

D. Test Results: TAG Normal Volume Pre-Order Performance Test (PRE-4)

1.0 Description

The objective of the Telecommunications Access Gateway (TAG) Normal Volume Pre-Order Performance Test (PRE-4) was to evaluate BellSouth's Operating Support Systems (OSS) associated with pre-ordering at specified volumes. Competitive Local Exchange Carriers (CLECs) submit pre-order queries to validate existing customer information and the availability of BellSouth facilities, and to obtain data (e.g., telephone numbers, service feature codes, etc.) that will be entered on subsequent service orders. This evaluation assessed BellSouth's ability to process accurate and timely pre-order transactions via the TAG Client Application Program Interface (API) under "normal" year-end 2001 (YE01) projected transaction load conditions¹ in the Reengineered Services, Installation and Maintenance Management System (RSIMMS) environment².

2.0 Methodology

This section summarizes the test methodology.

2.1 Business Process Description

See Section IV, "Pre-Ordering Overview" for a description of the BellSouth pre-ordering process via TAG.

2.2 Scenarios

KCI generated and transmitted pre-order queries based on the scenarios listed in the *Master Test Plan (MTP)*, which defined the pre-order scenarios for testing in PRE-4.

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

2.3 Test Targets & Measures

The test target was the TAG interface and back-end systems supporting pre-order queries³. Sub-processes, functions, and evaluation criteria are

¹ 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, where obtainable.

² See RSIMMS and Production Systems Review for a description of the difference between the production and RSIMMS environments.

³ The RSIMMS environment is designed to access copies of the PSIMMS, COFFI, BOCRIS, BOCABS and LMOS/Host systems, and to access the production COFIUSOC, ATLAS, RSAG, and DSAP systems.

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 IV-4.1: Test Target Cross-Reference

Sub-Process	Function	Evaluation Criteria	Test Cross-Reference
Submit Pre-Orders in Projected Normal Volumes	Address Validation	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-1 PRE-4-3-2 PRE-4-4-1 PRE-4-4-2
	CSR Retrieval	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-5 PRE-4-4-1 PRE-4-4-2
	Switched Service Availability	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-8 PRE-4-4-1 PRE-4-4-2
	PIC/LPIC Availability	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-8 PRE-4-4-1 PRE-4-4-2
	Product / Service Availability	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-8 PRE-4-4-1 PRE-4-4-2
	Telephone Number(s) Availability	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-4 PRE-4-3-6 PRE-4-3-7 PRE-4-4-1 PRE-4-4-2
	Reserve TNs	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-4 PRE-4-4-1 PRE-4-4-2

Sub-Process	Function	Evaluation Criteria	Test Cross-Reference
	Cancel TN Reservation	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-4 PRE-4-3-6 PRE-4-3-7 PRE-4-4-1 PRE-4-4-2
	Determine Due Date/ Appointment Availability	Availability of Interface Accuracy of Response Timeliness of Response	PRE-4-1-1 PRE-4-2-1 PRE-4-3-3 PRE-4-3-9 PRE-4-4-1 PRE-4-4-2

2.4 Data Sources

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

Table IV-4-2: Data Sources for TAG Normal Volume Performance Test (PRE-4)

Document	File Name	Location in Work Papers	Source
<i>Pre-Order Business Rules, Versions 2.0, 3.0, 4.0, 5.0, 6.0, and 7.0</i>	No Electronic Copy	PRE-1-A-1	BLS
<i>Pre-Order Business Rules Data Dictionary, Versions 1.0 and 3.0</i>	No Electronic Copy	PRE-1-A-2	BLS
<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
BellSouth Three Month Hourly Order History	BLS Order History.xls	PRE-4-A-1	BLS
2000, 2001 BellSouth LSR Volume Forecasts	BSTFORECAST.xls	PRE-4-A-2	BLS
2000, 2001 Aggregated CLEC Forecasts	CLEC_BST_FORECAST.xls	PRE-4-A-3	CLEC
<i>YE2001 Normal and Peak Forecast Methodology</i>	Fcast Summary.ppt	PRE-4-A-4	KCI

Document	File Name	Location in Work Papers	Source
Normal Volume Test Schedule	schedule.xls	PRE-4-A-5	KCI
System Readiness Test Log	SRT_by_date.xls	PRE-4-A-6	KCI
Results Data Tables	Results Data CD-ROM	PRE-4-A-7	KCI
GPSC Order Adopting Standards and Benchmarks	GPSC_standards.tif	PRE-4-A-8	GPSC
Pre-Order Response Data for June, July, August 2000	Response Data For June-August 2000.xls	PRE-4-A-9	BLS
Statistical Significance Analysis Results	Volume Stats Analysis.xls	PRE-4-A-10	KCI

2.4.1 Data Generation/Volumes

The TAG Normal Volume Test (PRE-4) evaluated BellSouth's performance by sending approximately 118,000 pre-orders with 35,000 associated orders⁴ on two distinct days over two 10-hour periods. This test and the ordering (O&P-3) volume test were executed concurrently.

Volumes for this test were determined by forecasting BellSouth's expected order volume for year-end 2001 (YE01). KCI obtained anticipated transaction growth rates from CLECs and BellSouth. Transaction types were forecasted individually based on expected growth rates for each order, and corresponding pre-order query types. KCI also analyzed the distribution of transactions over the course of a normal business day. These data were then combined to determine the number and types of pre-orders to be sent each hour. Pre-orders were then scheduled for transmission to BellSouth via TAG.

