



REVIEW OF

Evaluation of AT&T's
Local Service Request
Exchange (LEX)

AND

Local Exchange
Navigation System
(LENS)

OSS Interfaces

By Authority of
The State of Florida
Public Service Commission
Office of Auditing and Performance Analysis
Performance Analysis Section

**Evaluation of AT&T's
Local Service Request Exchange System (LEX)
and
Local Exchange Navigation System (LENS)
OSS Interfaces**

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1.0 Executive Summary

1.1 Introduction

Following the BellSouth and AT&T merger, AT&T migrated and consolidated the former BellSouth nine-state Southeast OSS platform into a single pre-ordering and ordering operations support systems (OSS) platform for use across AT&T's 22-state region. AT&T determined that the 13-state OSS system would produce greater efficiencies for the benefit of both AT&T and CLECs throughout the 22-state region.¹

In November 2009, as part of the OSS consolidation process, AT&T announced plans to phase-out the Local Exchange Navigation System (LENS) ordering interface currently available for use by CLECs in AT&T's nine-state region (the former BellSouth region). The LENS interface will be replaced with another front-end CLEC ordering interface, known as the Local Service Request Exchange System (LEX), currently used in the AT&T 13-state region. The CLEC community was notified of AT&T's plans to implement LEX as early as May 2007.² As part of the phase-in process to give nine-state CLECs time to adequately learn the new 22-state LEX interface without disrupting operations, AT&T intended to run the existing LENS ordering interface in parallel until March 20, 2010.

On September 3, 2009, Saturn Telecommunication Services, Inc. ("STS"), a CLEC, filed an Emergency Petition with the Commission for Injunctive Relief and a Request for Stay of AT&T's CLEC November 2009 LEX OSS release. According to STS, the LEX ordering interface does not allow for the same edit-checking capabilities that are currently being provided to CLECs via the LENS ordering interface. As a result, STS claims that it "will be irreparably harmed by erosion of customer confidence, inability to efficiently add, convert and service its customers on Petitioner's network, and loss of customers to Respondent [AT&T]."

On October 2, 2009, staff conducted a conference call with the parties to discuss a proposed stipulation in response to STS' petition. On the call, FPSC staff proposed to conduct a post-implementation audit of the LEX and LENS interfaces to determine if LEX provides the same or similar edit capabilities as LENS. This audit would be conducted in lieu of staying the LEX OSS Release. Additionally, staff proposed that AT&T run LENS in parallel with LEX for a nine-month period. The parties agreed to allow staff to conduct the review. However, AT&T would not agree to operating the LENS interface any longer than its original planned retirement date of March 20, 2010.

¹ The 9-state AT&T region includes the states of Florida, Georgia, Alabama, Tennessee, Mississippi, Louisiana, South Carolina, North Carolina, and Kentucky. The 13-state AT&T region refers to the pre-merger SBC Communications' region and includes the states of Texas, Kansas, Missouri, Illinois, Indiana, Michigan, Ohio, Wisconsin, California, Nevada, Arkansas, Oklahoma, and Connecticut.

² AT&T is required to follow the Change Management Process and Change Control Process for all system retirement and release notifications. AT&T announcements associated with AT&T's merger integration plans are made via Accessible Letters to the CLEC community. Implementation of the nine-state LEX and Verigate OSS interfaces were announced beginning in May 2007 (Accessible Letter SN91087078).

In response to the conference call, staff brought a recommendation to this Commission for decision on November 10, 2010. Pursuant to FPSC Order No. PSC-09-0799-PAA-TP, in Docket No. 090430-TP, issued December 2, 2009, AT&T was allowed to implement the LEX OSS release under the condition that staff conduct a post-implementation audit. The order also required AT&T to run the existing LENS interface in parallel until completion of staff's audit and a decision by this Commission on this matter.

1.2 Objectives

The primary objectives of staff's audit were to:

- ◆ Review and document the history of the edit-checking capability as a requirement in Florida.
- ◆ Review the nondiscriminatory access and operational readiness decisions regarding LEX.
- ◆ Document AT&T's pre-ordering, ordering, and editing processes and assess the LEX and LENS functionality.
- ◆ Document and assess any additional LEX issues or deficiencies discovered during the audit.
- ◆ Conduct a survey of Florida CLECs that are currently using LEX to determine user satisfaction.

1.3 Methodology

Staff's audit was conducted from November 2009 to March 2010. The information compiled in this report was gathered via company responses to document requests, on-site interviews with key personnel at AT&T and STS, a survey of Florida CLECs currently using the LEX interface, and documents filed in FPSC Docket No. 090430-TP. Specific information collected includes:

- ◆ The LEX test plan and testing done to ensure order accuracy and timeliness of orders processed through LEX.
- ◆ A hands-on demonstration of the LEX and LENS interfaces.
- ◆ A summary of the LENS functionality that has been incorporated into the LEX interface.
- ◆ Side-by-side comparisons of LEX and LENS.
- ◆ The number of confirmed LEX orders by Florida and Southeast CLECs by month since implementation.

- ◆ Review of LEX and LENS user guides.
- ◆ System maps (i.e., OSS process flows) for LENS and LEX.

1.4 Overall Conclusions

The following are the conclusions derived from each report chapter.

Chapter 2 Edit Checking Capability Requirement in Florida

BellSouth provided online edit-checking capability in LENS to CLECs in the Southeast since January 2000 as a result of two FPSC orders. Edit-checking was first identified as an issue in the BellSouth original petition for Section 271 approval in 1997. In 1998 this Commission again found that edit-checking was not at parity with the BellSouth retail system and ordered the Company to make it available. Edit-checking capability was provided in the LENS interface, and this Commission found BellSouth to be in compliance with this requirement in 2003.

Chapter 3 Nondiscriminatory Access and Operational Readiness

Staff reviewed the OSS independent third-party testing done on the LEX interface in three other states to determine if LEX had historically been deemed as providing nondiscriminatory access to AT&T's OSS. Staff's review revealed that, at the conclusion of testing, the Michigan, California and Texas State Commissions and the FCC had determined that nondiscriminatory access was being provided to the OSS, which included the LEX interface.³

In order to make a determination on operational readiness, staff reviewed the November 2009 LEX pre-production test plans and results, post-production defects and commercial data for the month of January 2010. Staff was satisfied with pre-production testing, with the exception of volume testing. Staff believes that the lack of volume testing in the production environment represents a possible risk for AT&T. Staff is concerned that once all CLECs have migrated to LEX the back-end system may not be able to effectively respond to CLEC inquiries and orders. Previous OSS volume testing for Florida, as well that done in other states for Section 271 approval was done in the production environment.

Staff's review of the CLEC defects submitted since the November 2009 release revealed 13 currently open LEX defects. Staff is satisfied that all but one of the currently open defects will be resolved by March 20, 2010.

Finally, staff's review of LEX aggregate performance metric data shows that for January 2010, AT&T appears to be providing service at parity with the LEX interface, with the exception of flow-through results. Staff believes AT&T should perform a root cause analysis of the reason for poor flow through results for the LEX interface and take appropriate corrective action.

³ OSS independent third-party testing for these three states was conducted in the 1999-2003 timeframe.

Chapter 4 LEX and LENS Edit-Checking Capability

In this chapter, two key differences between LENS and LEX were observed: the operational structure and the edit-checking process. The LENS operational structure is linear and requires a user to enter data in certain fields before being allowed to move onto the next page or screen. In contrast, a LEX user is allowed to move more freely around the order taking process through the use of menus and icons. Staff believes the LEX interface is not as user-friendly when compared to the LENS linear process. However, staff acknowledges that CLECs may prefer the flexibility provided in LEX.

With regards to the edit-checking process, LENS generates error messages while a user is populating an LSR and will further require the error to be corrected before the user can move forward in processing an order. In LEX, the user is not informed of errors on the LSR until after the LSR has been issued to AT&T. Staff believes the edit-checking process performed in LEX may cause some delays in the overall time to complete an order. However based on staff's limited observation and CLEC opinion, it appears that this delay was minimal.

Although staff has concerns with the operational structure and edit-checking process in LEX, staff notes that AT&T has provided CLECs with adequate time to learn and train their personnel on the new LEX interface without disrupting CLECs ongoing operations. CLECs in AT&T's Southeast region have had the opportunity to transition off of the LENS interface and onto the LEX interface since November 2009 (over four months). Additionally, AT&T's LSC (Local Service Center) representatives also available to help CLECs on a variety of issues when transitioning from the LENS to the LEX interface. Other support services available for CLECs to contact include the CLEC's Wholesale Support Manager, AT&T's Information Systems Call Center, and AT&T's Mechanized Customer Production Support Center. Each are available to assist with LEX issues such as access, software, general navigation, system error resolutions, and business rules.

One of the primary purposes of the implementation of the LEX interface in the Southeast region is to provide uniformity to the OSS systems across the AT&T 22-state region. Staff believes, the 22-state LEX interface does include a number of significant enhancements that provide for more functionality to create, manage, or change LSRs. While the methods used to execute a function differs between the LENS and LEX applications, staff believes that LEX provides the same desired end-result as LENS regardless of how executed. Staff believes that LEX and LENS generally provide like functionality.

