

## **J. Test Results: EDI/TAG Production Volume Performance Test (O&P-10)**

### **1.0 Description**

The objective of the Electronic Data Interchange (EDI)/Telecommunications Access Gateway (TAG) Production Volume Performance Test (O&P-10) was to evaluate BellSouth's Operating Support Systems (OSS) associated with ordering at specified volumes. Competitive Local Exchange Carriers (CLECs) submit orders to BellSouth's OSS via two primary Application Program Interfaces: EDI and TAG. O&P-10 evaluated BellSouth's ability to accurately and quickly process orders and their associated pre-orders using the EDI and TAG interfaces using the projected year-end 2001 (YE01) transaction mix<sup>1</sup> in the production environment at current system capacity<sup>2</sup>.

### **2.0 Methodology**

This section summarizes the test methodology.

#### *2.1 Business Process Description*

See Section V, "Ordering & Provisioning Overview" for a description of the BellSouth ordering process via EDI and TAG.

#### *2.2 Scenarios*

Test scenarios for the EDI/TAG Production Volume Test fall into three categories: Resale, Unbundled Network Elements (UNEs), and Pre-orders.

##### *2.2.1 Resale*

*Appendix B-2: Resale Ordering Scenarios* of the *Master Test Plan (MTP)*<sup>3</sup> describes 25 resale test scenarios. During the initial pre-testing of the BellSouth ordering systems, six of the scenarios would not flow-through<sup>4</sup> the system and therefore were not used for the test<sup>5</sup>. From the remaining 19 scenarios, 19 test seeds were generated by applying BellSouth's OSS electronic ordering business rules<sup>6</sup> and

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<sup>1</sup> KCI forecasted hourly transaction rates for individual order and pre-order types drawing on data from current order and pre-order daily volume rates, BellSouth 2001 transaction forecasts and from CLEC 2001 transaction forecasts.

<sup>2</sup> BellSouth provided current system capacity to KCI as average transactions per hour.

<sup>3</sup> Version 4.1, March 28, 2000.

<sup>4</sup> Flow-through is defined as electronic transmission through a gateway and acceptance into BellSouth's back-office ordering systems without manual intervention by a customer service representative.

<sup>5</sup> The volume test methodology is designed to assess electronic interface and back-end system processing capabilities, not manual processes. Therefore, orders that must fall out for manual processing are not included in the test.

<sup>6</sup> BellSouth's *Local Exchange Ordering (LEO) Implementation Guide*, Volume 1, Issues 7J, 7K, 7L, 7M, 7N, 7O, 7P and 7Q were used.

logical business requirements to format orders. The following table describes each of the Resale scenarios used during this test:

**Table V-10.1: Resale Scenarios**

Scenario Number	Scenario Category	Scenario Description
201	Resale	Migration “As Is” of a business customer from BLS with Plain Old Telephone System (POTS) lines to CLEC.
202	Resale	Migration “As Is” of a residential customer with POTS line from BLS to CLEC.
204	Resale	A business customer partially migrates POTS lines from BLS to CLEC on a trial basis.
205	Resale	Migration “As Specified” of a residential POTS customer from BLS to CLEC.
206	Resale	A residential customer partially migrates their second POTS line from BLS to CLEC.
207	Resale	A new company starts up and needs POTS lines.
208	Resale	A resident is building a new house and needs POTS line.
209	Resale	An existing CLEC customer, a small business, adds five more POTS lines.
210	Resale	Existing residential CLEC customer adds POTS line.
213	Resale	A residential customer wants to suspend phone service on POTS line for their summer cabin during the winter months.
214	Resale	CLEC residential customer wants to restore phone service on their POTS line for their summer cabin.
218	Resale	Change Telephone Number (TN) of CLEC residential customer with POTS line.
220	Resale	CLEC residential customer with a POTS line changes Long Distance Service Providers.
221	Resale	CLEC business customer with a POTS line changes Long Distance Service Providers.
222	Resale	Business CLEC customer disconnects four of their six POTS lines.
223	Resale	A CLEC business customer disconnects all five POTS lines.
224	Resale	A residential CLEC customer disconnects both POTS lines.
225	Resale	A residential customer with POTS line changes information in Directory Listing (DL).
226	Resale	CLEC residential customer with POTS line changes information on DL.

### 2.2.2 UNE-based Scenarios

*Appendix B-3: UNE Ordering Scenarios* of the MTP describes 40 UNE test scenarios intended for the EDI/TAG Production Volume Performance Test. During the initial pre-testing of the BellSouth ordering systems, 29 of the scenarios did not flow-through the system and were therefore not used for the test. In addition, BellSouth requested that Unbundled Network Element-Local Number Portability (UNE-LNP) orders not be used for the production test<sup>7</sup>. From the remaining eight scenarios, eight test seeds were generated by applying BellSouth's OSS electronic ordering business rules and logical business requirements to format orders. The following table describes each of the UNE scenarios used during this test:

**Table V-10.2: UNE Scenarios**

Scenario Number	Scenario Category	Scenario Description
301	Loop	A CLEC orders two new SL1 unbundled analog loops from BLS in support of a customer's service request.
305	Loop	A CLEC orders two SL1 unbundled analog loops in support of a full migration service request from an existing BLS customer. The customer lines are migrated "as-specified" to the CLEC business.
395	Port	A CLEC orders two new business unbundled analog ports from BLS in support of a new business customer's service request.
397	Port	A CLEC orders two new residential unbundled analog ports from BLS in support of a new business customer's service request.
420	Combo	A CLEC orders two new business unbundled analog loop – port combinations from BLS in support of a new business customer's service request.
422	Combo	A CLEC orders two new residential unbundled analog loop – port combinations from BLS in support of a new residential customer's service request.
428	Combo	A CLEC orders two residential unbundled analog loop - port combinations from BLS for one of its resale residential customers.
445	Combo	An existing CLEC customer is moving to another state. The CLEC orders BLS to disconnect both of its unbundled loop-port combinations.

### 2.2.3 Pre-order Scenarios

For the list of pre-order scenarios refer to Section V, Table IV-1.1: Pre-Order Scenario Description.

<sup>7</sup> The LNP database assignments could not be readily obtained for the KCI test CLEC.