Table IV-4.3 shows the pre-order volumes submitted during each day of the Normal Volume Test.⁵

⁴ Ordering test results are reported in the TAG/EDI Normal Volume Test (O&P-3).

⁵ Two normal volume test days were initially planned. However, BellSouth performance failure required "re-testing" of Normal Volume Day 1 on three subsequent days. Following implementation of system fixes by BellSouth, KCI/HP conducted System Readiness Testing (SRTs) to verify that BellSouth's system was functioning. After these SRTs, additional Normal Volume Day 1 tests were conducted. Normal Volume Day 2 was executed successfully in one attempt.

Table IV-4.3: Normal Test Generated Volumes

Query Type	Day 1, 06/02/00	Day 1, Retest 1 ⁶ 06/14/00	Day 1, Retest 2 06/20/00	Day 1, Retest 3 07/24/00	Day 2 08/01/00
AAQ	13,403	13,403	13,403	13,403	13,402
AVQ-TN	1,888	1,888	1,888	1,888	1,887
TNAQ	13,398	13,398	13,398	13,398	13,397
TNSQ	13,398	13,398	13,398	13,398	13,397
AVQ	18,681	18,681	18,681	18,681	18,680
SAQ	19,654	19,654	19,654	19,654	19,653
CSRQ	8,030	8,030	8,030	8,030	8,029
CDD	21,941	21,941	21,941	21,941	21,940
TNAQ_MLH	2,287	2,287	2,287	2,287	2,286
TNAQ_DID	828	827	828	828	827
TNCAN	3,733	3,733	3,733	3,733	3,736
TNCAN_MLH	828	827	828	828	827
TNCAN_DID	828	828	828	828	827
Total	118,897	118,895	118,897	118,897	118,888

2.5 Evaluation Methods

In preparation for the test, pre-order transaction seeds were written according to BellSouth business rules⁷ and loaded into the KCI transaction test system. These templates were submitted to Hewlett Packard (HP) and transferred to BellSouth during Systems Readiness Testing (SRT)⁸. SRT confirmed the functionality of HP and KCI's transactional systems and verified that orders would flow-through the BellSouth system. The pre-order seeds were used as templates to build the volumes for the subsequent tests. Pre-orders were submitted on a scheduled submission date and time determined by 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.

⁶ The normal volume test was originally scheduled for two test cycles. KCI elected to conduct day 1 retests in accordance with the "test until you pass" philosophy referenced in the MTP (i.e., volume test "day one" was re-executed until all evaluation criteria were believed to be satisfied.

⁷ Pre-orders were written according to business rules outlined in BellSouth Pre-order Business Rules (V. 7.0).

⁸ KCI conducted a number of SRTs between April 11, 2000 and August 1, 2000. After completing the required SRTs, BellSouth requested KCI/HP participation in additional testing. These additional tests were used by BellSouth to ensure that its back-end systems and interfaces were functioning correctly.

The TAG Normal Volume Performance Test evaluated BellSouth's interfaces at YE01 projected order volumes in BellSouth's RSIMMS environment for two 10-hour periods. This test was executed by submitting pre-order requests in support of Resale and UNE orders against BellSouth test-bed accounts and continued through the return of successful pre-order responses or error notices. The test bed accounts⁹ were provisioned by BellSouth according to KCI's specifications and verified by KCI prior to initiation of the test.

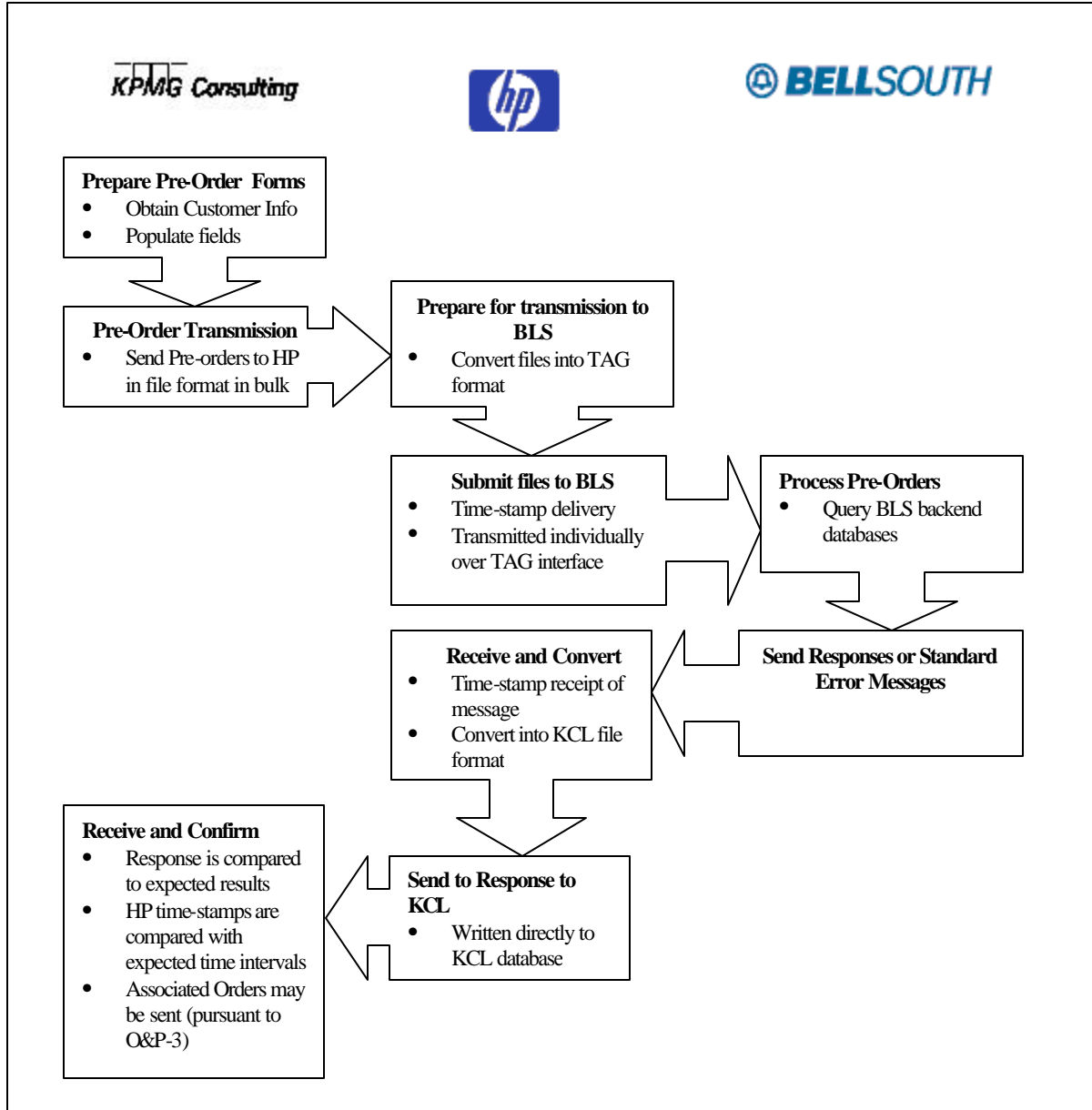
In order to fully test the capacity of BellSouth's OSS supporting pre-order and ordering, the test was conducted simultaneously with the EDI/TAG Normal Volume Performance Test (O&P-3). The pre-order transaction loads were distributed geographically across four Central Offices (COs) in the state of Georgia. BellSouth established and configured customer test accounts prior to initiation of the test.