Chapter 5 Other Deficiencies

AT&T provided a demonstration of how a CLEC can place orders for a commingled arrangement via the LEX interface. This issue is of primary importance to STS. Based on errors revealed during the demonstration, staff does not believe AT&T can support its statement that LEX will allow for the processing of "all" product types. Staff believes that STS may not be able to order or effectively order commingled arrangements via LEX. It is important for STS and all CLECs to be allowed access to these network elements. Staff strongly believes AT&T has not adequately evaluated and updated all appropriate documentation CLECs are required to use to assist in the placement of these orders through the LEX interface. The appropriate supporting documentation includes, but is not limited to, AT&T's Local Service Pre-Ordering

Requirements, Local Service Order Requirements, Local Ordering Handbook, and LEX User Guide.

Staff's position is further supported by a matrix of additional concerns that was provided by STS following the demonstration. The concerns were provided to staff on March 1, 2010. Staff provided that matrix to AT&T on March 18, 2010.

Chapter 6 LEX User Satisfaction

It generally appears that the CLECs who are actually using LEX for placing orders in Florida are experiencing the issues that typically come with a new software release. Staff believes that the majority of the users in the Florida CLEC community do not appear to have a significant issue with the LEX interface.

1.5 Recommendations

1. Staff recommends that AT&T be allowed to move forward with the LENS retirement under the condition that AT&T agrees to implement the recommended actions listed in items 2-5 below.
2. Staff recommends that AT&T should conduct LEX volume testing in the production environment, or otherwise prove that capacity in the production environment is adequate in the Southeast back-end systems.
3. Staff recommends that AT&T perform a root cause analysis on the reason for the poor flow-through results for the LEX interface and take appropriate corrective action.
4. Staff recommends that AT&T update all appropriate CLEC documentation for commingled orders via the LEX interface.
5. Staff recommends that AT&T, STS, and staff continue to work together to resolve the specific LEX ordering issues raised by STS in the March 1, 2010 matrix.

2.0 Edit-Checking Requirement and OSS Testing in Florida

2.1 Introduction

One of staff's first objectives as listed in section 1.2 was to review and document the history of the edit-checking capability as a requirement in Florida. This section discusses how online edit-checking was ordered by this Commission.

2.2 Summary of Edit-Checking Requirements in Florida

In November 1997, in Docket No. 960786-TL, the FPSC identified several BellSouth (now AT&T) OSS related problems. One specific problem was that the LENS and Electronic Data Interchange (EDI) ordering interfaces did not have electronic edit-checking capabilities at parity with BellSouth's retail systems. This problem, among several others, resulted in a denial of BellSouth's Section 271 application of the Telecommunication Act of 1996.⁴

In July 1998, in Docket No. 980119-TP, a complaint by Supra Telecommunications and Information Systems, Inc., this Commission again determined that among other issues, BellSouth's CLEC ordering systems did not provide the same online edit-checking capability that BellSouth's retail ordering systems provided. The FPSC stated "we believe the same interaction and edit-checking capability must take place when a CLEC is working an order as when BellSouth's retail ordering systems interact with BellSouth's FUEL and Solar databases to check the accuracy of BellSouth's orders."⁵ Based upon the evidence, the FPSC determined that Supra did not have adequate online edit-checking capability." This Commission ordered BellSouth to modify the LENS and EDI ordering systems so that the systems provide the same online edit-checking capability to Supra that BellSouth's retail ordering systems provided.⁶

In October 1998, the FPSC's order in Docket No. 980119-TP was clarified and reaffirmed. BellSouth testified that it expected to have the modification to LENS as required by this Commission, completed by February 1999. The FPSC encouraged a completion date of December 1998. The FPSC clarified that it was not requiring BellSouth to duplicate its retail interfaces, but to "...provide Supra with the same interaction and online edit-checking capability through its interfaces that occurs when BellSouth's retail ordering interfaces interact with BellSouth's FUEL and Solar databases to check orders."⁷

⁴ FPSC Order PSC-97-1459-FOF-TL, Docket 960786-TL Consideration of BellSouth Telecommunications, Inc.'s entry into interLATA services pursuant to Section 271 of the Federal Telecommunications Act of 1996.

⁵ FUEL is the Field Identifier, Uniform Service Order Code and Edit Library. Solar is the Service Order Layout Assembly Routine.

⁶ FPSC Order PSC-98-1001-FOF-TP, Docket 980119-TP Complaint of Supra Telecommunications and Information Systems, Inc. against BellSouth Telecommunications, Inc. for violation of the Telecommunications Act of 1996; petition for resolution of disputes as to implementation and interpretation of interconnection, resale and collocation agreements; and petition for emergency relief.

⁷ FPSC Order PSC-98-1467-FOF-TP, Docket 980119-TP, Complaint of Supra Telecommunications and Information Systems, Inc. against BellSouth Telecommunications, Inc. for violation of the Telecommunications Act of 1996; petition for resolution of

In February 2000, this Commission found that BellSouth had complied with all issues in Docket No. 980119-TP, with the exception of online edit-checking capability.⁸

In September 2000, this Commission ordered that the determination on whether BellSouth had implemented online edit-checking capability be delayed until completion of the FPSC ordered third-party testing of BellSouth's OSS for purpose of Section 271 approval.^{9,10} This testing had been ordering in conjunction with Docket No. 960786-TL. Once third-party OSS testing was completed, the FPSC would consider whether the testing of BellSouth's OSS had resolved the edit-checking capability issue in Docket No. 980119-TP.

2.3 Summary of Florida OSS Testing & Section 271 Approval

The third-party OSS test, conducted by KPMG Consulting, was designed to provide evidence of the adequacy of BellSouth's OSS, as required by the Telecommunication Act. KPMG Consulting's Final Report represented the culmination of 30 months of testing activity involving the joint efforts of Florida CLECs, KPMG Consulting, FPSC staff, and BellSouth. During the course of testing, KPMG Consulting submitted 172 exceptions and 207 observations. At the conclusion of the test, 22 exceptions and 13 observations remained open. The FPSC considered the disposition of these items during the course of BellSouth's Section 271 proceeding.¹¹

The FPSC opined that the report results testified to a quantum leap in BellSouth's OSS support capability and delivery during the time between the inception of Docket No. 960786-TL in November 1997 and the completion of this test in July 2002. Based on the results of the completed KPMG Consulting testing, the FPSC found that BellSouth was providing nondiscriminatory access to its OSS, including LENS. Additionally, the FPSC found that BellSouth was providing the necessary documentation and support functions and had demonstrated that its systems are operationally ready and provide an appropriate level of performance.¹²

disputes as to implementation and interpretation of interconnection, resale and collocation agreements; and petition for emergency relief.

⁸ FPSC Order PSC-00-0288-PCO-TP, Docket 980119-TP, Complaint of Supra Telecommunications and Information Systems, Inc. against BellSouth Telecommunications, Inc. for violation of the Telecommunications Act of 1996; petition for resolution of disputes as to implementation and interpretation of interconnection, resale and collocation agreements; and petition for emergency relief.

⁹FPSC Order PSC-00-1777-PCO-TP, Docket 980119-TP, Complaint of Supra Telecommunications and Information Systems, Inc. against BellSouth Telecommunications, Inc. for violation of the Telecommunications Act of 1996; petition for resolution of disputes as to implementation and interpretation of interconnection, resale and collocation agreements; and petition for emergency relief. Issued September 28, 2000.

¹⁰ FPSC Order PSC-99-1568-PAA-TP, Docket. 960786-TL, Consideration of BellSouth Telecommunications, Inc.'s entry into interLATA services pursuant to Section 271 of the Federal Telecommunications Act of 1996. Issued August 9, 1999

¹¹ OSS Evaluation Project of BellSouth Telecommunication Inc. for the Florida Public Service Commission, KPMG Final Report, July 30, 2002.

¹² FPSC Opinion No. PSC-02-1305-FOF-TL, Docket 960786B-TL, Consideration of BellSouth Telecommunications, Inc.'s entry into interLATA services pursuant to Section 271 of the Federal Telecommunications Act of 1996. (Third-Party OSS Testing) Issued September 25, 2002

In September 2002, the FPSC provided an opinion to the Federal Communication Commission (FCC) as required by the 1996 Telecommunications Act that stated:

The FPSC found that BellSouth provided ALECs nondiscriminatory access to its OSS available in 2002.¹³ Additionally, we found that BellSouth was providing the necessary documentation and support functions and demonstrated that its systems were operationally ready and provided an appropriate level of performance. As a result, it was our opinion that BellSouth satisfied the OSS requirements of Section 271 of the 1996 Telecommunications Act.¹⁴

Likewise, in approving BellSouth's application, the FCC agreed that BellSouth provides nondiscriminatory access to its OSS and, thus, satisfies the requirement of checklist item 2 of Section 271 of the 1996 Telecommunications Act.¹⁵ By definition, nondiscriminatory access means that BellSouth provides CLECs access to the pre-ordering and ordering functionalities in substantially the same time and manner as BellSouth retail systems. Implicit in this finding was that the CLEC ordering systems provide sufficient online editing-checking capability.