### 2.3 Test Targets & Measures

The test targets were the TAG and EDI interfaces, and back-end systems supporting order processing and pre-order queries. 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 V-10.3: Test Target Cross-Reference**

Sub-Process	Function	Evaluation Criteria	Test Cross-Reference
Submit Orders in Projected Production Volumes	Create order transactions	Availability of Interface	O&P-10-1-1
		Timeliness of Response	O&P-10-1-2 O&P-10-2-1 O&P-10-2-2
	Send orders in LSR format	Availability of Interface	O&P-10-1-1 O&P-10-1-2
	Receive acknowledgements	Availability of Interface	O&P-10-1-1 O&P-10-1-2
		Accuracy of Response	O&P-10-2-1 O&P-10-2-2
		Timeliness of Response	O&P-10-3-1 O&P-10-3-2
	Receive Firm Order Confirmations (FOCs) or error/reject notifications	Availability of Interface	O&P-10-1-1 O&P-10-1-2
		Accuracy of Response	O&P-10-2-1 O&P-10-2-2
		Timeliness of Response	O&P-10-3-3 O&P-10-3-4
Submit Pre-Orders in Projected Production Volumes	Address Validation	Availability of Interface	O&P-10-2-1 O&P-10-2-2
		Accuracy of Response	O&P-10-2-3 O&P-10-2-4
		Timeliness of Response	O&P-10-3-5 O&P-10-3-6 O&P-10-4-1
	Customer Service Record (CSR) Retrieval	Availability of Interface	O&P-10-2-1 O&P-10-2-2
		Accuracy of Response	O&P-10-2-3 O&P-10-3-9
		Timeliness of Response	O&P-10-4-1

Sub-Process	Function	Evaluation Criteria	Test Cross-Reference
	Switched Service Availability	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-2-1 O&P-10-2-2 O&P-10-2-3 O&P-10-3-12 O&P-10-4-1
	InterLATA Presubscription Indicator Code (PIC)/InraLATA Presubscription Indicator Code (LPIC) Availability	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-2-1 O&P-10-2-2 O&P-10-2-3 O&P-10-3-12 O&P-10-4-1
	Product / Service Availability	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-2-2 O&P-10-2-1 O&P-10-2-3 O&P-10-3-12 O&P-10-4-1
	Telephone Number(s) Availability	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-2-1 O&P-10-2-2 O&P-10-2-3 O&P-10-3-8 O&P-10-3-10 O&P-10-3-11 O&P-10-4-1
	Reserve TNs	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-2-1 O&P-10-2-2 O&P-10-2-3 O&P-10-3-8 O&P-10-4-1
	Cancel TN Reservation	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-2-1 O&P-10-2-1 O&P-10-2-3 O&P-10-3-8 O&P-10-3-10 O&P-10-3-11 O&P-10-4-1
	Determine Due Date/ Appointment Availability	Availability of Interface Accuracy of Response Timeliness of Response	O&P-10-1-3 O&P-10-1-4 O&P-10-1-16 O&P-10-1-17 O&P-10-2-7 O&P-10-2-13 O&P-10-3-1

## 2.4 Data Sources

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

**Table V-10.4: Data Sources for EDI/TAG Production Performance Test (O&P-10)**

Document	File Name	Location in Work Papers	Source
<i>Local Exchange Ordering (LEO) Implementation Guide, Volume 1, Issues 7J, 7K, 7M, 7N, 7O, and 7P</i>	No Electronic Copy	O&P-1-B-1	BLS
<i>LEO Implementation Guide, Volume 2, Issue 6B, July 99</i>	No Electronic Copy	O&P-1-B-2	BLS
<i>LEO Implementation Guide, Volume 3, Issue 3A, August 98</i>	No Electronic Copy	O&P-1-B-3	BLS
<i>LEO Implementation Guide, Volume 4, Issue 7F, October 99</i>	No Electronic Copy	O&P-1-B-4	BLS
<i>Product and Services Interval Guide</i>	No Electronic Copy	O&P-1-B-5	BLS
<i>Local Service Request Error Messages (Version TCIF 7)</i>	O&P_errors.pdf	O&P-1-A-4	BLS
<i>CLEC Service Order Tracking System (CSOTS) Users Guide</i>	O&P_csots.pdf	O&P-1-A-1	BLS
<i>Local Number Portability (LNP) Ordering Guide (Issue 1b, October 1999)</i>	O&P_LNPgd.pdf	O&P-1-A-3	BLS
<i>EDI System Availability Logs</i>	O&P-EDIsystem.mdb	O&P-1-A-22	HP
<i>Telecommunications Access Gateway (TAG) API Reference Guide, Versions 2.2.0.2, 2.2.0.4, 2.2.0.5, 2.2.0.7, 2.2.0.8, and 2.2.1.1</i>	No Electronic Copy	PRE-1-A-3	BLS
<i>TAG Programmers Job Aid</i>	No Electronic Copy	PRE-1-A-4	BLS
<i>Volume Test Production Test Scenarios</i>	Prod_Test_Cases.xls	O&P-10-A-1	KCI
<i>YE2001 Normal and Peak Forecast Methodology</i>	Fcast Summary.ppt	O&P-10-A-2	KCI
<i>Production Volume Test, Day 1 Schedule</i>	Schedule.xls	O&P-10-A-3	KCI
<i>Production Volume Test, Day 2 Schedule</i>	Schedule.xls	O&P-10-A-4	KCI
<i>System Readiness Test Log</i>	SRT_by_date_.doc	O&P-10-A-5	KCI

Document	File Name	Location in Work Papers	Source
<i>Results Data Tables</i>	CD ROM	O&P-10-A-6	KCI
<i>GPSC Order Adopting Standards and Benchmarks</i>	GPSC_standards.tif	O&P-10-A-7	GPSC
<i>Pre-Order Response Data for June, July, August 2000</i>	Response Data Fro June-August 2000.xls	O&P-10-A-8	BLS
<i>Statistical Significance Analysis Results</i>	Volume Stats Analysis.xls	O&P-10-A-9	KCI

#### 2.4.1 Data Generation/Volumes

The TAG/EDI Production Volume Test evaluated BellSouth's performance by sending approximately 7,400 orders with 24,600 associated pre-orders over an eight-hour period. To derive the test order and pre-order volumes, BellSouth provided KCI with recent daily transaction volume data. KCI determined the number of additional transactions required to increase BellSouth's daily transaction load to the maximum system capacity as stated by BellSouth. The volumes submitted were spread across order and pre-order types to reflect the expected transaction mix ratio at year end, 2001 (YE01). 60% of the orders submitted were via the TAG interface, while 40% were via EDI<sup>8</sup>. All pre-orders were submitted using the TAG interface. Table V-10.5 shows the order and pre-order volumes submitted during each day of the Production Volume Test<sup>9</sup>.

**Table V-10.5: Production Test Generated Volumes**

Transaction Type	Day 1 07/28/00	Retest 07/31/00
AAQ	2,480	2,759
AVQ-TN	449	499
TNAQ	3,629	4,047
TNSQ	870	930
AVQ	2,881	3,206
SAQ	2,106	2,344
CSRQ	1,711	1,905

<sup>8</sup> Volumes for order transmission interface type (EDI or TAG) were determined based on current CLEC usage and projected interface implementation dates provided by CLECs. To best replicate the actual ordering process, EDI orders were "batched" prior to transmission to BLS.

<sup>9</sup> One production volume test was initially planned. However, BellSouth performance failure required "re-testing" of the production volume test. Following the implementation of system fixes by BellSouth, KCI/HP successfully conducted a production volume retest.

