC, determined that the test was never intended to assess the documentation

<sup>4</sup> Each instance of an interface to the BellSouth ECTA Gateway is different making each JIA specific to a given implementation. KCI contacted CLECs that have implemented ECTA interfaces to obtain copies of their JIA. KCI received two JIAs from CLECs. To maintain the confidentiality of the information contained in these documents, this report will refer to these CLECs as CLEC A and CLEC B. These documents were consistent across versions with differences being attributable to the functionality available and requested at the time the agreements were drafted.

<sup>5</sup> See footnote 4.

<sup>6</sup> See Section VII, “M&R Overview” for a description of the BellSouth ECTA Test Interface.

provided by BellSouth to guide a CLEC's creation of an OSS interface, but was intended to assess the adequacy of end-user functional documentation. However, as CLECs are responsible for creating their own interface to the BellSouth ECTA Gateway, it would be incumbent upon any CLEC programming an interface to ECTA to create their own end-user functionality guides. The BellSouth-provided ECTA JIA is intended for use as a supplement to the development of an interface to ECTA, not as a guide to end-user functionality. BellSouth should be held responsible for providing information (e.g. a combination of BellSouth created documents, negotiated agreements and references to standards) that describes the critical functionality necessary for maintenance and repair trouble ticket administration through the ECTA Gateway. BellSouth represents that the JIA is intended to satisfy this requirement. However, as KCI did not create an ECTA interface, our ability to fully evaluate the adequacy of the JIA is limited.

As a result, the ECTA Documentation Evaluation is limited to commentary on:

1. The accuracy of information that KCI is able to confirm or test through the feature/function testing of the ECTA Gateway;
2. Conformance of ECTA documentation to ANSI documentation requirements; and
3. Documentation organization and ease of use.

This test used records from direct experience of ECTA JIAs and observations of the ECTA JIAs made during the M&R-2: ECTA Functional Test. The steps taken in this analysis are listed below:

1. JIAs were collected from BellSouth and CLEC test participants.
2. The JIAs collected in Step 1 were used to design test scenarios and ECTA data inputs for the M&R-2: ECTA Functional Test. Discrepancies between the functionality as described in the JIAs and the actual functionality of the ECTA Gateway were noted.
3. Using the ANSI documents, a comparison was made between the documentation requirements outlined in the ANSI standards<sup>7</sup> and the JIAs.
4. The JIAs were reviewed in order to determine their overall usability.
5. Data from Steps 2-4 were mapped against individual evaluation criteria.

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<sup>7</sup> The conformance requirements for the ANSI T1M1 standards are listed in Section 10 of the *American National Standard for Telecommunications – Operations, Administration, Maintenance and Provisioning (OAM&P) – Services for Interfaces between Operations Systems across Jurisdictional Boundaries to Support Fault Management (Trouble Administration)* (ANSI T1.228-1995).

## 2.6 Analysis Methods

The ECTA Documentation Evaluation included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth - Georgia OSS Evaluation. These evaluation criteria, detailed in the *Master Test Plan*, provided the framework of norms, standards, and guidelines for the ECTA Documentation Evaluation.

Due to the limitations inherent in this evaluation, discussed in Section 2.5 Evaluation Methods, the evaluation criteria are not rated. Comments on aspects of the JIAs as described in the evaluation criteria are provided.

## 3.0 Results Summary

This section identifies the evaluation criteria and test results.

### 3.1 Results & Analysis

The results of this test are presented in the table below. Definitions of evaluation criteria, possible results, and exceptions are provided in Section II.

**Table VII-9.3: M&R-9 Evaluation Criteria and Results<sup>8</sup>**

Test Cross-Reference	Evaluation Criteria	Result <sup>9</sup>	Comments
M&R-9-1-1	BellSouth ECTA documentation accurately describes the functionality of the ECTA Gateway.	N/A	The information assessed in the ECTA JIAs was accurate except as noted below. The documentation does contain errors related to the fact that the JIAs have not been updated to reflect additions to ECTA Gateway functionality. Specific incidences include: <ol style="list-style-type: none"> <li>Documentation inaccurately states that the close-out verification function is not applicable to any non-designed circuit problems<sup>10</sup>. Appendix B<sup>11</sup> of the ECTA JIA states that this function is not available for non-designed trouble reports. However, BellSouth</li> </ol>

<sup>8</sup> These criteria are evaluated based on analysis of all three of the JIAs received by KCI. There are some issues in the older documents that have been corrected in later versions. These issues are not addressed here.

<sup>9</sup> N/A = Not Applicable. See Section 2.6 Analysis Methods for an explanation of the exclusion of test results from this evaluation.

<sup>10</sup> The closeout verification function allows CLEC ECTA users to confirm a trouble has been satisfactorily addressed before trouble ticket closure.

<sup>11</sup> BellSouth Trbl. Admin. Attribute Information for CLECs

Test Cross-Reference	Evaluation Criteria	Result <sup>9</sup>	Comments
			<p>representatives have reported that this functionality is available for non-designed trouble tickets.</p> <ol style="list-style-type: none"> <li>2. Documentation inaccurately states that ECTA does not return Mechanized Loop Testing (MLT) results<sup>12</sup>. The ECTA JIA has not been modified to reflect the update of the ECTA Gateway that allows CLECs to request and view MLT results. This functionality was confirmed by KCI during functional testing.</li> <li>3. Documentation inaccurately states that trouble reporting on non-designed UNE loops is not supported through ECTA<sup>13</sup>. The ECTA JIA states “Non-designed UNE loops are provisioned via LMOS and the BellSouth ECTA interface currently does not support trouble reports on these elements.” KCI functional testing demonstrated that trouble reporting on non-designed UNE loops is a function of the ECTA Gateway.</li> <li>4. Documentation does not describe the proper format for entering an SL1 circuitID into an ECTA trouble ticket, and states that the successful format,</li> </ol>

<sup>12</sup> MLT results allow CLECs to assess the physical status of a line before issuing a trouble report to BellSouth.