The FCC also specifically rejected Supra's allegations as follows:

76. We also reject Supra's claim that the Florida KPMG test was inadequate because KPMG was not granted access to BellSouth's OSS identical to that offered to BellSouth's retail operations. Contrary to Supra's assertions, **we have never held that a competitive LEC must access the BOC's OSS in the identical manner as does the BOC.** Instead, the Commission [FCC] has found that where a retail analogue exists, a BOC must provide access that is substantially the same as the level of access that the BOC provides itself, its customers, or its affiliates, in terms of quality, accuracy, and timeliness. For those functions that have no retail analogue, the BOC must demonstrate that the access it provides to competing carriers would offer an efficient carrier a "meaningful opportunity to compete." The Commission [FCC] has recognized in prior orders that there may be situations in which a BOC contends that, although equivalent access has not been achieved for an analogous function, the access that it provides is nonetheless nondiscriminatory within the meaning of the statute. The Florida KPMG test evaluated the methods BellSouth employs to provide competitive LECs access to BellSouth's OSS, methods that we have found previously to constitute **nondiscriminatory access to BellSouth's OSS.** [emphasis added]

FCC 02-331 in WC Docket 02-307, 2002 FCC LEXIS 6811.

¹³ ALEC or alternative local exchange carriers is the same as CLEC or Competitive local exchange carriers.

¹⁴ FPSC Opinion No. PSC-02-1305-FOF-TL, Docket 960786B-TL, Consideration of BellSouth Telecommunications, Inc.'s entry into interLATA services pursuant to Section 271 of the Federal Telecommunications Act of 1996. (Third-Party OSS Testing) Issued September 25, 2002

¹⁵ FCC Memorandum Opinion and Order WC Docket NO. 02-307, Application of BellSouth Corporation, BellSouth Telecommunications Inc. and BellSouth Long Distance, Inc., for Authorization to Provide In-Region, Interlata Services in Florida and Tennessee, Adopted December 18, 2002.

Paragraph 97 of the FCC order specifically addresses Supra's issue of online edit-checking capability:

97. We also reject Supra's claim that LENS is discriminatory because "orders submitted from LENS are not error checked with any efficiency or completeness." KPMG found LENS to be a nondiscriminatory interface under criteria that included testing of both error-free transactions and transactions that included errors. Moreover, since January 2000, LENS has used the TAG architecture and gateway and has essentially the same pre-ordering and ordering functionality for resale services and UNEs as TAG. Thus, when a competitive LEC submits a request through LENS, which sits atop the TAG system, it has the same online editing capabilities as a request submitted through TAG. As a consequence, we disagree with Supra that "BellSouth has not implemented online edit-checking in LENS." [footnotes omitted]

2.4 Post Section 271 Approval

In October 2003, in Docket No. 980119-TP, the FPSC found that BellSouth had provided Supra with online edit-checking capabilities in accordance with FPSC orders.¹⁶

2.5 Conclusion

BellSouth provided online edit-checking capability in LENS to CLECs in the Southeast since January 2000 as a result of two FPSC orders. Edit-checking was first identified as an issue in the BellSouth original petition for Section 271 approval in 1997. In 1998 this Commission again found that edit-checking was not a parity with the BellSouth retail system and ordered the Company to make it available. Edit-checking capability was provided in the LEN interface, and this Commission found BellSouth to be in compliance with this requirement in 2003.

¹⁶ FPSC Order No. PSC-04-1146-FOF-TP, Docket 980119-TP, Complaint of Supra Telecommunications and Information Systems, Inc. against BellSouth Telecommunications, Inc. for violation of the Telecommunications Act of 1996; petition for resolution of disputes as to implementation and interpretation of interconnection, resale and collocation agreements; and petition for emergency relief. Issued November 18, 2004.

3.0 Review of Nondiscriminatory Access and Operational Readiness Decisions Regarding LEX

3.1 Introduction

Since the BellSouth merger with AT&T, all the front-end ordering OSS interfaces tested by KPMG Consulting in Florida are all in the immediate process of being replaced by similar OSS interfaces currently used in AT&T's 13-state region. This includes the replacement of the LENS interface with LEX.

The second of staff's five primary objectives was to review the nondiscriminatory access and operational readiness decisions which have been made regarding LEX. Staff's review includes a determination of whether LEX was adequately tested for nondiscriminatory access. Additionally, staff reviewed AT&T's determination of LEX's operational readiness. Since the LEX interface is replacing LENS, it is important to assure Florida CLECs, as well as the FPSC, that the LEX interface provides CLECs with pre-ordering and ordering functionalities in substantially the same time and manner as AT&T's retail systems. A comparison between LENS and LEX is a useful point of reference. To provide this assurance, staff examined the following four areas:

- ◆ Independent third-party testing conducted in other states on the LEX interface for 271 approval.
- ◆ AT&T's and CLECs preproduction testing of LEX for the November 2009 release.
- ◆ LEX CLEC impacting defects occurring since the November 2009 release.
- ◆ Florida aggregate performance measurement data for ordering metrics for LEX.

3.2 Nondiscriminatory Access Decisions

Staff wanted to determine if other states had found LEX to provide nondiscriminatory access. Staff found that LEX had been subject to third-party testing in the states of Michigan, Texas, and California. LEX was tested for Michigan Bell's, Southwestern Bell Telephone (SWBT), and Pacific Bell's request for Section 271 approval of the 1996 Telecommunications Act. This testing was done by independent third-parties. Based on conclusions by each state Commission and by the FCC, FPSC staff has determined that the LEX was adequately tested and found to be nondiscriminatory at that time. Staff is unaware of any party that brought up the issue of online edit-checking capability during these proceedings.

3.2.1 Michigan

An OSS test was conducted in the Midwest by KPMG/Bearing Point and LEX was one of the systems tested.¹⁷ The KPMG/Bearing Point October 30, 2002 Revised Draft report revealed the status of testing at the time. Of the 197 transaction tests criteria, 166 were

¹⁷ KPMG Consulting changed its name to Bearing Point in October 2002.

satisfied.¹⁸ Six of the failed criteria related to lack of timely handling of rejected orders and FOC Notifications.^{19,20} In January 2003, the Michigan Commission concluded that further testing was not needed and that SBC provided timely pre-order and order responses in a nondiscriminatory manner allowing a CLEC an opportunity to compete. The Michigan Commission also concluded that SBC had complied with Section 271(c) of the federal Telecommunication Act of 1996 and the rules and regulations promulgated by the FCC.²¹ Subsequently, in September 2003, the FCC found:²²

Under checklist item 2 of section 271, a BOC must demonstrate that it provides nondiscriminatory access to its OSS – the systems, databases, and personnel that the BOC uses to provide service to customers. Based on the evidence in the record, we find, as did the Michigan Commission, that Michigan Bell is providing competitors nondiscriminatory access to OSS in compliance with checklist item 2. Consistent with past practice, we consider the entire record, including commercial performance and third-party testing, and focus our review on specific issues in controversy or areas where Michigan Bell fails to satisfy performance standards. (footnotes omitted)

3.2.2 Texas

In connection with SWBT's review of the operational readiness of OSS, the Texas Commission retained Telcordia (formerly Bellcore) to conduct an independent third-party evaluation. Following the completion of initial and follow-up OSS testing, Telcordia issued a final report. The report concluded that SWBT's OSS was "operationally ready to handle commercial volumes of transactions." Upon concluding that all outstanding issues relating to SWBT's compliance with section 271 had been resolved, the Texas Commission voted on December 16, 1999 to unanimously support SWBT's Section 271 application. The FCC found that the evidence presented in the record showed that SWBT provided nondiscriminatory access to OSS pre-ordering, ordering, maintenance and repair, and billing functions. These findings were primarily based on evidence in the record of SWBT's actual commercial performance, including SWBT's performance measurements developed under the auspices of the Texas Commission. In addition, the FCC found that the Telcordia third-party test provides some additional evidence of the functionality and capability of SWBT's OSS.

¹⁸ OSS Evaluation Project of SBC Ameritech Michigan for the Michigan Public Service Commission, KPMG/Bearing Point Revised Draft Report October 30, 2002, page 13.

¹⁹ Michigan Public Service Commission, Case No. U-12320, In the matter, on the Commission's own motion, to consider SBC's, f/k/a AMERITECH MICHIGAN, compliance with the competitive checklist in Case No. U-12320 Section 271 of the federal Telecommunications Act of 1996, page 57-58.

²⁰ An April 30, 2003 KPMG/Bearing Point Final Result update to this report indicated that at test conclusion on April 8, 2003 there were 30 TVV and PPR evaluation criteria out of 510 not satisfied or indeterminate. Two of the exceptions, numbers 44 and 49, specifically related to lack of timely Reject Notices and FOC Notifications via the LEX GUI interface.

²¹ Michigan Public Service Commission, Case No. U-12320, In the matter, on the Commission's own motion, to consider SBC's, f/k/a AMERITECH MICHIGAN, compliance with the competitive checklist in Case No. U-12320 Section 271 of the federal Telecommunications Act of 1996, page 3.

²² Federal Communications Commission, WC Docket No. 03-138, Application by SBC Communications Inc., Michigan Bell Telephone Company, and Southwestern Bell Communications Services, Inc. for Authorization To Provide In-Region, InterLATA Services in Michigan, page 28, paragraph 55.