The test cases for the TAG Normal Volume Test were submitted in an automated fashion. Transactions were provided in bulk to HP for conversion from the business file format to the TAG format. HP time-stamped and forwarded the transactions to BellSouth for processing according to the schedule provided by KCI. BellSouth processed the transactions and returned responses to HP. The test process is depicted in Figure IV-4.1¹⁰

As pre-order volume transactions were submitted, error messages or positive responses were returned. A transaction was deemed complete if a positive pre-order response or an error message was received. The results were logged and compared to expected pre-ordering system functionality and business processes, as outlined in Section IV, "Pre-Ordering Overview."

⁹ Refer to Section IV, "Pre-Ordering Overview" for a detailed description of the Pre-Ordering test bed process and detail of accounts.

¹⁰ See Section IV, "Pre-Ordering Overview" for a complete description of the file transfer process.

Figure IV-4.1: TAG Normal Volume Test Process

2.6 Analysis Methods

The TAG Normal 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 TAG Normal 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 evaluation¹¹. 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 SQMs¹². 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 25, 2000 test data were compared to July 25, 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.

Table IV-4.4: PRE-4 Test Evaluation Criteria and Results¹³

Test Cross-Reference	Evaluation Criteria	Result	Comments
<i>System Availability</i>			
PRE-4-1-1	TAG pre-order transaction capability is consistently available during scheduled hours of operation.	Satisfied	The GPSC-approved standard is system availability 99.5% of scheduled up time. HP continuously sent orders and pre-orders throughout each iteration of the test. While connectivity was maintained throughout the test, HP and BLS conducted “coordinated bounces” of their servers on several occasions. These system restarts were conducted

¹¹ 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.

¹² 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.

¹³ Results in percentages are rounded to the nearest whole number.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			primarily to recover BLS back-end functionality. The combined duration of downtime resulting from these restarts was less than 0.5% of total test time.
<i>Presence of Functionality</i>			
PRE-4-2-1	BLS's TAG interface provides expected system responses. ¹⁴	Satisfied	<p>The KCI standard is 99% of expected system responses received.</p> <p>Day 1 - Initial:</p> <ul style="list-style-type: none"> — 94% (112,255/118,885) of pre-order requests received expected system responses <p>Day 1 – Retest 1:</p> <ul style="list-style-type: none"> — 91% (108,269/118,887) of pre-order requests received expected system responses <p>Day 1 – Retest 2:</p> <ul style="list-style-type: none"> — 100% (118,875/118,884) of pre-order requests received expected system responses <p>Day 1 – Retest 3:</p> <ul style="list-style-type: none"> — 100% (118,884/118,897) of pre-order requests received expected system responses <p>Day 2:</p> <ul style="list-style-type: none"> — 100% (118,807/118,884) of pre-order requests received expected system responses

¹⁴ 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 4-4-1 and 4-4-2.

Test Cross-Reference	Evaluation Criteria	Result	Comments
<i>Timeliness of Response^{15 16 17}</i>			
PRE-4-3-1	The TAG interface provides timely pre-order responses from BLS's Regional Street Access Guide-Telephone Number (RSAG-TN) back-end system.	Satisfied ¹⁸	<p>The GPSC-approved standard is parity with retail performance. Based on BLS performance reports, KCI determined the standard response time for AVQ_TN inquiries to be an average of:</p> <ul style="list-style-type: none"> — 0.9 seconds (6/2/00 BLS Retail data) — 0.9 seconds (6/14/00 BLS Retail data) — 1.1 seconds (6/20/00 BLS Retail data) — 0.9 seconds (7/24/00 BLS Retail data) — 0.9 seconds (8/1/00 BLS Retail data) <p>Responses to AVQ_TNs were received in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Initial: 8.0 seconds. — Day 1 – Retest 1: 11.2 seconds. — Day 1 – Retest 2: 4.6 seconds. — Day 1 – Retest 3: 1.6 seconds. — Day 2: 2.6 seconds <p>Although the KCI results exceed the BLS retail averages 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</p>

¹⁵ See Table IV-4.5: Pre-Order Response Timeliness for detailed timeliness test results.