<b>Transaction Type</b>	<b>Day 1 07/28/00</b>	<b>Retest 07/31/00</b>
CDD	6,672	7,421
TNAQ_MLH	546	607
TNAQ_DID	198	219
TNCAN	198	219
TNCAN_MLH	198	219
TNCAN_DID	198	219
DL	16	16
Resale	3,835	4,206
UNE Loop	950	1,059
UNE Loop-Port Combo	1,937	2,132
UNE Port	16	16
<b>Total</b>	<b>28,890</b>	<b>32,023</b>

## 2.5 Evaluation Methods

In preparation for the test, order transaction seeds were written, according to BellSouth business rules, and loaded into the KCI transaction test system. These templates were then submitted to Hewlett Packard (HP) and to BellSouth during Systems Readiness Testing (SRT)<sup>10</sup>. SRT confirmed the functionality of HP's and KCI's transactional systems and verified that orders would flow-through the BellSouth system. The order seeds were used as templates to build the order volumes that were used in the subsequent test. Orders were submitted on a scheduled submission date and time determined by the KCI prior to the start of the test. As appropriate, testers made final updates (e.g., desired due dates or other information) and processed the transactions.

The EDI/TAG Production Volume Performance Test (O&P-10) tested BellSouth's interfaces and systems at year-end, 2001 (YE01) projected order volumes in BellSouth's production environment for an eight-hour period. This test was executed by submitting Resale and UNE orders against test bed accounts<sup>11</sup> that were provisioned by BellSouth based on KCI's specifications and verified by KCI prior to initiation of the test.

<sup>10</sup> KCI conducted 24 SRTs between April 11, 2000 and August 1, 2000. After completing several of the SRTs, BellSouth requested additional testing. These additional tests were used by BellSouth to ensure that its back-end systems and the Interfaces were functioning correctly.

<sup>11</sup> Refer to Section V, "Ordering and Provisioning Overview" for a detailed description of the Ordering and Provisioning test bed process and detail of accounts.



The order transaction loads were distributed geographically across seven Central Offices (COs) in the state of Georgia. BellSouth established and configured customer test accounts prior to initiation of the test.

The test cases for the Production Volume Performance Test were submitted in an automated fashion. Transactions were provided in bulk to HP for conversion from the business file format to the TAG and EDI formats. HP time stamped and forwarded the transactions to BellSouth for processing according to the schedule provided by KCI. BellSouth processed the transactions and returned Functional Acknowledgements (FAs) and Firm Order Commitments (FOCs) for orders and responses for pre-orders to HP.

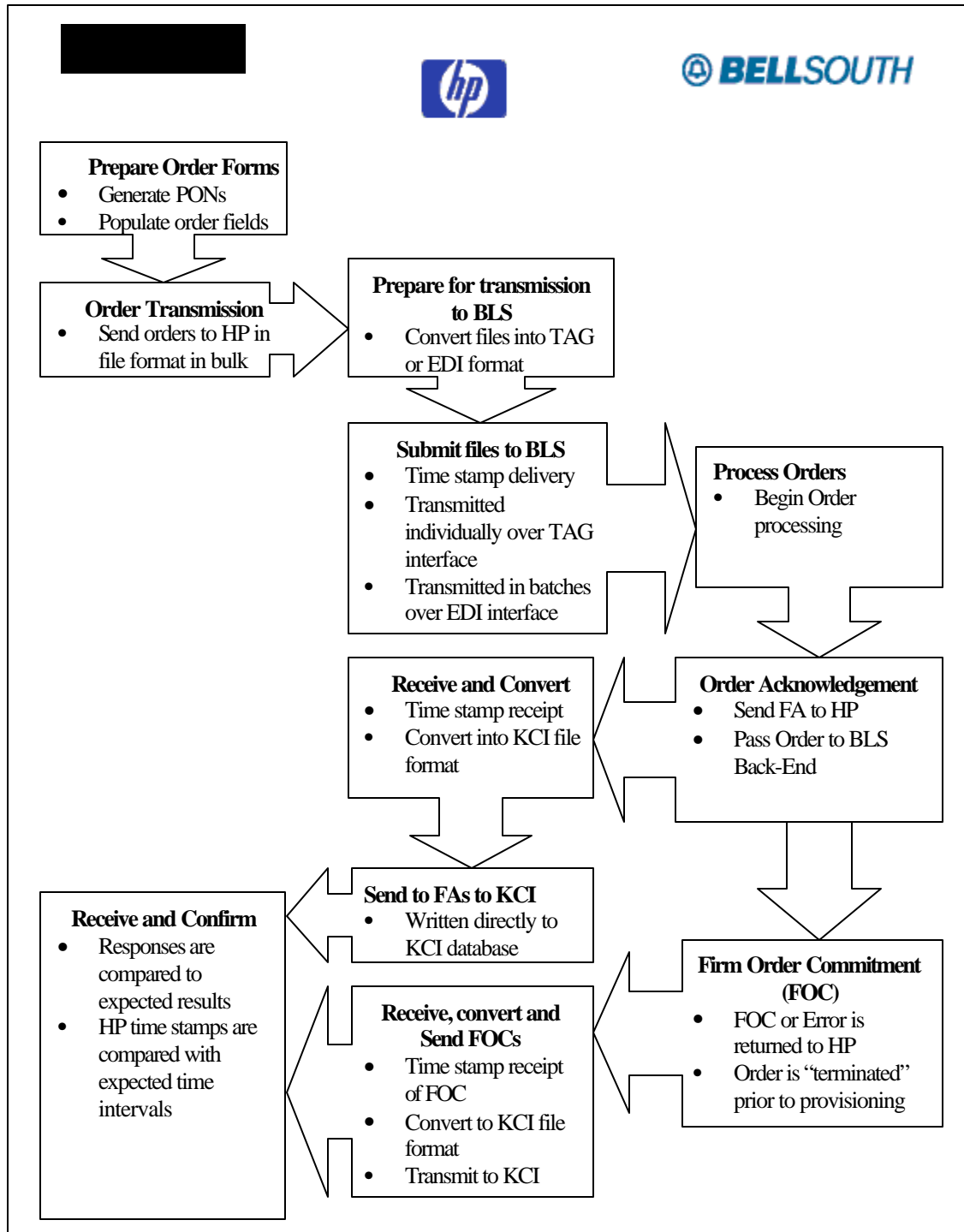
As pre-order and order volume transactions were submitted, error messages or positive responses were returned. A transaction was deemed complete if a FA and FOC were received (or if an expected error was received). Pre-order transactions were deemed complete when positive responses were received. The results were logged and compared to expected ordering system functionality and business processes, as outlined in Section V, “Overview.” A number of intentional errors were included in a specified number of orders. These orders were sent to test BellSouth’s ability to handle errors and to ensure that systems could not be programmed for automatic response.

Orders submitted during the Production Volume Performance Test did not go through the provisioning process. The flow of data and testing processes comprising the Volume Test are illustrated in Figure V-10.1<sup>12</sup>.