3.2.3 California

The FCC found, as did the California Commission, that Pacific Bell provided competitors in California nondiscriminatory access to its OSS. The FCC stated that it believed that the third-party test was broad and objective and provided meaningful evidence that was relevant to the analysis of Pacific Bell's OSS. The third-party test results supported the FCC finding that Pacific Bell provides nondiscriminatory access to its OSS. The California Commission had selected Cap Gemini Ernst & Young (Cap Gemini) to be the Test Administrator and Technical Advisor. Global eXchange Services (Global eXchange) was selected to be the Test Generator and submitted and processed orders using manual procedures (by fax), graphical user interface (GUI) and application-to-application interfaces.

Cap Gemini's Final Report assessed the results of functionality testing, capacity testing, and performance measurement analysis. This testing and evaluation examined the five critical OSS functions: pre-ordering, ordering, provisioning, maintenance and repair, and billing. The Cap Gemini final report contained 43 recommendations. Three of those recommendations dealt with improvements to the LEX interface.

Specifically on ordering, the FCC found that Pacific Bell satisfied checklist item 2 with regard to ordering and provisioning in California. According to the FCC, the record demonstrated that Pacific Bell provides nondiscriminatory access to its ordering and provisioning systems and processes and consistently satisfies the performance standards on the relevant performance measurements, with few exceptions.

3.3 Operational Readiness Decisions

AT&T Operational Readiness Testing

To ensure that the LEX interface implemented in the Southeast in November 2009 had been adequately tested by AT&T, and therefore operational ready, staff reviewed the AT&T test plan, methodology, and results of the following pre-release tests of LEX:

- ◆ Functional Testing
- ◆ Flow-Through Testing
- ◆ Regression Testing
- ◆ Volume Testing

According to AT&T the purpose of the **functional** testing was to determine appropriate responses for users and requests entering the LEX system. The testing is used to determine the functionality of the application and is designed to provide testing to assure that the system is providing responses in accordance with detailed technical requirements. The testing includes scenarios that will provide system responses to all facets of queries that a user might encounter per the system user guides and the industry requirements for LSR processing.

A total of 6,406 test cases were executed for LEX functional testing. The test plan covered but was not limited to:

- ◆ Integration with pre-order functionality.
- ◆ Fields and forms within the LEX LSR creation, including editing and supplemental activity.
- ◆ LEX presentation of notifications such as confirmations and jeopardizes.

Flow-through testing determined if appropriate functionality exists for LSR requests that enter the system to generate correct log messages and flow to the appropriate systems for order generation, notice generation, and response transmittals. Flow-through testing was also designed to determine appropriate routing to manual processing centers should there be a problem with the flow of the request or should the request not be designed to flow-through.

LEX **regression** testing was designed to provide assurance that the system functionality is providing adequate and accurate responses. The testing was performed by a team that is responsible for assuring appropriate response are generated for the various request and activity types that a CLEC may submit. The testing is performed prior to and during the system implementation weekend to document appropriate functionality. Many different type of requests were tested to assure both correct and incorrect LSRs are handled appropriately.

Functional, flow-through and regression testing resulted in a number of defects being found prior to the November 2009 release. Over 558 defects were found in AT&T testing which occurred between August 2009 and the release date in November 2009. There were approximately 43 severity 1 or critical defects, 328 severity 2 or major defects and 188 severity 3 or average defects. As of the release date there were only nine of these defects remaining open, with a scheduled fix date of December 3, 2009. Two of these defects were severity 2, and 7 were severity 3.

The **volume** testing goal was to determine if LEX could handle additional transaction volumes. The volume testing was done in the System Test Environment to determine if LEX could handle 11,000 transactions within three hours. Specifically the testing attempted to identify bottlenecks, identify slow transaction response times, and ensure that the application was properly configured and tuned for optimal performance. During volume testing, response times were found to exceed the threshold. The root cause of this issue was traced to the lack of availability of back-end systems in the test environment. The defect was closed after a retest was conducted and response times were deemed to be acceptable, given the fact there were “insufficient resources in the back-end systems.” Staff believes that the lack of volume testing in the production environment represents a possible risk for AT&T. Staff is concerned that once all CLECs have migrated to LEX the back-end system may not be able to effectively respond to CLEC inquiries and orders. Previous OSS volume testing for Florida, as well that done in other states for Section 271 approval was done in the production environment.

CLEC Testing

An additional review for operational readiness included a discussion with CLECs who participated in the pre-release testing of LEX. CLECs were allowed to test the LEX application for a four week period prior to the November 2009 release. Only two CLECs, Birch and STS, choose to take advantage of this testing environment. Both of these CLECs are certificated in the state of Florida. Birch’s test plan included 43 test scenarios and STS tested between six and

than eighteen test scenarios. According to Birch, its test results were successful. Birch was able to test all necessary request types and considered the testing adequate. STS stated that while the scenarios they tested were successful, they were not allowed to test scenarios for commingled arrangements or orders requiring special handling. As a result, STS does not believe testing was adequate for their purposes.

3.4 LEX Post Production Defects

Staff's review of the Enhanced Defect Report available to CLECs on the AT&T CLEC Online website revealed that as of March 15, 2010, there were 20 closed and 13 open defects associated with LEX implementation in the Southeast. A short description of each of the currently open defects is shown below:

- ◆ LEX – Company Code is not appearing in dropdown preventing Bulk Order request.
- ◆ LEX – Transfer of Call Options Field is disabled
- ◆ LEX – Location Number field values are changing.
- ◆ LEX – Directory ID Type does not have an option of O.
- ◆ LEX – Some address validations are not returning Location Designator/Location Value fields.
- ◆ LEX – Bulk Order requests are generating duplicate Purchase Order Numbers (PONs).
- ◆ LEX – User unable to print error form.
- ◆ LEX – Field in error highlighted does not match error message.
- ◆ LEX – CITY, STATE and ZIP fields are pre-populating on Resale Private Line Form.
- ◆ LEX – VOIP users receiving pop up error of CSR Validation process failed, cannot proceed.
- ◆ LEX – Timeout issue when user attempts to create LSR with previously used PON name.
- ◆ LEX – When processing errors an error is returned of General LEX Exception.
- ◆ LEX – Pending Order Status tab contains incorrect or missing data.

The majority of these defects are targeted to be resolved on March 20, 2010, with only one targeted for a April 17, 2010 completion date.

3.5 LEX Performance Measurement Data

Staff reviewed the January 2010 preordering and ordering performance measures for Florida aggregate CLECs to ensure that the commercial data supports a finding that LEX is a nondiscriminatory interface. The performance measure data compares LEX results to the AT&T retail systems or a benchmark.

In January, with only 25 percent of CLECs having migrated to LEX, there were 286 orders processed through the LEX interface. On average LENS users submit an average of over 75,700 orders per month in the Southeast and 12,700 of those are from Florida CLECs. **EXHIBIT 1** is staff's summary of the preordering and ordering aggregate performance

measurement results for January 2010. The exhibit identifies whether instances or submetrics for the measure met the benchmark or retail analog.

Review Of Preordering and Ordering Performance Measures Aggregate Results of Using the LEX Interface			
January 2010			
Measure	Equity Instances		Equity Failure Explanation
	YES	NO	
OSS-1 OSS Response Internal	11	1	The only instance failing equity was in comparing LEX and RNS' access to the Feature and Services Inquiry. Metric difference of 2.54 seconds for AT&T to 2.66 seconds for the CLEC Aggregate.
OSS-2 OSS Interface Availability	1	0	
PO-2 Loop Make-up Response Time	1	0	
O-3 Percent Flow-Through Service Requests	2	2	2 metrics failed equity comparison with a benchmark. The UNE Loop CLEC aggregate metric results were 76.47% of valid LSRs flowed through compared to the benchmark of 85%. The LNP CLEC aggregate metric was 46.32% when compared to the benchmark of 95%.
O-8 Reject Interval	2	0	
O-9 Firm Order Commitment Timeliness (Mechanized and Partially Mechanized)	6	0	There were 12 other equity instances that had no volumes on which to determine results.

EXHIBIT 1

Source: Staff Document Request 3-3

Based on January data, staff is concerned about the lack of parity for the O-3 Percent Flow-Through Service Requests measure. Additionally, staff is concerned regarding the lack of

data on which to base a conclusion for the O-9 Firm Order Commitment Timeliness measure. Staff will continue to monitor these measures as more data becomes available.

3.6 Conclusion

Staff reviewed the OSS independent third-party testing done on the LEX interface in three other states to determine if LEX had historically been deemed as providing nondiscriminatory access to AT&T's OSS. Staff's review revealed that, at the conclusion of testing, the Michigan, California and Texas State Commissions and the FCC had determine that nondiscriminatory access was being provided to the OSS, which included the LEX interface.²³

In order to make a determination on operational readiness staff reviewed the November 2009 LEX pre-production test plans and results, post-production defects and commercial data for the month of January 2010. Staff was satisfied with pre-production testing, with the exception of volume testing. Staff believes that the lack of volume testing in the production environment represents a possible risk for AT&T. Staff is concerned that once all CLECs have migrated to LEX the back-end system may not be able to effectively respond to CLEC inquiries and orders. Previous OSS volume testing for Florida, as well that done in other states for Section 271 approval was done in the production environment. Staff believes AT&T should conduct LEX volume testing in the production environment, or otherwise prove that capacity in the production environment is adequate in the Southeast back-end systems.