¹⁶ 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.

¹⁷ KCI analyzed BellSouth-published Retail performance data for the months corresponding to the KCI volume test execution dates. Test data for volume Day 1 Re-test 3 (performed on July 24, 2000) was compared against BellSouth July Retail performance reports, whereas test data for volume Day 2 (performed on August 1, 2000) was analyzed relative to BellSouth August Retail data. Since BellSouth data are separated into business and residential pre-order categories, KCI compared test results to a weighted average of BellSouth residential and business results.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			reasonable timeframe.
PRE-4-3-2	The TAG interface provides timely pre-order responses from BLS's RSAG-Address back-end system.	Satisfied ¹⁹	<p>The GPSC-approved standard is parity with retail performance. Based on BLS performance reports, KCI determined the standard response time for AVQ inquiries to be an average of:</p> <ul style="list-style-type: none"> — 1.9 seconds (6/2/00 BLS Retail data) — 1.5 seconds (6/14/00 BLS Retail data) — 1.5 seconds (6/20/00 BLS Retail data) — 1.3 seconds (7/24/00 BLS Retail data) — 1.3 seconds (8/01/00 BLS Retail data) <p>Responses to AVQs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Initial: 8.3 seconds. — Day 1 – Retest 1: 12.0 seconds. — Day 1 – Retest 2: 5.2 seconds. — Day 1 - Retest 3: 2.0 seconds. — Day 2: 2.9 seconds <p>Although the KCI results exceed the BLS retail averages 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>
PRE-4-3-3	The TAG interface provides timely pre-order responses from BLS's	Satisfied ²⁰	The GPSC-approved standard is parity with retail performance. Based on BLS performance reports, KCI determined

¹⁸ See Figure IV-4.2: AVQ_TN Response Distribution for a distribution of the AVQ_TN response times KCI experienced.

¹⁹ See Figure IV-4.3: AVQ Response Distribution for a distribution of the AVQ response times KCI experienced.

²⁰ See Figure IV-4.4: AAQ Response Distribution for a distribution of the AAQ response times KCI experienced.

Test Cross-Reference	Evaluation Criteria	Result	Comments
	Direct Order Entry Support Application Program (DSAP) back-end system.		<p>the standard response time for AAQ inquiries to be an average of:</p> <ul style="list-style-type: none"> — 0.3 seconds (6/2/00 BLS Retail data) — 0.3 seconds (6/14/00 BLS Retail data) — 0.7 seconds (6/20/00 BLS Retail data) — 0.4 seconds (7/24/00 BLS Retail data) — 0.3 seconds (8/01/00 BLS Retail data) <p>Responses to AAQs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Initial: 4.9 seconds. — Day 1 – Retest 1: 7.2 seconds. — Day 1 – Retest 2: 2.3 seconds. — Day 1 – Retest 3: 1.1 seconds. — Day 2: 1.4 seconds <p>Although the KCI results exceed the BLS retail averages 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.</p>
PRE-4-3-4	The TAG interface provides timely pre-order responses from BLS's Application for Telephone Number Load Administration and Selection (ATLAS) back-end system ²¹ .	Satisfied	<p>The GPSC-approved standard is parity with retail performance. Based on BLS performance reports, KCI determined the standard response time for TNAQ, TNSQ and TNCAN_TN inquiries to be an average of:</p> <ul style="list-style-type: none"> — 0.6 seconds (6/2/00BLS Retail data) — 3.7 seconds (6/14/00 BLS Retail data)

²¹ See Figure IV-4.5: ATLAS Response Distribution for a distribution of the response times KCI experienced from the ATLAS back end system.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			<ul style="list-style-type: none"> — 1.0 seconds (6/20/00 BLS Retail data) — 0.8 seconds (7/24/00 BLS Retail data) — 0.8 seconds (8/01/00 BLS Retail data) <p>Responses to TNAQs, TNSQs, and TNCAN_TNs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Initial: 25.4 seconds. — Day 1 – Retest 1: 16.5 seconds. — Day 1 – Retest 2: 5.5 seconds. — Day 1 – Retest 3: 1.7 seconds. — Day 2: 1.6 seconds <p>Although the KCI results exceed the BLS retail averages 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>
PRE-4-3-5	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 performance reports, KCI determined the standard response time for CSRQ inquiries to be an average of:</p> <ul style="list-style-type: none"> — 1.0 seconds (6/2/00 BLS Retail data) — 4.0 seconds (6/14/00 BLS Retail data) — 2.6 seconds (6/20/00 BLS Retail data) — 1.1 seconds (7/24/00 BLS Retail data) — 1.0 seconds (8/01/00 BLS Retail data) <p>Responses to CSRQs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Retest 1: 11.3 seconds.