Transactions (LSRs) were submitted and the results logged and compared to the expected ordering system functionality and business processes, as outlined in Section V, “Overview.” The number, timeliness, and correctness of responses were measured, compared, and recorded.

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<sup>12</sup> See Section V, “Ordering and Provisioning Overview” for a complete description of the file transfer process.

**Figure V-10.1: O&P Production Volume Test Process**

## 2.6 Analysis Methods

The EDI/TAG Production Volume Performance Test included a checklist of evaluation criteria developed by KCI during the initial phase of the BellSouth - Georgia OSS Evaluation. These evaluation criteria provided a framework of norms, standards, and guidelines for the EDI/TAG Production Volume Performance Test.

The Georgia Public Service Commission (GPSC) voted on June 6, 2000 to approve a set of Service Quality Measurement- (SQM-) related measures and standards to be used for purposes of this evaluation<sup>13</sup>. In many cases, results in this section were calculated based on KCI/HP time stamps, which may differ significantly from the BellSouth time measurement points reported in the SQMs<sup>14</sup>. For those evaluation criteria that do not map to the GPSC-approved measures, KCI has applied its own standard, based on our professional judgment.

Pre-order response times for the KCI Test CLEC queries on each volume test day were compared to BellSouth retail performance data for the corresponding day (e.g., July 28, 2000 test data were compared to July 28, 2000 retail data).

For quantitative evaluation criteria, where the test result did not meet or exceed the established standard or KCI benchmark, KCI conducted a review to determine whether the differential was statistically significant.

## 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.

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<sup>13</sup> On January 16, 2001, the GPSC issued an order requiring BellSouth to report for business purposes a set of measures that differs in some cases from the requirements of the June 6 test standards.

<sup>14</sup> For example, for an LSR, BellSouth records the time received and the time a corresponding FOC or ERR is sent. HP/KCI measures the time an LSR is sent, and the time a corresponding FOC or ERR is received. In most cases, we would expect these times to correspond roughly, allowing for factors such as queuing and transmission time. In some cases, these times may differ significantly as a result of system downtime, network congestion, etc.

**Table V-10.6: O&P-10 Test Evaluation Criteria and Results<sup>15</sup>**

Test Cross-Reference	Evaluation Criteria	Result	Comments
<i>Interface Availability</i>			
O&P-10-1-1	EDI order transaction capability is consistently available during scheduled hours of operation.	Satisfied	The GPSC-approved standard is 99.5% system availability during scheduled hours of operation <sup>16</sup> . BLS maintained 100% EDI availability throughout each iteration of the test <sup>17</sup> .
O&P-10-1-2	TAG order transaction capability is consistently available during scheduled hours of operation.	Satisfied	The GPSC-approved standard is 99.5% system availability during scheduled hours of operation <sup>18</sup> . During the course of this test, Hewlett Packard (HP) attempted to confirm a constant connection to BLS's TAG interface by implementing regular system "pinging." Based on analysis of HP's TAG system availability logs for the period 2/15/00 through 7/27/00 <sup>19</sup> , KCI observed that the TAG interface was available during 99.5% of scheduled hours of availability <sup>20</sup> .

<sup>15</sup> See Tables V-10.7 and V-10.8 for detailed results on each test day. Percentages are rounded to the nearest whole number.

<sup>16</sup> Regularly scheduled hours of availability for the TAG/EDI interfaces are published on the BellSouth Interconnection Web site ([www.interconnection.bellsouth.com/oss/oss\\_hour.html](http://www.interconnection.bellsouth.com/oss/oss_hour.html)). Notices of specific scheduled system downtime (e.g., for a new system release or fix) are communicated through Carrier Notifications posted on the BellSouth Web site.

<sup>17</sup> During the execution of the Normal Volume test, KCI/HP continuously submitted transactions, via the EDI interface, according to a predetermined schedule. During this period, HP maintained continuous connectivity with BellSouth via EDI and successfully transmitted all of the orders at their scheduled times. Therefore, KCI determined the EDI interface to be consistently available during the test.

<sup>18</sup> Regular scheduled hours of availability for the TAG/EDI interface are published on the BellSouth Interconnection Web site ([www.interconnection.bellsouth.com/oss/oss\\_hour.html](http://www.interconnection.bellsouth.com/oss/oss_hour.html)). Notices of specific scheduled system downtime (e.g., for a new system release or fix) are communicated through Carrier Notifications posted on the BellSouth Web site.

<sup>19</sup> HP maintained detailed logs of system availability beginning 2/15/00. See O&P-1 for more detailed analysis of BellSouth's production system's availability.

<sup>20</sup> KCI could not conclusively determine the root source (BellSouth or HP) for all recorded system down time.

Test Cross-Reference	Evaluation Criteria	Result	Comments
<i>System Functionality</i>			
O&P-10-2-1	The EDI interface provides expected system responses <sup>21</sup> .	Satisfied	<p>The KCI standard is 99% of expected system responses received. The Production Volume test results are as follows:</p> <p>Day 1:</p> <ul style="list-style-type: none"> <li>— 100% (2,715/2,715) of expected FAs and 100% (2,711/2,715) of expected FOCs were received.</li> </ul> <p>Day 1 - Retest:</p> <ul style="list-style-type: none"> <li>— 100% (3,020/3,020) of expected FAs and 100% (3,014/3,020) of expected FOCs were received.</li> </ul>
O&P-10-2-2	The TAG interface provides expected system responses.	Satisfied	<p>The KCI standard is 99% of expected system responses received. The Production Volume test results are as follows:</p> <p>Day 1:</p> <ul style="list-style-type: none"> <li>— 99% (4,003/4,039) of expected FAs and 99% (4,002/4,039) of expected FOCs were received.</li> </ul> <p>Day 1 - Retest:</p> <ul style="list-style-type: none"> <li>— 100%(4,407/4,409) of expected FAs and 100% (4,402/4,409) of expected FOCs were received.</li> </ul>
O&P-10-2-3	The TAG interface provides expected pre-order system responses <sup>22</sup> .	Satisfied	<p>The KCI standard is 99% of expected system responses received. The Production Volume test results are as follows:</p> <p>Day 1:</p> <ul style="list-style-type: none"> <li>— 99% (21,853/22,136) of pre-order requests received expected system responses.</li> </ul> <p>Day 1 - Retest:</p>

<sup>21</sup> An expected system response is defined for this criterion as an FA for each order, an FOC for each correctly formatted order, and an error or clarification (ERR/CLR) for each invalid service request.

<sup>22</sup> An expected system response is defined for this criterion as any response that is consistent with technical specifications for EDI and TAG responses. Type of response received is not considered. The accuracy by type of response is evaluated in 10-4-1 and 10-4-2 (e.g., CRSQ received a CSR).