Staff's review of the CLEC defects submitted since the November release revealed 13 currently open LEX defects. Staff is satisfied that all but one of the currently open defects will be resolved by March 20, 2010 release.

Finally, staff's review of LEX aggregate performance metric data shows that for January 2010, AT&T appears to be providing service at parity with the LEX interface, with the exception of flow-through results. Staff believes AT&T should perform a root cause analysis on the reason for the poor flow-through results for the LEX interface and take appropriate correction action.

²³ OSS independent third-party testing for these three states was conducted in the 1999-2003 timeframe.

4.0 Pre-Ordering, Ordering and Editing Processes

4.1 Introduction

The third staff objective was to document AT&T's pre-ordering, ordering, and editing processes and assess the LEX and LENS functionality. The overall purpose is to determine if LEX provides the tools and processes to support the ordering of wholesale local services.

4.2 Pre-Ordering

CLECs can place orders with AT&T for Resale and UNE services. Provisioning of service for a new CLEC customer or making changes to a CLEC customer's existing service begins with the pre-ordering process. Pre-ordering is simply the gathering of preliminary information about the customer. The information is used to assist CLECs in building a firm order request with AT&T. During pre-ordering, a CLEC sales representative, while on the line with the customer, is inputting customer information and submitting pre-order queries to AT&T using ordering guides as a means of reference.²⁴ Pertinent information gathered during pre-ordering includes:

- ◆ Verify the address the prospective end user provides.
- ◆ View features and services available for specific switches.
- ◆ Reserve Telephone Number.
- ◆ View the estimated working schedule of the central office specific to the prospective end-user's address.
- ◆ View the Customer Service Records (CSRs) of the CLECs own current end users and AT&T's non-restricted accounts.
- ◆ View multiple Customer Service Records up to four for Non-Complex accounts.
- ◆ View the entire Inquiry section in a specific order.
- ◆ View a possible due date for the LSR you would like to place.
- ◆ View the Primary and Local IntraLATA Interexchange Carrier (PIC)/(LPIC) carriers available to the end user.
- ◆ View the Serving Wire Center for the address or telephone number requested.
- ◆ Request Loop Makeup detail.

Until the FPSC approves the retirement of LENS, CLECs currently can submit pre-order queries through one of three CLEC front-end OSS interfaces: LENS, LEX/Verigate, or XML Gateway.²⁵ Both LENS and the LEX/Verigate systems are graphical user interfaces (GUI) that connect directly into AT&T's back-end systems via the Internet and have comprehensive user guides to assist CLECs in processing orders. XML Gateway, which is not an issue in this audit, is a machine-to-machine interface that is typically used by larger CLECs that prefer to build their own interfaces and still leverage functionality with AT&T's back-end OSS interfaces. All

²⁴ Pre-order guides include AT&T's Local Service Pre-Ordering Requirements (LSPOR), and the various ordering interface publications, such as the LENS and LEX/Verigate user guides.

²⁵ Verigate is the pre-ordering interface integrated with the LEX application.

three front-end interfaces distribute LSRs to AT&T's necessary business units, coordinate installation and provisioning activities, and provide tracking throughout the service order process.

4.2.1 LENS Pre-Ordering

The LENS interface was developed as a menu-based linear system designed to guide a CLEC representative through the pre-ordering process on a step-by-step basis. LENS populates portions of a page or screen automatically and requires the CLEC representative to enter data in certain fields before being allowed to move onto the next applicable page or screen. Required data entry fields in LENS are highlighted in red on the screen

4.2.2 LEX/Verigate Pre-Ordering

The LEX/Verigate interface was developed and structured as a navigation tree that allows the user to move freely around the ordering process through the use of icons and directory files. This process-flow allows the user to determine the sequence of completing and order. The Verigate pre-ordering system is integrated within the LEX interface, meaning the pre-ordering information populated and validated in Verigate is electronically shared with LEX to assist with processing a service request. The pre-ordering functions in LEX and Verigate are analogous to those provided in LENS. This includes address validation, features and services availability, telephone number reservation, customer service records, and interexchange carrier search. Required entry fields in Verigate are highlighted in green on the screen.

4.3 Ordering

Upon completion and validation of the pre-ordering queries, the pre-order response information is used by a CLEC sales representative to initiate the ordering process. The ordering process begins with the determination of the mode of entry. The mode of entry is the manner by which the customer's order is to be submitted to AT&T for provisioning. From a CLEC's standpoint, an order can either be submitted electronically or manually. Historically, some orders could only be ordered manually.

An electronic order is one that a CLEC can complete and submit through one of the three available ordering interfaces (i.e., LENS, LEX/Verigate, or XML Gateway). These orders are intended to flow-through to AT&T's back-end OSS interfaces for order processing without the need for manual intervention. However, some orders may fall out of the electronic flow-through for a number of reasons as defined in various AT&T business rules. These partially-mechanized orders that fall out will require manual handling by AT&T's Local Service Center (LSC) representatives located in Birmingham, Alabama. The LSC, with over 150 representatives, is the primary work center responsible for providing CLEC support for order processing in AT&T's Southeast region.

A manual order is typically more complex and requires system design to complete the provisioning of service for the CLEC. AT&T pre-established that these type of orders will require LSC manual intervention. Fulfillment of manual orders, on behalf of the CLECs, is

accomplished using Microsoft Word templates and is submitted to AT&T's LSC via an email-based process.

Once the mode of entry is determined, the valid pre-order information is then used by a CLEC customer service representative to begin the ordering process with the origination of a Local Service Request (LSR). Pertinent information entered during the LSR process includes.

- ◆ Service Order Type (e.g., Resale, Number Portability, Loop Service, Directory Listing)
- ◆ Activity Type (e.g., New installation, Conversion, Change, Disconnect, Move)
- ◆ Type of services being ordered (e.g., Residence, Business, Single-Line, Commingling)
- ◆ Desired Due Date
- ◆ Billing information

Once a CLEC completes an LSR and submits it to a AT&T, the LSR passes through AT&T's back-end OSS interfaces for order processing. If the LSR is accurate and complete, a service order is generated and sent to AT&T's downstream Service Order Communications System (SOCS) for provisioning.

4.3.1 LENS Ordering

AT&T's LENS ordering interface may be used either to gather specific telecommunications information from AT&T's existing databases, or to place orders for telecommunications products and services. CLECs may use LENS for either new service (no existing telephone number) or existing service. Information entered via LENS for a firm order populates portions of the LSR automatically and facilitates the mechanized generation of service orders without manual intervention from AT&T's Local Service Center . When a CLEC logs on to LENS, the system displays a main menu that allows to access the system's functions. Available functions in LENS include:

- ◆ Create firm orders and perform other activities related to an end-user account.
- ◆ Create and submit bulk orders.
- ◆ View and edit LSR sections.
- ◆ Change the Desired Due Date of an existing LSR.
- ◆ Cancel an existing LSR.
- ◆ Query LSRs by specific Purchase Order Number (PON).
- ◆ Change the company code or password a CLEC is using.
- ◆ Search by any combination of all company codes for which a CLEC user ID is authorized.

Additionally, while navigating through the order, LENS provides the user with immediate access to the necessary business rules used to process a clean order. The access is via hyperlinks embedded in LENS. If at any time while processing an order through LENS there is any question regarding a required field, a CLEC representative can click on a hyperlink (reference library) which will open another screen that directly accesses the business rules. If an error is created by the CLEC, the LENS interface immediately identifies the error before allowing the CLEC to proceed further.

Ordering in LENS begins with entering and selecting specific information to create an LSR. The creation of the LSR begins with the entering of the Request Type (e.g., Resale) and Activity Type (e.g., New Installation). Once Request Type and Activity Type have been selected, LENS will only display those screens/forms which are applicable to the LSR order type. CLECs will utilize these screens to enter additional required information to complete the LSR process. For example, the new installation process includes the following tasks:

- ◆ Validating the Address
- ◆ Selecting the Telephone Number(s)
- ◆ Completing Services and Features
- ◆ Completing LSR Details
- ◆ Completing Service Details
- ◆ Selecting the Directory Listings
- ◆ Calculating the Due Date
- ◆ Viewing the Acknowledgment

Once the LSR is completed, the CLEC submits the LSR, via LENS, to AT&T for processing. If all required fields are complete, AT&T provides a Firm Order Completion (FOC) acknowledgement back to the CLEC indicating that the order was successful.

A copy of the LENS ordering LSR screen is shown below for illustrative purposes.



