

# AT&T's OSS April 2008 Release Analysis and Resolutions

By Authority of The State of Florida Public Service Commission **Division of Regulatory Compliance** Bureau of Performance Analysis

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*Review of* AT&T's OSS April 2008 Release Analysis and Resolutions



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**1.0 EXECUTIVE SUMMARY** 

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# **1.0 Executive Summary**



# **1.1 Introduction**

Following the BellSouth and AT&T merger, AT&T began plans to consolidate the wholesale operations support systems (OSS) of the two companies. The OSS consolidation plans are known as the 22-State OSS Release. The 22-state reference refers to the merger of the 13-state AT&T region with the 9-state BellSouth region.<sup>1</sup> AT&T started the process of providing official notification to CLECs in 2007. The 22-State OSS Release plan involves a phased approach over several years. The first phase commenced with the April 19, 2008 release (April Release).

Numerous CLEC-impacting issues arose in connection with the April Release. As a result, on May 12, 2008 Cbeyond Communications, LLC, Time Warner Telecom, LP, and DeltaCom, Inc., jointly referred to as the petitioners, filed a complaint with the Commission requesting a third-party independent audit of the April Release.<sup>2</sup> The complaint also requested a stay of future 22-state OSS releases and issuance of a show cause order by the Commission. The proposed show cause would require AT&T to explain why it should not be penalized for its failure to appropriately implement the April Release.

On July 31, 2008 a conference call was held between staff and the parties exploring the possibility that the audit be conducted by Commission staff. After further discussion, on August 5, 2008, the parties agreed to the audit being conducted by Commission staff and entered into a stipulation. Per Commission Order No. PSC-08-0618-PAA-TP, filed in FPSC Docket 000121A-TP, the Commission approved the stipulation. The stipulation also states that the remaining portions of the petitioners' complaint will be held in abeyance pending a vote on Commission staff's recommendation addressing the final audit report.<sup>3</sup>

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#### 1.2 Scope and Objectives

- The parties to the stipulation acknowledged and accepted that the audit shall encompass the following three objectives:
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 Documentation and assessment of AT&T's root cause analysis associated with the April Release.

Documentation and assessment of the software defect resolution process associated with the April Release.

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<sup>&</sup>lt;sup>1</sup> The 9-state legacy Bellsouth 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.

<sup>&</sup>lt;sup>2</sup> On September 26, 2008, Time Warner Telecom filed in Docket 000121A-TP a Notice of Withdrawal from participation in the complaint.

<sup>&</sup>lt;sup>3</sup> The remaining portions of the complaint are the delay of future 22-state OSS releases and the request for a show cause proceeding.

Documentation and assessment of the pre-April Release and post-April Release CLEC communications.<sup>4</sup>

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# 1.3 Methodology

Commission staff's review was conducted from September 2008 to November 2008. The
 information compiled in this report was gathered via company responses to document requests
 on-site interviews with key personnel, and documents filed in FPSC Docket No. 000121A-TP
 Established for Investigation into the Establishment of OSS Performance Measures for AT&T
 Florida. Specific information collected includes:

- by Key learnings associated with the April Release,
- 12 Defects and resolutions resulting from the April Release,
  - Update of AT&T Commitments made to the PSC, and
- 14 Expanded Testing Plans resulting from the April Release.
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# 1.4 Overall Recommendations and Opinion

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17 Staff believes AT&T's April Release was a critical failure. Some CLECs describe this 18 April Release as the most significant competitively damaging OSS failure in the State of Florida 19 since enactment of the Telecommunications Act of 1996. There appeared to be general lack of 20 understanding of the magnitude and complexity of the conversion effort on the part of AT&T 21 management from the beginning. Failures were evident in AT&T's planning, organizing, 22 directing and control of this project.

It has now been over seven months since the April Release and many problems have since been resolved. Two minor subsequent OSS releases were implemented in August and November 2008 with fewer defects.<sup>5</sup> However there are still many unknowns. Below are staff's observations and opinions that summarize what went wrong and the remedial action AT&T should take to prevent these problems from occurring in the future. Staff's conclusions and recommendations summarized below address the three audit objectives defined above.

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#### 1.4.1 Assessment of AT&T's Root Cause Analysis

30 Over 356 key learnings were identified by AT&T following the April Release. Staff 31 believes the effort that AT&T has expended in its key learning process will go a long way in 32 resolving issues with the April Release and hopefully, prevent future occurrences. Only 10 of the

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<sup>&</sup>lt;sup>4</sup> Improved CLEC communications are addressed within a list of 32 commitments that AT&T made to the CLECs and Commission. Staff's documentation and assessment of CLEC communications are addressed in its review of these 32 commitments, included in Chapter 5.