Test Cross-Reference	Evaluation Criteria	Result	Comments
			— 100% (24,574/24,595) of pre-order requests received expected system responses.
<i>Timeliness of System Response<sup>23</sup></i>			
O&P-10-3-1	BLS's EDI interface provides timely Functional Acknowledgements (FAs).	Satisfied	<p>The KCI standard is 95% of FAs received in less than 30 minutes.</p> <p>Results from LSRs submitted during the Production Volume test:</p> <p>Day 1:</p> <p>— 100% (2,715/2,715) of FAs were received in less than 30 minutes</p> <p>Day 1 - Retest:</p> <p>— 100% (3,020/3,020) of FAs were received within 30 minutes</p>
O&P-10-3-2	BLS's TAG interface provides timely Functional Acknowledgements (FAs).	Satisfied	<p>The KCI standard is 95% of FAs received in less than 30 minutes.</p> <p>Results from LSRs submitted during the Production Volume test:</p> <p>Day 1:</p> <p>— 100%(4,003/4,003) of FAs were received in less than 30 minutes</p> <p>Day 1 - Retest:</p> <p>— 100% (4,407/4,407)of received FAs were received within 30 minutes</p>
O&P-10-3-3	BLS's EDI interface provides timely Firm Order Confirmations (FOCs).	Satisfied	<p>The GPSC-approved standard for flow-through (FT) FOCs is 95% received within three hours.</p> <p>LSRs submitted during the Production Volume tests received FOCs within the following timeframes:</p> <p>Day 1:</p> <p>— 100% (2,698/2,711) of FOCs were received within 3 hours.</p>

<sup>23</sup> In accordance with the GPSC's June 6, 2000 measures and standards to be used for purposes of this evaluation, KCI reviewed pre-order timeliness results relative to BellSouth Retail pre-order timeliness. This standard does not include allowances for transaction transmission time from the test CLEC to BellSouth and for response transmission time from BellSouth back to the test CLEC.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			Day 1 - Retest: — 100% (3,014/3,014) of FOCs were received within 3 hours.
O&P-10-3-4	BLS's TAG interface provides timely Firm Order Confirmations (FOCs).	Satisfied	The GPSC-approved standard for flow-through (FT) FOCs is 95% received within three hours. LSRs submitted during the Production Volume tests received FOCs within the following timeframes: Day 1: — 100% (4,001/4,002) of FOCs were received within 3 hours. Day 1 - Retest: — 100% (4,402/4,402) of FOCs were received within 3 hours.
O&P-10-3-5	The TAG interface provides timely pre-order responses from BLS's Regional Street Access Guide-Telephone Number (RSAG-TN) back-end system.	Satisfied <sup>24</sup>	The GPSC-approved standard is parity with retail performance <sup>25</sup> . Based on BLS July performance reports, KCI determined the standard retail response time for AVQ_TN inquiries to be: — 1.0 seconds (7/28/00 BLS Retail data) — 1.0 seconds (7/31/00 BLS Retail data) Responses to AVQ_TNs were received in an average of: — Day 1: 2.0 seconds. — Day 1 - Retest: 1.9 seconds. Although the KCI results exceed the BLS retail average by a statistically significant amount, it is KCI's professional judgment that the response interval for Test-CLEC-submitted AVQ_TN pre-orders is within a reasonable timeframe.

<sup>24</sup> See Figure V-10.2: AVQ\_TN Response Distribution for a distribution of the AVQ\_TN response times that KCI experienced.

Test Cross-Reference	Evaluation Criteria	Result	Comments
O&P-10-3-6	The TAG interface provides timely pre-order responses from BLS's RSAG-Address back-end system.	Satisfied <sup>26</sup>	<p>The GPSC-approved standard is parity with retail performance. Based on BLS July performance reports, KCI determined the standard retail response time for AVQ inquiries to be:</p> <ul style="list-style-type: none"> <li>— 1.5 seconds (7/28/00 BLS Retail data)</li> <li>— 1.3 seconds (7/31/00 BLS Retail data)</li> </ul> <p>Responses to AVQs received were delivered in an average of:</p> <ul style="list-style-type: none"> <li>— Day 1: 17.5 seconds.</li> <li>— Day 1 – Retest: 2.2 seconds.</li> </ul> <p>Although the KCI results exceed the BLS retail average by a statistically significant amount, it is KCI's professional judgment that the response interval for Test-CLEC-submitted AVQ pre-orders is within a reasonable timeframe.</p>
O&P-10-3-7	The TAG interface provides timely pre-order responses from BLS's Direct Order Entry Support Application Program (DSAP) back-end system.	Satisfied <sup>27</sup>	<p>The GPSC-approved standard is parity with retail performance. Based on BLS July performance reports, KCI determined the standard retail response time for AAQ inquiries to be:</p> <ul style="list-style-type: none"> <li>— 0.3 seconds (7/28/00 BLS Retail data)</li> <li>— 0.4 seconds (7/31/00 BLS Retail data)</li> </ul> <p>Responses to AAQs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> <li>— Day 1: 1.2 seconds.</li> <li>— Day 1 – Retest: 1.4 seconds.</li> </ul>

<sup>25</sup>KCI analyzed BellSouth-published Retail performance data for the month of July 2000. Since BellSouth data is separated into business and residential pre-order categories, KCI compared test results to a weighted average of BellSouth residential and business results.

<sup>26</sup> See Figure V-10.3: AVQ Response Distribution for a distribution of the AVQ response times that KCI experienced.

<sup>27</sup> See Figure V-10.4: AAQ Response Distribution for a distribution of the AAQ response times that KCI experienced.



Test Cross-Reference	Evaluation Criteria	Result	Comments
			Although the KCI results exceed the BLS retail average by a statistically significant amount, it is KCI's professional judgment that the response interval for Test-CLEC-submitted AAQ pre-orders is within a reasonable timeframe.
O&P-10-3-8	The TAG interface provides timely pre-order responses from BLS's Application for Telephone Number Load Administration and Selection (ATLAS) back-end system.	Satisfied <sup>28</sup>	<p>The GPSC-approved standard is parity with retail performance. Based on BLS July performance reports, KCI determined the standard retail response time for TNAQ, TNSQ and TNCAN_TN inquiries to be:</p> <ul style="list-style-type: none"> <li>— 0.7 seconds (7/28/00 BLS Retail data)</li> <li>— 0.7 seconds (7/31/00 BLS Retail data).</li> </ul> <p>Responses to TNAQs, TNSQs, and TNCAN_TNs received were delivered in an average of:</p> <ul style="list-style-type: none"> <li>— Day 1: 2.8 seconds.</li> <li>— Day 1 – Retest: 2.2 seconds.</li> </ul> <p>Although the KCI results exceed the BLS retail average by a statistically significant amount, it is KCI's professional judgment that the response interval for Test-CLEC-submitted TNAQ, TNSQ and TNCAN_TN pre-orders is within a reasonable timeframe.</p>

<sup>28</sup> See Figure V-10.5: ATLAS Response Distribution for a distribution of the response times that KCI experienced from the ATLAS back-end system.