BELL SOUTH TEST DIAL 0999
PSCEBMR-1AS 8/03

Local Exchange Navigation System

First Order LSR Details for REQ TYP=E

Administrative

ATN: _____
Project: _____ Project Indicator: _____
RPN: _____ RCC: _____ RORD: _____
ALBR: _____ SCA: No NCR: _____
Cust: _____
LSP AUTH: _____ LSP Date: _____ LSP Name: _____
BAN1: _____
Expedite: _____
APPTIME-DDO: _____
LSCP: _____

Bill

VTA: _____

End User Location and Access

End User Name: _____
Local Contact: _____ Local Contact TN: _____
Abandoned Station: _____
Location and Access Information: _____

Contact

Initiator Name: _____ Initiator TN: _____ Initiator Fax: _____
Implementation Name: _____ Implementation TN: _____ Alternate Implementation TN: _____
Design Name: _____ Design TN: _____ Design Fax: _____
Design Street: _____ Design City: _____ Design State: _____
Design Zip: _____ Design Routing Code: _____

Inside Wire

Option: _____ Contact Name: _____ Contact TN: _____
Remarks: _____

References | Cancel

LSR Summary

Continue to LNA Menu ▶

LNA Menu | Dir Info | Dir List | Hunting | Save

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RX0027

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1/18/2010

4.3.2 LEX Ordering

The information collected in LEX is comparable to the information collected in LENS. However, the process of building and placing an order in LEX is different when compared to LENS. Unlike LENS, LEX is made up of an “LSR Tree” which contains Forms, Sections, and Tabs that allows for the CLEC user to navigate freely throughout the ordering process. The building of an LSR begins with the CLEC user choosing a menu activity along an “Icon Bar” on top of the LEX screen. Each menu activity is followed by a series of options to select from as shown below:

- ◆ **File:**
New, Save LSR, Bulk, Ordering, Print, Exit
- ◆ **View:**
Search, Inbox, Refresh, Change Region
- ◆ **Actions:**
Issue, Copy LSR, Edit LSR, Close Edit, Supplement, Clear Optional Forms, Delete LSR, Process Errors
- ◆ **Help:**
LEX Tips

Like LENS, when creating a new LSR, LEX will first require an entry in the Request Type and Activity Type fields. This information assists LEX in building the contents of the LSR tree and instructing the user as to the remaining LSR fields that need to be completed. Once the building of the LSR is completed, the CLEC user must “issue” the LSR to AT&T for processing. If the order contains any errors they will be identified once the CLEC submits the order for processing. Once all errors are corrected the LSR is resubmitted. If the LSR successfully passes through the validation process, the status changes to “FOC” and a due date is provided.

A copy of the LEX ordering LSR screen is shown below for illustrative purposes.

The screenshot displays the AT&T LEX ordering interface. At the top, there is a menu bar with 'File', 'View', 'Actions', 'Data Reports', and 'Help'. Below the menu is a toolbar with various icons. The main window title is 'AT&T Southeast Region'. A status bar at the top of the main area shows fields for 'Status' (New), 'PON', 'VER' (00), 'User ID', 'Last Activity D/T', 'End User Name', 'Service Type', and 'Activity Type'. On the left side, there is a tree view showing a hierarchy of options: 'POHLEXSTS011(00)', 'LSR', 'Bill', 'Contract', 'HGI (0)', 'End User', 'Part with Loop (0)', 'DL', and several 'End User' entries with 'Part with Loop (0)' and 'DL' options. The main content area is titled 'Local Service Request - Administration' and contains a form with the following fields and values:

- Admin** and **RPON** buttons.
- Due Date Calculation** link.
- AN**: [Blank]
- ATN**: [Blank] (sub-fields: NPA, NXX, XXXX)
- AAN**: [Blank]
- NATN**: [Blank] (sub-fields: NPA, NXX, XXXX)
- NAN**: [Blank] (sub-fields: NPA, NXX, XXXX)
- LSR NO**: [Blank]
- D/T SENT**: [Blank]
- HTQTY**: [Blank]
- LOCQTY**: [Blank]
- SUP**: [Blank]
- ACTIVITY**: [Blank]
- TYPE**: [Blank]
- MI**: [Blank]
- ADET**: [Blank]
- CCNA**: [Blank] (sub-field: SJS)
- DDD**: [Blank] (sub-fields: mm, dd, yyyy)
- SCD**: [Blank] (sub-fields: mm, dd, yyyy)
- APTIME**: [Blank]
- DDDD**: [Blank] (sub-fields: mm, dd, yyyy)
- RESID**: [Blank]
- NOR**: [Blank]
- DFDT**: [Blank]
- DFDFO**: [Blank]
- PROJECT**: [Blank]
- PROJNDR**: [Blank]
- LSCP**: [Blank]
- SC**: [Blank]
- SLI**: [Blank]
- CHC**: [Blank]
- EXP**: [Blank]
- EXP**: [Blank]
- RSN**: [Blank]
- RTR**: [Blank]
- CC**: [Blank] (value: 545A)
- NNSP**: [Blank]
- ONSP**: [Blank]
- ALBR**: [Blank]
- SCA**: [Blank]
- AGAUTH**: [Blank]
- PORTTYP**: [Blank] (value: L)
- ACTL**: [Blank]
- SACTL**: [Blank]
- AJ**: [Blank]
- APOT**: [Blank]
- LST**: [Blank]
- LSO**: [Blank]
- BCS**: [Blank]
- MEU**: [Blank]
- SPEC**: [Blank]
- NC**: [Blank]
- PBT**: [Blank]
- NCI**: [Blank]
- SECNCI**: [Blank]
- LSR MODIFIED BY**: [Blank]
- NPDI**: [Blank]
- NENA/ECC**: [Blank]
- ATR**: [Blank] (sub-fields: NPA, NXX, XXXX, XXXX)
- RCC**: [Blank]
- LSP AUTH**: [Blank]
- LSP AUTH DATE**: [Blank] (sub-fields: mm, dd, yyyy)
- LSP AUTH NAME**: [Blank]
- CIC**: [Blank] (value: 0191)
- BOPI**: [Blank]
- CUST**: [Blank] (value: STS TELECOM)
- REMARKS**: PLEASE LEAVE ALL OTHER TNs WITH CURRENT PROVIDER AS IS, THANKS

4.4 Edit-Checking

If the LSR is unreadable or does not contain accurate and complete information on all required and conditional fields, a reject or auto-clarification is returned to the CLEC for correction. AT&T requires that all of the information on an LSR to be 100 percent accurate. An error as small as an extra space in a data entry field can cause an order to be rejected.

AT&T's Local Access Service Request (LASR) order-processing interface stores the content of the LSR data and performs the first level of order validation. LASR will automatically send reject notices to CLEC when data is missing, prohibited fields are populated, or when other pre-determined error conditions occur. Error conditions are documented for CLECs in AT&T's business rules for local ordering and OSS interface user guides.

Once LASR completes the first-level edit checks and validates the LSR, the LSR is forwarded to AT&T's Local Service Order Generator (LESOG) system, which performs a

second level of edit checks.²⁶ Once all errors are corrected, the CLEC must resubmit the LSR to pass through the edit-checking process again. If the LSR is accurate and complete, the CLEC will receive a FOC denoting that the order passed the validation process. LESOG, in turn, will automatically generate and send a service order to AT&T's downstream provisioning systems.

4.4.1 LENS Edit-Checking Process

The edit-checking process performed in LENS is on a real-time basis. LENS checks for errors at the same time data is being inputted by a CLEC sales representative. If a CLEC sales representative incorrectly inputs data for a field in the LSR, LENS will immediately alert the representative (while still on the phone with the customer) of the error. The error is typically related to the screen the representative is currently viewing. LENS will require the error to be corrected before the representative can move on to the next step in processing the order.

4.4.2 LEX Edit-Checking Process

The edit-checking process performed in LEX occurs after the LSR is completed and submitted to AT&T for processing. The submitted LSR will first receive a status of "Issued," indicating that AT&T's back-end LASR OSS interface has received the LSR. If errors are found, LASR transmits a "Reject" to the CLEC with a listing of the LSR errors. Errors are displayed in a format that shows an error code, an error message, and the line number in the LSR where the error is located. The LEX form and field name where the error is located is highlighted in yellow to assist the user. The user is required to return to the applicable page or screen to correct the error. When the errors have been properly corrected, the LSR is resubmitted via LEX and the LSR status will change to "Processed."

4.5 Functional Differences Between LENS and LEX

Staff asked AT&T to explain the process by which it was determined that LEX would be the interface implemented in AT&T's Southeast region, AT&T stated that LEX was considered the more robust application in that it currently possessed the functionality for ordering a full line of core and complex products. Additionally, according to AT&T, LEX was also viewed as being more accommodating in its ability to integrate LENS specific functionality into the application versus LENS ability to integrate LEX functionality. **EXHIBIT 2** is a list of LENS functionality that was incorporated into the LEX application:

LENS Functionality Incorporated Into LEX January 2010	
Function	Capability
LSR Create Screen	Specific fields entered by the user are used to populate fields on the LSR Admin form.
CLEC Profile	Based on the selection of the Company Code on the LSR Create Screen, populates specific fields on various forms

²⁶ Local Number Portability (LNP) orders are routed from LASR to the Local Number Portability (LNP) Gateway instead of the Local Service Order Generator (LESOG)

Bulk Ordering	Allows user to group all orders for a particular product and submit them in one transaction.
Fast Track	Permits the user to submit a minimum amount of required fields based on a specific product with the remainder of the fields being derived from other mechanical sources.
Pre-Order Integration	Provides for interactive preorder functionality to be available with the firm order process
Search Capability	Provides for all the current functionality with the View/LSR Order Information module for retrieving LSR data.
Pre-population of fields	Provides for all the current capability that LENS does for generating fields on different LSR forms.
Notifications	Provides access to all current Notifications that are accessible and viewable in LENS.
Ordering	All products and fields available in LENS are available in LEX.
Ownership checks	Where applicable, LEX parallels LENS in performing ownership on accounts where the product scenario is applicable
RPON (Related PON) functionality	Where there is a group of related PONS and the user changes due date on one PON, LEX updates the related PONS similar to LENS