<sup>&</sup>lt;sup>5</sup> The scope and complexity of the August and November release are not comparable to the April Release. Staff believes these releases are not indicative of the management performance required for a 22-state release.

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1 key learnings remain open at this time. Staff anticipates that most, if not all of these will be 2 resolved prior to the next 22-state release.



3 Staff is concerned that some of the key learnings were closed prematurely and without 5 sufficient implementation. Staff also saw no evidence that AT&T has performed any type of 6 follow-up to ensure that each recommendation was truly implemented, and has effectively 7 resolved the problem. Additionally, staff believes that the root cause analysis conducted on the 8 key learnings was weak and lacked formal process. A weak root cause analysis will result in not 9 all of the causal relationships being identified, which will possibly result in a flawed or 10 incomplete resolution. Staff is concerned that this may be the case for selected key learnings.

12 Staff further believes that AT&T missed an important opportunity to solicit input from 13 its clients, the CLEC community, in this key learning process. AT&T made little attempt to 14 gather lessons learned in the April Release from the CLEC community. Had it done so, valuable 15 input regarding the AT&T and CLEC communication process may have been received.

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17 The following are staff's recommendations based on the assessment of AT&T's Root
18 Cause Analysis of the April Release:

- AT&T should resolve the 10 open key learnings prior to implementing the next 22state release.
- AT&T should perform an internal review to ensure that all recommendations were completely and satisfactorily implemented and that each of the resolutions has adequately corrected the specified issue.
  - AT&T should reevaluate it key learnings root cause analysis process and ensure that the approach followed is adequate.
  - AT&T should reevaluate its root cause analysis for selected key learnings and ensure that all causal relationships have been identified and the resolutions identified are sufficient.
  - AT&T should reevaluate resolutions which have been identified as prematurely closed, particularly those related to vendor coordination, and take appropriate action.
  - AT&T should consider incorporating input from its CLEC clients in its future key learnings process.

# 1.4.2 Assessment of the Defect Management Process

Never before had AT&T ever encountered defect management problems such as those resulting from the April Release. The scope of defects encountered overwhelmed its ability to comprehensively respond in a timely manner and resource fatigue eventually became a problem multiplier. The scope, volume and magnitude of 495 production defects exceeded AT&T's experience, expectations, and ability to adequately respond. Problems with the defect management process exacerbated the situation.

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Defect tracking management, from methodology to remediation, was often 2 uncoordinated. Defects were captured in different applications that did not share common 3 architecture or an ability to communicate. Disparate systems delayed the full comprehension of 4 problems and subsequently hindered management response. Duplicative entries in two systems 5 led to varying but continuing levels of confusion about specific responsibilities. The inability of 6 various defect tracking systems to communicate or cross-populate denied management valuable 7 analysis tools with which to easily and efficiently discern pre-production and production defect 8 trends. 9

10 Prioritization of defects was impaired, allocation of resources was impacted and 11 remediation arguably delayed in some instances. Though AT&T stated that defect analysis tools 12 worked as designed in each region, some managers allowed that input errors and user oversights 13 precluded optimum performance. The number of defects resulting from the April Release, 14 particularly those of the most critical severity type, quickly outstripped AT&T's ability to 15 immediately respond in a proactive, comprehensive, and systematic manner. Staff believes the 16 company grossly underestimated the quantity, scope, and severity of defects that might be 17 encountered with this release. 18

19 AT&T has demonstrated interest in getting to the core of April Release problems. 20 Organizational structures and responsibilities for defect management have been adjusted. The 21 defect tracking systems to be used for pre-production and production defects have been clarified. 22 Training has increased in anticipation of future releases. Staff is concerned that it cannot fully 23 discern the actual effectiveness of AT&T's defect resolutions until future releases take place. 24 Additionally, staff is concerned with AT&T's defect root cause analysis, defect remediation 25 timeframes, and accuracy and adequacy of the defect and change management service quality 26 27 measures

The following are staff's recommendations based on the assessment of AT&T's defect management processes:

- AT&T should review the April Release defects and the root causes identified for each and ensure that a root cause has been identified and that appropriate action has been taken to prevent future occurrences.
  - AT&T should improve its emphasis on defect root cause analysis through written policies and procedures, assignment of responsibilities and employee training.
- AT&T should continue to evaluate the consolidation of its defect management process to ensure that defects are resolved in an expedient manner and are compliant with the benchmarks established by the Florida Public Service Commission.
- AT&T should review the accuracy of data collection and reporting for all Change Management Service Quality Measures and the Self-Effectuating Enforcement Mechanism.



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e AT&T should reevaluate its use of the CLEC impacting classification and either eliminate it, giving CLECs full visibility of defects, or have a clearly communicated definition of when it is applicable.