Test Cross-Reference	Evaluation Criteria	Result	Comments
O&P-10-3-9	The TAG interface provides timely pre-order responses from BLS's CRSECSR back-end system.	Satisfied	<p>The GPSC-approved standard is parity with retail performance. Based on BLS July performance reports, KCI determined the standard retail response time for CSRQ inquiries to be:</p> <ul style="list-style-type: none"> <li>— 1.0 seconds (7/28/00 BLS Retail data)</li> <li>— 1.1 seconds (7/31/00 BLS Retail data)</li> </ul> <p>Responses to CRSQs received were delivered in an average of:</p> <ul style="list-style-type: none"> <li>— Day 1: 2.4 seconds.</li> <li>— Day 1 – Retest: 2.7 seconds.</li> </ul> <p>Although the KCI results exceed the BLS retail average by a statistically significant amount, it is KCI's professional judgment that the response interval for Test-CLEC-submitted CSRQ pre-orders is within a reasonable timeframe.</p>
O&P-10-3-10	The TAG interface provides timely pre-order responses from BLS's ATLAS-MLH back-end system.	Satisfied <sup>29</sup>	<p>The KCI standard for pre-order timeliness is an average of 8.0 seconds.</p> <p>Responses to TNAQ_MLHs and TNCAN_MLHs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> <li>— Day 1: 5.6 seconds.</li> <li>— Day 1 – Retest: 1.3 seconds.</li> </ul>

<sup>29</sup> BellSouth retail analog data on responses from ATLAS-MLH is not currently available. BellSouth retail ordering representatives currently utilize a manual process for selecting and reserving MLH numbers. As a result, KCI is unable to evaluate TNAQ\_MLH and TNCAN\_MLH timeliness results in comparison to a retail benchmark for electronic response timeliness.

Test Cross-Reference	Evaluation Criteria	Result	Comments
O&P-10-3-11	The TAG interface provides timely pre-order responses from BLS's ATLAS-DID back-end system.	Satisfied <sup>30</sup>	The KCI standard for pre-order timeliness is an average of 8.0 seconds.  Responses to TNAQ_DID and TNCAN_DIDs received were delivered in an average of:  — Day 1: 4.3 seconds. — Day 1 – Retest: 2.3 seconds.
O&P-10-3-12	The TAG interface provides timely pre-order responses from BLS's OASIS back-end system.	Satisfied <sup>31</sup>	The GPSC-approved standard is parity with retail performance. Based on BLS July performance reports, KCI determined the standard retail response time for SAQ <sup>32</sup> queries to be:  — 0.9 seconds (7/28/00 BLS Retail data) — 1.0 seconds (7/31/00 BLS Retail data)  Responses to SAQs received were delivered in an average of:  — Day 1: 2.9 seconds. — Day 1 – Retest: 3.8 seconds.  Although the KCI results exceed the BLS retail average by a statistically significant amount, it is KCI's professional judgment that the response interval for Test-CLEC-submitted SAQ pre-orders is within a reasonable timeframe.

<sup>30</sup> BellSouth retail analog data on responses from ATLAS-DID is not currently available. BellSouth retail ordering representatives currently utilize a manual process for selecting and reserving MLH numbers. As a result, KCI is unable to evaluate TNAQ\_DID and TNCAN\_DID timeliness results in comparison to a retail benchmark for electronic response timeliness.

<sup>31</sup> See *Figure V-10.6: SAQ Response Distribution* for a distribution of the response times that KCI experienced from the OASIS back-end system.

<sup>32</sup> Service Availability Queries (SAQs) may be performed by requesting a) information on a specific service/feature or group of related features; or b) information on all features available from a particular BellSouth switch.

Test Cross-Reference	Evaluation Criteria	Result	Comments
O&P-10-3-13	The TAG interface provides timely pre-order responses to Calculate Due Date (CDD) inquiries.	Satisfied <sup>33</sup>	The KCI standard for pre-order timeliness is an average of 8.0 seconds. Responses to CDDs received during KCI's testing were delivered in an average of: — Day 1: 0.01 Seconds. — Day 1 – Retest: 0.01 Seconds
<i>Accuracy of System Response<sup>34</sup></i>			
O&P-10-4-1	BLS systems provide accurate pre-order success responses.	Satisfied	The expected pre-order success responses received during the test were accurate. Responses received by KCI were consistent with the pre-order types associated with them (e.g., CSRQ received a CSR).
O&P-10-4-2	BLS systems provide clear, accurate, and complete Firm Order Confirmations (FOCs).	Satisfied	The KCI standard is 95% accuracy of response type.  Of the FOCs analyzed, 100% were correct relative to the LSR submitted (i.e., were received in response to a correctly formatted LSR).
O&P-10-4-3	BLS systems provide accurate order errors (ERRs)/clarifications (CLRs).	Satisfied	The expected pre-order and order error responses received during the test were accurate. Responses received by KCI were consistent with the orders expected.

<sup>33</sup> BellSouth retail analog data is not available for the CDD query. BellSouth retail representatives do not utilize this function when retrieving information needed to process retail orders. As a result, KCI is unable to evaluate CDD timeliness results in comparison to a retail benchmark.

<sup>34</sup> For these criteria, KCI defined an accurate response to be a system response that is consistent with the technical specifications for EDI and TAG success responses *and* to be consistent with the transaction type that initiated the response (e.g., a correctly formatted CSRQ received a Customer Service Record). In the case of error responses, KCI verified that these were only received for incorrectly formatted queries. The contents of the response files (successes and errors) were evaluated for accuracy and completeness for purposes of this test on a sample basis only. A more complete accuracy evaluation for conformance to the BellSouth business rules was undertaken in feature/function testing (OP-1, OP-2 and PRE-1).

**Table V-10.7: Production Volume Re-Test (July 31, 2000) Functional  
Acknowledgement Detailed Results**

Product Type	Interface	LSR Sent	Number of ACKs <sup>35</sup> Received	Percentage of Expected ACKs Received	ACK Received < 30 min	Percentage of ACKs received < 30 min	Average LSR To ACK Business Minutes
DL	EDI	8	8	100.0%	8	100.0%	9.75
Resale	EDI	1,709	1,709	100.0%	1,709	100.0%	14.774
UNE Loop	EDI	433	433	100.0%	433	100.0%	15.603
UNE Loop-Port Combo	EDI	862	862	100.0%	862	100.0%	15.255
UNE Port	EDI	8	8	100.0%	8	100.0%	10.75
<b>Subtotal</b>		3,020	3,020	100.0%	3,020	100.0%	15.006
DL	TAG	8	8	100.0%	8	100.0%	0.
Resale	TAG	2,497	2,495	99.9%	2,495	100.0%	0.002
UNE Loop	TAG	626	626	100.0%	626	100.0%	0.003
UNE Loop-Port Combo	TAG	1,270	1,270	100.0%	1,270	100.0%	0.002
UNE Port	TAG	8	8	100.0%	8	100.0%	0.
<b>Subtotal</b>		4,409	4,407	100.0%	4,407	100.0%	0.002
<b>Total</b>		7,429	7,427	100.0%	7,427	100.0%	6.103

<sup>35</sup> An ACK is a Functional Acknowledgement, which is an electronic acknowledgement sent to a CLEC from BLS verifying that BLS has received a firm order.