EXHIBIT 2

Source: Document Request 4-4

To assist staff in developing an understanding of the similarities and differences between the LENS and LEX interfaces, staff requested AT&T to provide a hands-on demonstration of both interfaces. In doing so, AT&T created and simulated the submission of the following test orders through both interfaces:

- ◆ New Resale
- ◆ Number Portability
- ◆ Loop with Number Portability
- ◆ Commingling of a Loop with Special Access Services

Based on staff's high-level observations of the LENS and LEX interfaces, it was clearly evident to staff that the data entry screens in LEX are not as user-friendly, and are initially more difficult to comprehend when compared to LENS. For example, LENS will display data entry fields that are only applicable to the specific order type being submitted. In contrast, LEX displays data entry fields that may not be required to be completed and are not applicable to the order. LEX field labels are somewhat cryptic and difficult to determine what information is being requested. LENS provides drop down boxes that show applicable alpha or numeric codes along with descriptions for these codes that define the action to be taken. In contrast, LEX displays alpha or numeric codes, but without descriptions.

The test orders, on average, also took longer to complete in LEX than in LENS. When entering telephone numbers in LENS, all parentheses, dashes, and spaces are suppressed allowing for cut and paste function of an entire telephone number to minimize type errors and to expedite processing time. According to a survey of LEX users, the majority of Florida CLECs generally believe the edit-checking capabilities in LEX does not hamper the ability to do

business. Additionally a majority of CLECs believe that LEX's timeliness is as good as or better than LENS. Survey details are provided in Chapter 6. A detailed comparison of the functionality between the two applications is depicted in **EXHIBIT 3**. Areas where the two systems differ is highlighted in yellow.

Functionality Comparison of LENS and LEX January 2010		
Function/Capability	LENS	LEX
Accessing Application	Accessed via URL, USERID and password required.	Accessed via URL, USERID and password required.
Product Ordering	Simple Resale and UNE Products.	Both Simple and Complex Resale/UNE Products.
Supplement Capability	Yes	Yes
Launching an Activity	Hyperlinks	Menu and ICON driven.
Page Navigation	Page flow design to proceed from page to page.	LRS tree design to allow user to determine sequence of completing forms.
Page Level Validation	Page level validation requires user enter data in certain fields before being allowed to navigate from that page	Validation only on an LSR level to confirm minimum fields have data and required forms are completed.
Error Validation	A subset of first level validations is displayed as user enters data in fields. Complete first level validations are returned when the user submits the LSR for Due Date Calculation.	All First level validations are returned within seconds of submitting the LSR in a separate window. First level validations returned are the same as returned in LENS.
Error Highlighting	Error messages are highlighted on the page	Error messages are highlighted on the form/page when returned after submission.
Due Date Confirmation	Yes. Due Date confirmed on the Firm Order Confirmation. Calculated Due Date information provided in some cases prior to the FOC.	Yes. Due Date confirmed on the Firm Order Confirmation. Calculated Due Date information provided in some cases prior to the FOC.
Pre-Order Integration	Yes. Address Validation, TN Reservation, Features/Services, PIC/LPIC, CSI, Due Date Calculation.	Yes. Address Validation, TN Reservation, Features/Services, PIC/LPIC, CSI, Due Date Calculation.
Tracking of Requests once an LSR has been submitted	Depends upon downstream systems to return data. Minimum means for history and response tracking.	Maintains and displays a copy of each request issued and the associated responses for each version within the LEX database for up to two years.

Searching for LSRs	Retrieved via the View/LSR Order Information Link, which retrieves from downstream systems. Provides a 45-day retrieval in most cases and up to a year in some instances.	Both basic and enhanced search capability, retrieving LSRs within a two-year period. LEX has a database to accomplish this search. All search data available to download into Excel spreadsheet.
Online Help	Provides links within the pages for access to reference sites.	Provides three levels of online help; Help Topics, Field Level help, Micro Level Help – all within the application.
Automatic Retrieval of LSRs	None	INBOX automatically retrieves all LSRs within the last seven days.
Issuance Acknowledgment	Yes	Yes
Line Number (LNUM) Addition	Yes. LNUMs are created as part of the Firm Order Process.	Yes. LNUMs are created as part of the Firm Order Process. In addition, LEX provides a NUM navigation to facilitate access thru numerous LNUMs. COPY of LNUMs is also available to copy same information to another LNUM.
Data Report Query	No	Yes. LEX has comprehensive standardized data reports to query database.
Copy LSR to Another LSR	No	Yes
Template Capability	No	Yes
Printing LSRs	Yes. Basic screen printing	Yes. Enhanced printing to provide in LSR report form and ability to customize what forms to be printed.
Re-assign USER IDs Associated with LSRs	No	Yes. LSRs can be re-assigned to other USER IDs.
View Notifications	Yes	Yes
Pre-Population of Fields	Yes. Based on company code and selection of Requisition Type and Activity Type.	Yes. Based on company code and selection of Requisition Type and Activity Type.

EXHIBIT 3

Source: Staff Document Request 2-13

AT&T reported that the decision to implement the LEX interface over the LENS interface is a result of thorough analysis. AT&T performed a review of both applications and acknowledged that differences between LENS and LEX exist. However, AT&T believes that LEX possesses additional functionality not available in LENS and exhibits more flexibility and ability to assimilate new functionality. For example, according to AT&T, LEX possesses a database that contains LSR history for up to two years, a full set of data reports to query LSR information, an enhanced search capability, and a method for tracking the history of an LSR.

4.6 STS' Concerns

STS claims that the LEX ordering interface does not have the same edit-checking capabilities as the LENS interface currently in place for use by CLECs in the AT&T nine-state region. The edit-checking capabilities available in LENS notify the CLEC of errors on a “real-time” basis and will not allow the CLEC to continue processing an order until the error is corrected. STS further claims that many of these edit checks programmed into the LENS interface are omitted from the LEX interface. As a result, the omission of these prompts or edit-checks in LEX would, in effect, cause orders with errors to be rejected or returned for clarification by AT&T after the order is submitted. STS asserts that the delay in processing the order erodes customer confidence and may ultimately result in the loss of the customer.

According to STS, there are as many as 25 edits within LENS that will no longer be provided in LEX. STS asserts that these edit checks available in LENS prevent CLEC customer service representatives from moving to the next page/screen until the error is corrected. Because of the lack of these edit checks in LEX, a CLEC customer service representative must work an order back-and-forth in LEX. In other words, the LEX system allows for a CLEC order to be submitted to AT&T with errors, rejected by AT&T, reworked by the CLEC, resubmitted by the CLEC, and possibly rejected by AT&T again, over and over. STS claims that it is highly unlikely for a CLEC to process an order through the system in a timely manner without errors. The end result is that the CLEC is delayed in submitting a completed order to AT&T which delays the customers' service from being changed to the CLECs' network. The delays and multiple customer contacts can potentially be great enough to cause the customer to cancel their order with the STS. As a result, the CLECs' ability to satisfy and retain the end-user will ultimately be affected.

4.7 AT&T's Response

According to AT&T, all the pre-ordering and ordering functions that exist in LENS are integrated into LEX. This includes address validation, features and services availability, telephone number reservation, customer service records, and interexchange carrier search. The primary differences between LENS and LEX are the operational structure of the interfaces and the edit-checking capabilities. The LENS interface is a linear system that requires the user to enter data in certain fields before being allowed to move onto the next page or screen. In comparison, the LEX interface is structured as a navigation tree that allows the user to move more freely around the ordering process through the use of icons and directory files. The end

result is that the same first level validation and due date calculation engines process a request from LENS or LEX in the same way prior to AT&T accepting the LSR for further processing.

AT&T did not perform a cost estimate for enhancing LEX to include up-front edit-checking s similar to the edit-checking process performed in LENS. According to AT&T, the costs associated with implementing the upfront edits would include significant changes to the interface architecture, as well as the significant coding effort that would be required to implement to many of AT&T's downstream systems. AT&T further noted that these changes would also need to be completed for each of the other regions in AT&T's operating territory. AT&T concludes that it would take an additional three years to emulate upfront edit-checking capability for LEX and implement in all operating regions.

AT&T further contends that the implementation of the LEX interface provides the same and/or like functionality that CLECs in the nine-state region experience today. AT&T claims that the new LEX interface is every bit as efficient as the existing LENS interface and will provide for all necessary functionality to create, manage, track, maintain, change or supplement orders. According to AT&T, the new LEX interface will also provide for a number of enhancements that are not currently available for use by CLECs via the LENS ordering interface.

AT&T does not dedicate an individual LSC representative to work with a specific CLEC to analyze LSR errors. However, in response to STS' concerns, AT&T stated it has dedicated four LSC representatives to assist STS in understanding a specific reject and/or clarification. In addition, STS may contact the LSC or its AT&T Local Support Manager to assist with rejects and clarifications or mechanized system. The Local Support Manager provides guidance to assist the STS with understanding the business or any other appropriate guide used to assist in the submission of complete and accurate LSRs.