Test Cross-Reference	Evaluation Criteria	Result	Comments
			<ul style="list-style-type: none"> — Day 1 – Retest 1: 7.6 seconds. — Day 1 – Retest 2: 3.3 seconds. — Day 1 – Retest 3: 2.4 seconds. — Day 2: 2.6 seconds <p>Although the KCI results exceed the BLS retail averages 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>
PRE-4-3-6	The TAG interface provides timely pre-order responses from BLS's ATLAS-MLH back-end system.	Satisfied ²²	<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"> — Day 1 – Initial: 13.3 seconds. — Day 1 – Retest 1: 14.1 seconds. — Day 1 – Retest 2: 4.8 seconds. — Day 1 – Retest 3: 1.8 seconds. — Day 2: 1.5 seconds
PRE-4-3-7	The TAG interface provides timely pre-order responses from BLS's ATLAS-DID back-end system.	Satisfied ²³	<p>The KCI standard for pre-order timeliness is an average of 8.0 seconds.</p> <p>Responses to TNAQ_DIDs and TNCAN_DIDs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Initial: 22.1 seconds. — Day 1 – Retest 1: 19.9 seconds. — Day 1 – Retest 2: 7.7 seconds. — Day 1 – Retest 3: 2.7 seconds. — Day 2: 2.3 seconds

²² 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.

²³ 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 DID 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.

Test Cross-Reference	Evaluation Criteria	Result	Comments
PRE-4-3-8	The TAG interface provides timely pre-order responses from BLS's OASIS back-end system.	Satisfied ²⁴	<p>The GPSC-approved standard is parity with retail performance. Based on BLS performance reports, KCI determined the standard response time for SAQ²⁵ queries to be an average of:</p> <ul style="list-style-type: none"> — 0.9 seconds (6/2/00 BLS Retail data) — 1.0 seconds (6/14/00 BLS Retail data) — 0.9 seconds (6/20/00 BLS Retail data) — 1.0 seconds (7/24/00 BLS Retail data) — 1.4 seconds (8/01/00 BLS Retail data) <p>Responses to SAQs received during KCI's testing were delivered in an average of:</p> <ul style="list-style-type: none"> — Day 1 – Initial: 11.6 seconds. — Day 1 – Retest 1: 9.8 seconds. — Day 1 – Retest 2: 10.5 seconds. — Day 1 – Retest 3: 2.9 seconds. — Day 2: 3.3 seconds <p>Although the KCI results exceed the BLS retail averages 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.</p>

²⁴ See Figure IV-4.6: SAQ Response Distribution for a distribution of the response times KCI experienced from the OASIS back end system.

²⁵ 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
PRE-4-3-9	The TAG interface provides timely pre-order responses to Calculate Due Date (CDD) inquiries ²⁶ .	Satisfied	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 – Initial: 0.1 Seconds. Day 1 – Retest 1: 0.1 Seconds. Day 1 – Retest 2: 0.2 Seconds. Day 1 – Retest 3: 0.01 Seconds. Day 2: 0.01 Seconds
<i>Accuracy of Response²⁷</i>			
PRE-4-4-1	BLS system provides 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).
PRE-4-4-2	BLS system provides accurate back-end or TAG API errors.	Satisfied	The expected pre-order error responses received during the test were accurate. Responses received by KCI were consistent with the orders expected.

²⁶ 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.

²⁷ For these criteria, KCI defined an accurate response to be a system response that is consistent with the technical specifications for EDI and TAG successful responses *and* to be consistent with the transaction type that initiated the response (e.g., a correctly formatted CSRQ received a Customer Services Record response). 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 (PRE-1 and PO&P11).

Table IV-4.5: Pre-Order Response Timeliness²⁸

AAQ		Appointment Availability Query								
		<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response
Day 1 Retest 3		12533	712	26	48	35	16	23	10	0
		94%	5%	0%	0%	0%	0%	0%	0%	100%
Day 2		12732	598	14	7	6	5	17	18	5
		95%	4%	0%	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
Day 1 Retest 3		1466	313	73	9	4	4	6	13	0
		78%	17%	4%	0%	0%	0%	0%	0%	100%
Day 2		858	572	307	109	22	10	3	4	2
		45%	30%	16%	6%	1%	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
Day 1 Retest 3		9317	2983	474	170	98	211	82	63	0
		70%	22%	4%	1%	1%	2%	0%	0%	100%
Day 2		10155	2640	420	73	27	24	21	30	7
		76%	20%	3%	1%	0%	0%	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
Day 1 Retest 3		9746	2591	455	181	95	174	0	61	0
		72%	19%	3%	1%	1%	1%	0%	0%	100%
Day 2		10932	1916	365	74	28	21	24	32	5
		82%	14%	3%	1%	0%	0%	0%	0%	100%

²⁸ Data is presented here only for the last two instances of the Normal Volume Test. Totals may not equal 100% due to rounding.

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 Retest 3	10626	6411	1115	205	62	58	50	154	0	18681
	57%	34%	6%	1%	0%	0%	0%	0%	0%	100%
Day 2	5677	6014	4114	1968	561	271	30	27	18	18680
	30%	32%	22%	11%	3%	1%	0%	0%	0%	100%
SAQ	Service 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 Retest 3	0	7902	10584	852	183	50	17	66	0	19654
	0%	40%	54%	4%	1%	0%	0%	0%	0%	100.0%
Day 2	0	8384	9990	918	218	49	9	68	17	19653
	0%	43%	51%	5%	1%	0%	0%	0%	0%	100%
CSRQ	Customer Service Record Query									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1 Retest 3	546	5820	1269	228	72	57	15	12	11	8030
	7%	72%	16%	3%	1%	1%	0%	0%	0%	100%
Day 2	601	5493	1337	326	93	83	37	39	20	8029
	7%	68%	17%	4%	1%	1%	0%	0%	0%	100%
CDD	Calculated Due Date									
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	No Response	TOTAL
Day 1 Retest 3	21941	0	0	0	0	0	0	0	0	21941
	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Day 2	21940	0	0	0	0	0	0	0	0	21940
	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
TNAQ_MLH	Telephone Number Availability 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 Retest 3	1473	666	70	15	9	30	14	10	0	2287
	64%	3%	3%	0%	0%	1%	0%	0%	0%	100%