**Table V-10.8: Production Volume Re-Test (July 31, 2000) FOC Detailed Results**

Product Type	Interface	LSRs Sent	Number of FOCs Received	Percentage of Expected FOCs Received	FOCs Received < 3 hrs	Percentage of FOCs Received < 3 hrs	Average LSR To FOC Business Minutes
DL	EDI	8	8	100.0%	8	100.0%	73.625
Resale	EDI	1,709	1,707	99.9%	1,707	100.0%	83.548
UNE Loop	EDI	433	429	99.1%	429	100.0%	82.665
UNE Loop-Port Combo	EDI	862	862	100.0%	862	100.0%	85.813
UNE Port	EDI	8	8	100.0%	8	100.0%	100.125
<b>Subtotal</b>		3,020	3,014	99.8%	3,014	100.0%	84.088
DL	TAG	8	8	100.0%	8	100.0%	30.75
Resale	TAG	2,497	2,495	99.9%	2,495	100.0%	22.565
UNE Loop	TAG	626	623	99.5%	623	100.0%	21.703
UNE Loop-Port Combo	TAG	1,270	1,268	99.8%	1,268	100.0%	21.583
UNE Port	TAG	8	8	100.0%	8	100.0%	23.5
<b>Subtotal</b>		4,409	4,402	99.8%	4,402	100.0%	22.177
<b>Total</b>		7,429	7,416	99.8%	7,416	100.0%	47.339

**Table V-10.11: Pre-Order Response Timeliness<sup>36</sup>**

AAQ	Appointment Availability Query									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	1989	380	32	11	2	9	8	2	47	2480
	80%	15%	1%	0%	0%	0%	0%	0%	2%	100%
Day 2	1954	674	79	18	5	13	12	1	3	2759
	71%	24%	3%	1%	0%	0%	0%	0%	0%	100%
AVQ-TN	Address Validation Query by Telephone Number									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	254	142	22	7	4	2	4	6	8	449
	57%	32%	5%	2%	1%	0%	1%	1%	2%	100%
Day 2	253	187	33	6	4	11	3	1	1	499
	51%	37%	7%	1%	1%	2%	1%	0%	0%	100%
TNAQ	Telephone Number Assignment Query									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	1942	1047	227	58	17	47	197	31	63	3629
	54%	29%	6%	2%	0%	1%	5%	1%	2%	100%
Day 2	1629	1696	365	93	18	109	132	4	1	4047
	40%	42%	9%	2%	0%	3%	3%	0%	0%	100%
TNSQ	Telephone Number Selection Query									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	492	166	59	10	14	32	72	7	18	870
	57%	19%	7%	1%	2%	4%	8%	1%	2%	100%
Day 2	608	255	36	8	3	7	10	3	0	930
	65%	27%	4%	1%	0%	1%	1%	0%	0%	100%
AVQ	Address Validation Query									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	0	0	0	0	0	0	2572	256	53	2881

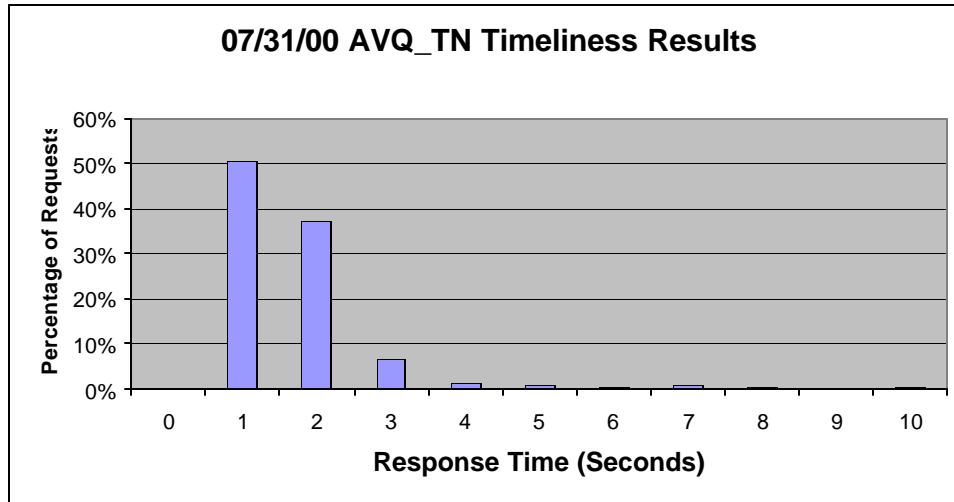
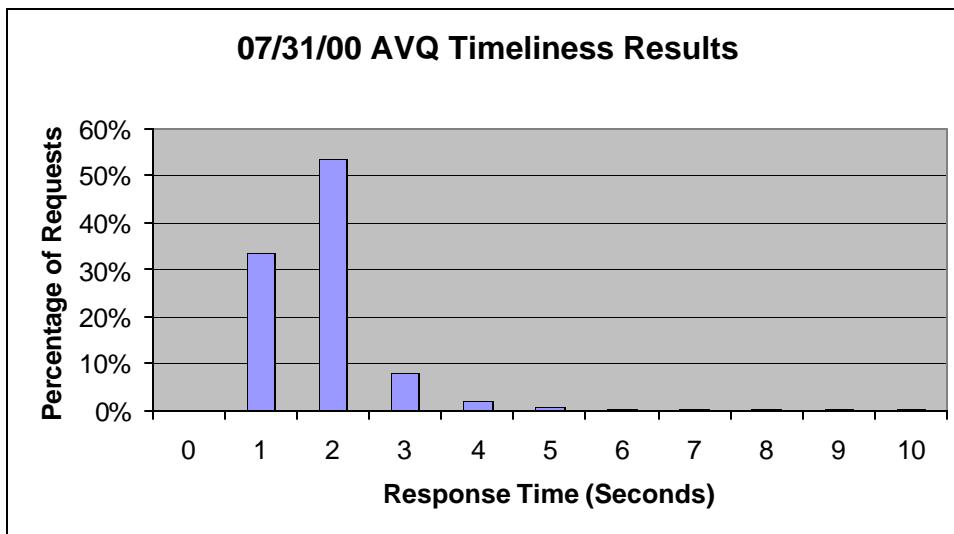
<sup>36</sup> Totals may not equal 100% due to rounding.