<sup>13</sup> Non-designed UNE loops, designated Unbundled Voice Loop – Service Level 1 (UVL-SL1) by BellSouth are non-designed circuits that can only be provided on two-wire circuits with loop start signaling. No Design Layout Records are included and there are no test access points. No remote testing for trouble reports can be performed on an SL1 loop.

<sup>14</sup> The circuitID object identifies the circuit on which a trouble report is to be entered in to the ECTA Gateway.

<sup>15</sup> Managed Object Instance (MOI or CIRCUITID) BellSouth Formats

<sup>16</sup> The troubleReportStatusWindow object specifies the interval within which trouble ticket progress updates must be provided by the BellSouth ECTA Gateway to the CLEC managing system.

<sup>17</sup> Trouble Report Format Definitions

<sup>18</sup> The CommitmentTimeRequest object specifies a CLEC’s request for a clearance or on-site time by BellSouth maintenance personnel.

<sup>19</sup> The TroubleType object allows the CLEC to indicate what kind of trouble the customer is reporting on their line.

<sup>20</sup> The TroubleDetectionTime object allows the manager to specify the time that a trouble was detected.

Test Cross-Reference	Evaluation Criteria	Result <sup>9</sup>	Comments
			<p>discovered during functional testing, is invalid<sup>14</sup>. Appendix G<sup>15</sup> of the ECTA JIA defines the proper formats for entering information into the circuitID object. Appendix G does not cover the proper format for entering an SL1 circuit into the circuitID field. In addition, Appendix G states that the successful format for entering an SL1 circuit into the circuitID, discovered by KCI during functional testing, is invalid.</p> <p>In addition, the documentation contains the following omissions, inaccuracies, and contradictions:</p> <ol style="list-style-type: none"> <li>1. Documentation inaccurately states that the troubleReportStatusWindow object is optional in the creation of a trouble ticket<sup>16</sup>. Appendix F<sup>17</sup> of the ECTA JIA states that this attribute is optional at the creation of a trouble ticket. During functional testing, KCI found that submitting a trouble ticket without the troubleReportStatusWindow object causes an error response and prevents a ticket from being created.</li> <li>2. Documentation inaccurately states that the commitmentTimeRequest object is optional in the creation of a trouble ticket<sup>18</sup>. Appendix F of the ECTA JIA states that this attribute is optional at the creation of a trouble ticket. Functional testing showed that attempting to create trouble tickets without this object causes an error which prevents a trouble ticket from being created.</li> <li>3. Documentation is contradictory regarding updates to the troubleType object by the managing system<sup>19</sup>. Appendix F of the ECTA JIA states that this object is updateable (through a set request) by the managing system. Appendix B of the same document specifies that the troubleType object is not updateable. KCI functional testing supported the assertion of Appendix B.</li> <li>4. Documentation is contradictory regarding support of the</li> </ol>

Test Cross-Reference	Evaluation Criteria	Result <sup>9</sup>	Comments
			<p>troubleDetectionTime attribute by the ECTA Gateway<sup>20</sup>. Appendix F of the ECTA JIA lists this object and specifies that it is updateable by the manager. Appendix B of the same document specifies that the troubleDetectionTime object is not supported by the ECTA Gateway. KCI functional testing confirmed the information in Appendix B.</p> <p>KCI has communicated all of the issues listed above to BellSouth. BellSouth has revised the generic JIA to correct these issues. As well, BellSouth has committed to negotiate updates to the JIAs currently in effect with CLECs.</p>
M&R-9-1-2	BellSouth ECTA documentation is easy to use.	N/A	<p>ECTA documentation has a logical organization appropriate to its purpose. It contains a comprehensive table of contents with references to clearly displayed page numbering and includes useful cross references between sections.</p> <p>However, the documentation does have redundant and sometimes contradictory information (see evaluation criterion M&amp;R-9-1-1 points 8 and 9 for contradictions) in Appendices B and F. Both appendices list the data objects used by the ECTA Gateway and outline the parties allowed to initiate and update the data objects. Appendix B adds more information on data definition and usage while Appendix F notes whether or not the data objects are optional or required. The documentation does not explicitly list the data objects that are necessary for various types of ECTA functional transactions<sup>21</sup>.</p>

<sup>21</sup> The current release of the ECTA Gateway allows for the following CLEC-initiated transactions: create a trouble ticket, request trouble ticket status, add information to a trouble ticket, modify information in a trouble ticket, verify repair completion on a trouble ticket, cancel a trouble ticket, and request MLT results on a line. These functions were verified in M&R-2: ECTA Functional Test.

Test Cross-Reference	Evaluation Criteria	Result <sup>9</sup>	Comments
M&R-9-1-3	BellSouth ECTA documentation conforms to ANSI documentation requirements.	N/A	The ECTA documentation lists the individual objects supported in BLS's implementation of a T1M1 compliant gateway in Appendices B and F <sup>22</sup> .  An exception to this is noted in the comment for evaluation criterion M&R-9-1-1.

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<sup>22</sup> Section 10 of ANSI T1.228-1995 states "As part of a system conformance statement, implementations shall state the object classes supported across the trouble administration interface."