Day 2	1919	283	50	18	5	1	3	7	0	2286
	84%	12%	2%	1%	0%	0%	0%	0%	0%	100%

TNAQ_DID	Telephone Number Availability 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 Retest 3	243	417	109	20	7	12	9	10	1	828
	29%	50%	13%	2%	1%	1%	0%	0%	0%	100%
Day 2	343	392	71	14	1	1	2	3	0	827
	41%	47%	9%	2%	0%	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 Retest 3	2743	701	125	34	31	62	28	9	0	3733
	73%	19%	3%	1%	1%	2%	0%	0%	0%	100%
Day 2	2996	592	100	17	6	4	21	31	2	3736
	80%	16%	3%	0%	0%	0%	0%	0%	0%	100%
TNCAN_MLH	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 Retest 3	515	230	40	13	5	15	6	4	0	828
	62%	28%	5%	2%	1%	2%	0%	0%	0.0%	100%
Day 2	595	183	40	4	0	1	1	3	0	827
	72%	22%	5%	0%	0%	0%	0%	0%	0%	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 Retest 3	457	271	55	8	7	9	9	11	1	828
	55%	33%	7%	1%	1%	1%	0%	1%	0%	100.0%
Day 2	500	269	46	3	3	2	1	2	1	827
	60%	32%	6%	0%	0%	0%	0%	0%	0%	100.0%

ALL QUERY TYPES										
	<=1 sec	2 sec	3 sec	4 sec	5 sec	6-10 sec	11-20 sec	> 20 sec	<=1 sec	TOTAL
Day 1 Retest 3	71606	29017	14395	1783	608	698	354	423	13	118897
	60%	24%	12%	1%	1%	1%	0%	0%	0%	100%
Day 2	69248	27336	16854	3531	970	472	169	264	77	118888
	58%	23%	14%	3%	1%	0%	0%	0%	0%	100%

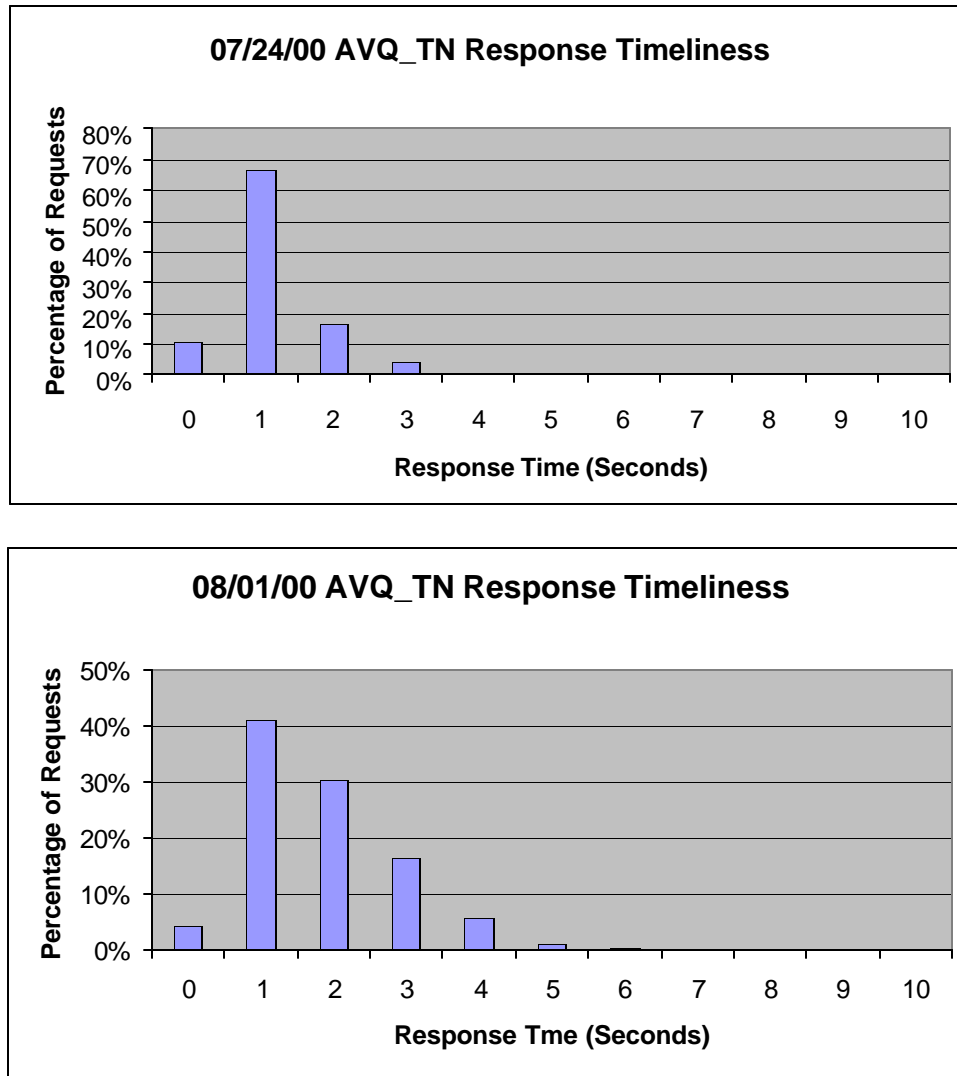
Figure IV-4.2: AVQ_TN Response Distribution