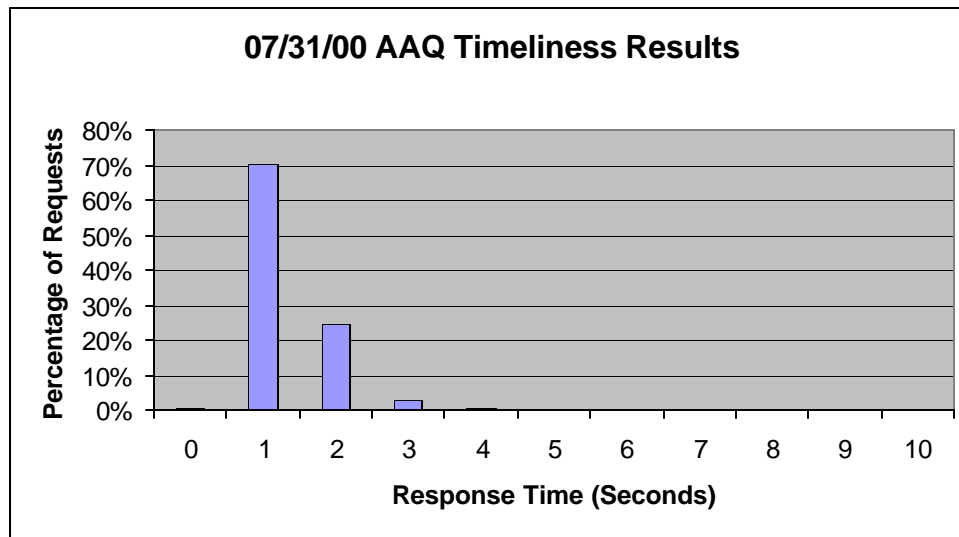
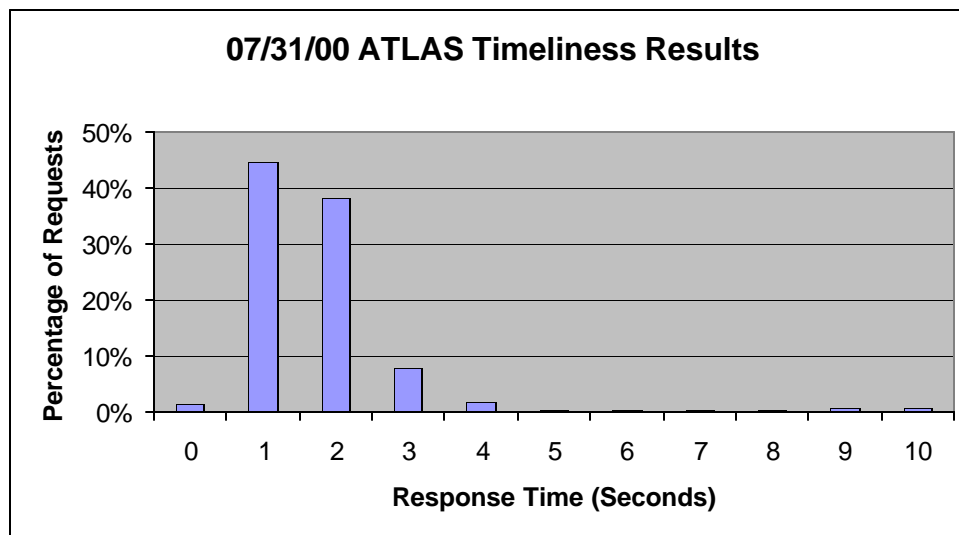
	0%	0%	0%	0%	0%	0%	89%	9%	2%	100%
Day 2	1072	1720	250	64	22	43	25	9	1	3206
	33%	54%	8%	2%	1%	1%	1%	0%	0%	100%
<b>SAQ</b>	<b>Service Availability Query</b>									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	0	208	1790	57	6	5	0	0	40	2106
	0%	10%	85%	3%	0%	0%	0%	0%	2%	100%
Day 2	0	0	1058	1095	119	52	14	6	0	2344
	0%	0%	45%	47%	5%	2%	1%	0%	0%	100%
<b>CSRQ</b>	<b>Customer Service Record Query</b>									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	116	1195	268	64	12	12	3	9	32	1711
	7%	70%	16%	4%	1%	1%	0%	1%	2%	100%
Day 2	234	978	366	209	59	41	11	6	1	1905
	12%	51%	19%	11%	3%	2%	1%	0%	0%	100%
<b>CDD</b>	<b>Calculated Due Date</b>									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	6672	0	0	0	0	0	0	0	0	6672
	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Day 2	7421	0	0	0	0	0	0	0	0	7421
	100%	0%	0%	0%	0%	0%	0.0%	0.0%	0.0%	100.0%
<b>TNAQ_MLH</b>	<b>Telephone Number Availability Query for Multi-line Hunting Numbers</b>									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	194	43	24	9	21	92	144	9	10	546
	36%	8%	4%	2%	4%	17%	26%	2%	2%	100%
Day 2	518	59	10	4	1	2	5	1	7	607
	85%	10%	2%	1%	0%	0%	1%	0%	1%	100%
<b>TNAQ_DID</b>	<b>Telephone Number Availability Query for Direct Inward Dial Numbers</b>									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	40	85	36	14	5	6	7	1	4	198
	20%	43%	18%	7%	3%	3%	4%	1%	2%	100%



Day 2	42	101	51	21	2	1	0	1	0	219
	19%	46%	23%	10%	1%	0%	0%	0%	0%	100%

TNCAN	Telephone Number Cancellation Query									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	77	26	4	5	14	23	43	3	3	198
	39%	13%	2%	3%	7%	12%	22%	2%	2%	100%
Day 2	162	41	9		2	1	0	1	3	219
	74%	19%	4%	0%	1%	0%	0%	0%	1%	100%
TNCAN_ML H	Telephone Number Cancellation Query for Multi-line Hunting Numbers									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	152	25	6	1	1	5	4	1	3	198
	77%	13%	3%	1%	1%	3%	2%	1%	2%	100%
Day 2	167	35	7	0	1	2	2	0	5	219
	76%	16%	3%	0%	0%	1%	1%	0%	2%	100%
TNCAN_DID	Telephone Number Cancellation Query for Direct Inward Dial Numbers									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	43	39	30	7	7	23	41	3	5	198
	22%	20%	15%	4%	4%	12%	21%	2%	3%	100%
Day 2	101	75	28	9	5	1	0	0	0	219
	46%	34%	13%	4%	2%	0%	0%	0%	0%	100%
ALL QUERY TYPES										
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1	11971	3356	2498	243	103	256	3095	328	286	22136
	54%	15%	11%	1%	0%	1%	14%	1%	1%	100%
Day 2	14161	5821	2292	1527	241	283	214	33	22	24594
	58%	24%	9%	6%	1%	1%	1%	0%	0%	100%

**Figure V-10.2: AVQ\_TN Response Distribution****Figure V-10.3: AVQ Response Distribution**

**Figure V-10.4: AAQ Response Distribution****Figure V-10.5: ATLAS Response Distribution<sup>37</sup>**

<sup>37</sup> Contains aggregated response times for all pre-order queries on the ATLAS back-end system, including TNAQs, TNSQs, and TN\_CANs.

**Figure V-10.6: SAQ Response Distribution**