4.8 Conclusion

In this chapter, two key differences between LENS and LEX were observed: the operational structure and the edit-checking process. The LENS operational structure is linear and requires a user to enter data in certain fields before being allowed to move onto the next page or screen. In contrast, a LEX user is allowed to move more freely around the order taking process through the use of menus and icons. Staff believes the LEX interface is not as user-friendly when compared to the LENS linear process. However, staff acknowledges that CLECs may prefer the flexibility provided in LEX.

With regards to the edit-checking process, LENS generates error messages while a user is populating an LSR and will further require the error to be corrected before the user can move forward in processing an order. In LEX, the user is not informed of errors on the LSR until after the LSR has been issued to AT&T. Staff believes the edit-checking process performed in LEX may cause some delays in the overall time to complete an order. However based on staff's limited observation and CLEC opinion, it appears that this delay was minimal.

Although staff has concerns with the operational structure and edit-checking process in LEX, staff notes that AT&T has provided CLECs with adequate time to learn and train their personnel on the new LEX interface without disrupting CLECs ongoing operations. CLECs in AT&T's Southeast region have had the opportunity to transition off of the LENS interface and onto the LEX interface since November 2009 (over four months). Additionally, AT&T's LSC representatives also available to help CLECs on a variety of issues when transitioning from the LENS to the LEX interface. Other support services available for CLECs to contact include the CLEC's Wholesale Support Manager, AT&T's Information Systems Call Center, and AT&T's Mechanized Customer Production Support Center. Each are available to assist with LEX issues such as access, software, general navigation, system error resolutions, and business rules.

One of the primary purposes of the implementation of the LEX interface in the Southeast region is to provide uniformity to the OSS systems across the AT&T 22-state region. Staff believes, the 22-state LEX interface does include a number of significant enhancements that provide for more functionality to create, manage, or change LSRs. While the methods used to execute a function differs between the LENS and LEX applications, staff believes that LEX provides the same desired end-result as LENS regardless of how executed. Staff believes that LEX and LENS generally provide like functionality.

5.0 Additional LEX Issues

5.1 Introduction

The fourth staff objective was to document and assess any additional LEX issues or deficiencies discovered during the audit. Staff discovered an additional concern regarding STS' ability to order commingled arrangements, as discussed below.

5.2 Commingled Arrangements

With the implementation of the LEX ordering interface in November 2009, AT&T stated that all local services and products (all Activity Types and all Request Types) are designed to be submitted electronically through LEX.²⁷ In other words, CLECs should no longer have to order any service or product types via the manual email process. However, during the course of the audit, STS brought to staff's attention its concern that it could not place certain complex orders using the LEX interface. These complex orders at issue are commingled arrangements which are the ordering of Unbundled Network Elements (UNE) and UNE combinations commingled with special access services.²⁸

In response to STS' concerns, staff requested AT&T to provide a demonstration to STS and staff of the processing and submission of commingled arrangements in LEX. On January 22, 2009, via a live "network-meeting", AT&T presented a walk-through of seven different test orders that simulated some of the commingled arrangements that STS provisions with AT&T. Of the seven scenarios, five were for a new installation, one was a bulk migration work-around process, and one was for a conversion of a customer (end-user) from one CLEC to another CLEC.

Upon conclusion of the demonstration, both STS and staff had numerous questions of AT&T that were taken as "action items." Many of the questions had to do with perceived flaws in the methodology and documentation supporting the placement of those orders. Specific examples include:

- ◆ AT&T had not issued an Accessible Letter nor provided documentation that supports the use of the "Other" Category when identifying the "Loop Type" in three of the scenarios.
- ◆ AT&T's business rules (i.e., the Local Service Ordering Requirements and the Local Ordering Handbook) for the Service & Product Enhancement Code (SPEC) field required on commingled orders appear to conflict one another.

²⁷ See AT&T's Action Item responses 3 and 6 to Staff's November 9-10, 2009 Workshop held in FPSC Docket No. 000121A.. Also, see the attachment to AT&T's Accessible Letter CLECSSES09-056, dated September 11, 2009---The initial requirements for the LEX system.

²⁸ Commingling of network elements is allowing for all of the elements required pursuant to section 271 to be access whether combined through section 251 (c)(3), and/or sections 201 and 202 of the Telecommunications Act.

- ◆ The process for populating the “Design Routing Code (DRC)” field on the LSR form on orders for designed circuits where a CLEC is requesting a Design Layout Report (DLR) is not defined in the business rules.
- ◆ The process for obtaining a “Project ID” is not defined in AT&T’s business rules (i.e., Ordering Interval Guide) for ordering SL-2 commingled loops that are project managed.
- ◆ The process and documentation regarding ordering limitations per Wire Center for Loop Commingling Arrangements with special access is not provided in AT&T’s business rules
- ◆ The bulk migration “work-around” ordering scenario presented by AT&T is not defined in any of AT&T’s business rules.
- ◆ The process and documentation for ordering EELS is not provided in AT&T’s business rules.

Following the demonstration, STS provided a detailed matrix to staff that documents the various issues with LEX for the types of service requests that STS believes it will be ordering. The matrix is organized by service order type, activity type, and type of service. The matrix also identifies applicable AT&T business rules documentation.²⁹ STS pinpointed specific concerns where AT&T business rules are in conflict with one another or the LEX interface.

5.3 Conclusion

AT&T provided a demonstration of how a CLEC can place orders for a commingled arrangement via LEX. This issue is of primary importance to STS. Based on errors revealed during the demonstration, staff does not believe AT&T can support its statement that LEX will allow for the processing of “all” product types. Staff believes that STS may not be able to order or effectively order commingled arrangements via LEX. It is important for STS and all CLECs to be allowed access to these network elements. Staff strongly believes AT&T has not adequately evaluated and updated all documentation CLECs are required to use in the placement of these orders through the LEX interface.

Staff’s position is further supported by a matrix of additional concerns that was provided by STS following the demonstration. The concerns were provided to staff on March 1, 2010. Staff provided that matrix to AT&T on March 18, 2010.

²⁹ Supporting documentation includes, but is not limited to, AT&T’s Local Service Pre-Ordering Requirements, Local Service Order Requirements, Local Ordering Handbook, and LEX User Guide.

6.0 CLEC LEX Satisfaction Survey

6.1 Survey Results

A final objective of staff's review was to determine user satisfactions with the LEX GUI as implemented in the Southeast so far. AT&T reported to staff that, as of the end of February, there were 53 CLECs using LEX in the Southeast and 164 CLECs were still using LENS. Of the 53 CLECs using LEX staff determined that 24 were CLECs certificated in the state of Florida. Staff conducted a telephone survey of all 24 Florida CLECs and determined that only 14 were actually using LEX for placing orders at this time. Thirteen of those 14 CLECs reported that the orders they had placed using LEX had been successfully transmitted.

Staff questioned the CLECs about LEX's ease of use, functionality, and timeliness when compared to LENS. The following were the results:

What would you say about **ease of use** when comparing LEX to LENS?

- 2 answered 'LEX is easier to use than LENS'
- 6 answered 'LEX is harder to use than LENS'
- 5 answered 'LEX and LENS have the same ease of use'

What would you say about **functionality** when comparing LEX to LENS?

- 3 answered 'LEX's functionality is better than LENS'
- 5 answered 'LEX's functionality is not as good as LENS'
- 5 answered 'LEX and LENS have the same functionality'

What would you say about **timeliness** (time to place an order) when comparing LEX to LENS?

- 3 answered 'LEX's timeliness is better than LENS'
- 4 answered 'LEX's timeliness is not as good as LENS'
- 6 answered 'LEX and LENS take about the same time to process an order'

One can see from the CLECs' responses that the opinion regarding LEX is mixed. 46% said that LEX was harder to use than LENS. Approximately 23% said that LEX functionality is better than LENS. Approximately 46% of CLECs state that LEX and LENS take about the same time to process and order. Staff's observations of side-by-side comparisons of the two interfaces supports the opinion that LEX is harder to use than LENS, and the functionality and timeliness are about the same between LENS and LEX.

Staff also asked the CLECs if the differences in online edits between LEX and LENS hampered their ability to do business in any way. Eleven of the 13 CLECs answered "no" to that question. Only two said that it did. When asked if they have any concerns about the approaching LENS retirement, seven said they did have concerns and six stated that they did not. Specific concerns expressed during the survey included:

- ◆ Learning curve for LEX is steep
- ◆ Different front-end display
- ◆ Takes more time to place an order in LEX: 2 minutes in LENS 10-15 in LEX
- ◆ LEX times out
- ◆ No subject matter experts on LEX available, getting LEX questions answered was tough
- ◆ Online edits are troublesome
- ◆ Navigation through LEX is problematic
- ◆ Error handling is not the same
- ◆ Receiving invalid errors
- ◆ Error processing yields invalid information

6.2 Conclusion

It generally appears that the CLECs who are actually using LEX for placing orders in Florida are experiencing the issues that typically come with a new software release. Staff believes that the majority of the users in the Florida CLEC community do not appear to have a significant issue with the LEX interface.