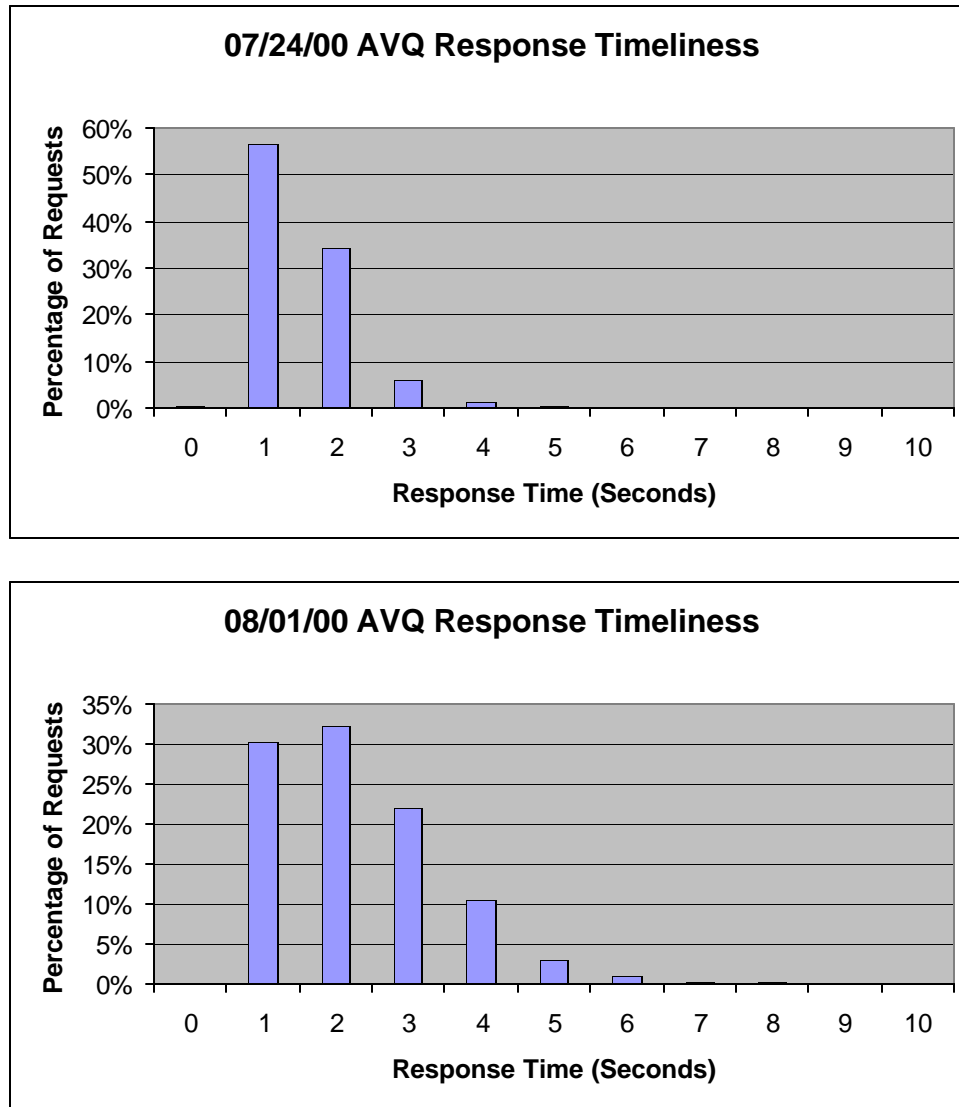
Figure IV-4.3: AVQ Response Distribution

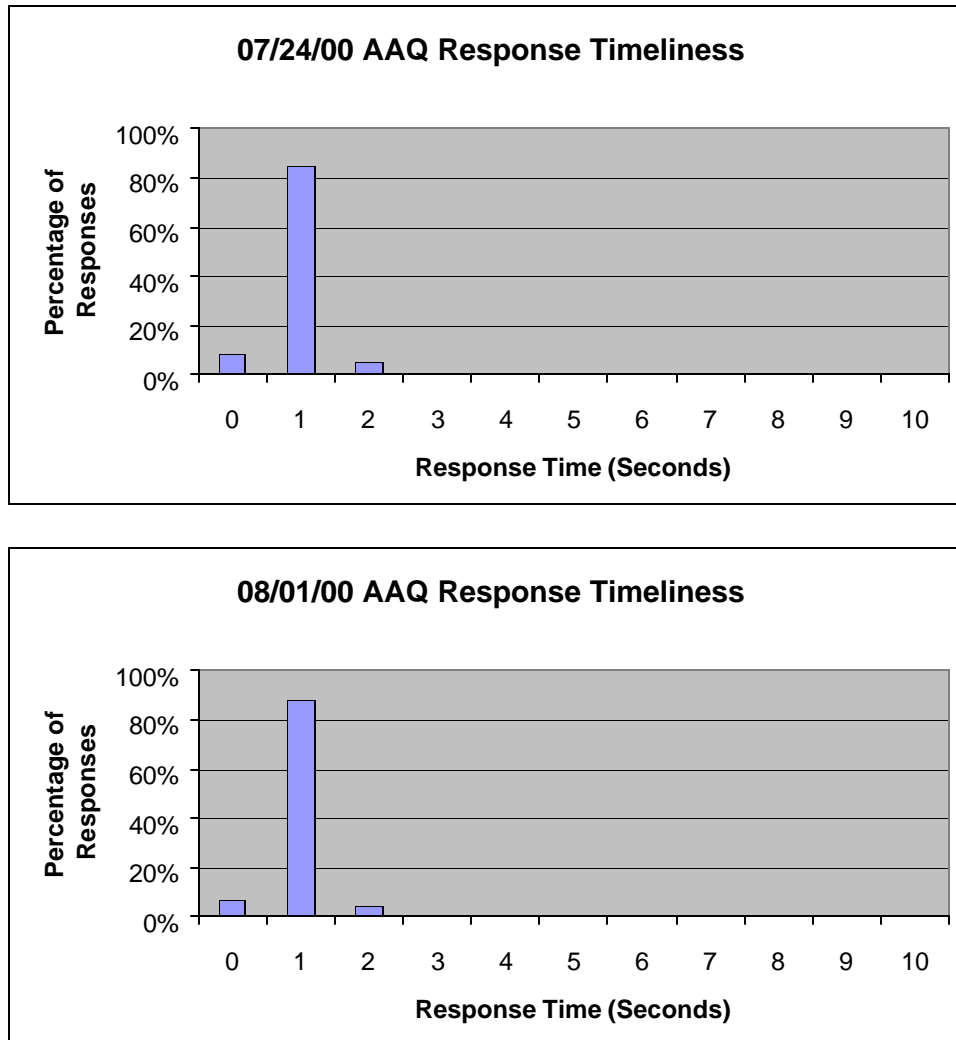
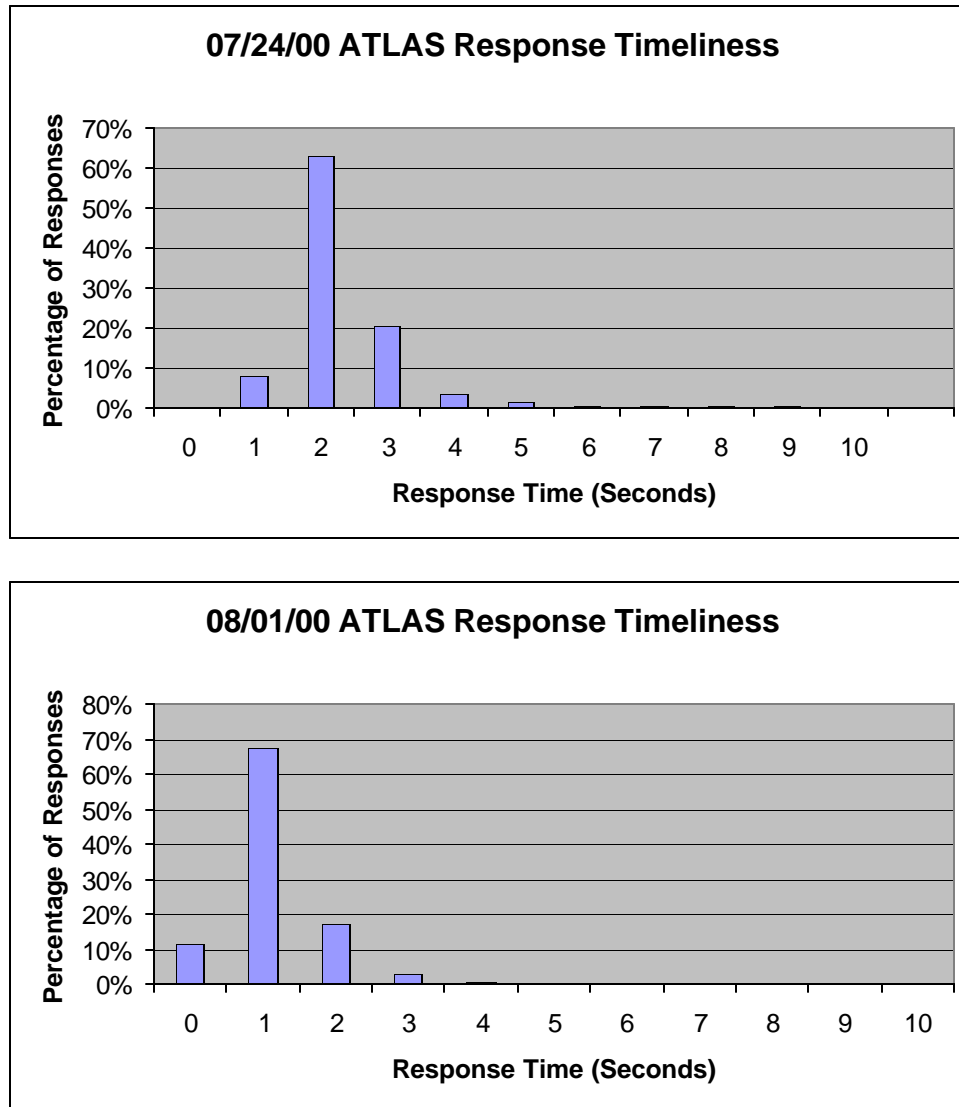
Figure IV-4.4: AAQ Response Distribution

Figure IV-4.5: ATLAS Response Distribution²⁹

²⁹ Contains aggregated response times for all pre-order queries on the ATLAS back-end system, including TNAQs, TNSQs, and TN_CANs.

Figure IV-4.6: SAQ Response Distribution