### 1.4.3 Assessment of CLEC Communications

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5 AT&T implemented numerous corrective actions to address the communication failures 6 that occurred pre- and post-April Release. Such corrective actions include having weekly status 7 calls with CLECs to discuss April Release defects, providing CLECs with customer service 8 contact information, implementing training guides, using the monthly Change Management 9 Process (CMP) meetings to communicate the status of future OSS releases, and holding 10 conference calls with CLECs after an OSS release. 11

While staff commends AT&T for taking necessary steps to improve communications 13 with CLECs, staff believes that AT&T's Change Management monthly meetings, the principal 14 outlet for communicating with CLECs, could be more effective. Staff further believes that 15 AT&T's commitments do not address possible deficiencies or improvements needed in this 16 Change Management Process, particularly the monthly Change Management calls, now that they 17 have been consolidated under a 22-state umbrella. Lastly, staff believes that AT&T should give 18 more indication or direction to the new Change Management meeting framework to evaluate and 19 address CLEC concerns, including AT&T's 22-state process for escalating CLEC issues raised 20 during the monthly meetings. 21

Staff is also concerned that AT&T's current Service Quality Measurement Plan (SQM) 23 and Self-Effectuating Enforcement Mechanism Plan (SEEM) may not be adequately designed to 24 capture failures of such magnitude as the April Release. AT&T's SQM and SEEM are designed 25 to capture and compare the quality of service delivered to CLECs. AT&T's failure to comply 26 with applicable SQM performance measurements will trigger SEEM remedy payments to 27 CLECs and/or the state of Florida. Furthermore, the SQM and SEEM Plans methodology is 28 based on the former BellSouth 9-state region. In some cases, system or process may have 29 changed to be in agreement with processes used in the 13-state region. These issues need to be 30 addressed. 31

The following is staff's recommendations based on the assessment of AT&T's pre- and 33 post-April Release CLEC Communications: 34

- 80 AT&T should clearly define and document the monthly Change Management meeting process.
- The Commission should commence an expedited review of AT&T's SQM and SEEM Plans prior to implementation of 22-state releases scheduled in 2009.
- 1.4.4 Assessment of AT&T's Commitment List

AT&T agreed to suspend future planned 22-state OSS releases until a list of 32 43 commitments made to the Commission was met. Staff recognizes that AT&T has taken positive 44 steps to address these commitments and further believes action taken by AT&T should minimize 45

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future disruptions. However, staff cannot validate that the changes that have been implemented
 will prevent future problems.

Of the 32 commitments staff agrees with AT&T's assessment to close 25. Staff's agreement is with the understanding that AT&T should be held accountable for upholding these commitments upon implementation of future 22-state OSS releases. For the remaining seven commitments, staff believes AT&T is closing these commitments prematurely. Staff contends that further supporting documentation is needed or the processes to resolve the commitments have yet to be fully addressed or implemented.

The following is staff's recommendations based on the assessment of AT&T's implementation of its commitments:

- AT&T should reevaluate its closure of seven commitments (items 1, 6, 11, 13, 14, 25, and 32 in Appendix F) and take necessary steps to assure the commitments have been fully addressed.
  - AT&T should prepare and provide staff with pre-production and production defect status reports specific to each 22-state OSS release as they occur
  - AT&T should provide staff with Expanded Test Plans for all future 22-state releases as they become available, and continue to educate CLECs on future 22-state release test plans.
- AT&T should continue to enhance the 22-state manual email ordering process to include efficiencies that previously existed in the manual processing of orders in the 9-state region.
- AT&T should provide staff with an assessment on current call center activities and staffing levels, and an assessment of call center activities based on future 22-state releases.

#### 1.4.5 Conclusion

Overall, staff is concerned that AT&T has made numerous statements in its April Release 34 key learning resolutions and commitments which promise future compliance with policies or 35 procedures, or improved future performance. With only such statements or promises, 36 Commission staff cannot fully opine as to whether all appropriate and adequate measures have 37 actually been undertaken to prevent CLEC-impacting issues with future releases. Because the 38 Commission cannot fully ascertain AT&T's readiness we are left in a position where we must 39 rely on AT&T attestation of readiness. The decision to move forward with the next 22-state 40 release must by its nature, reside with AT&T. Commission staff believes that the responsibility 41 of readiness rests solely with AT&T management. Because staff cannot truly opine on readiness 42 it believes that AT&T should be held accountable in a material manner for its decision to move 43 44 forward with the next 22-state release.

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# 2.0 BACKGROUND AND PERSPECTIVE

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# 2.0 Background and Perspective

### 2.1 AT&T's April Release Issues

On April 19, 2008, AT&T implemented its first phase of its OSS consolidation plan. 4 This phase consisted of a software release which mainly affected systems in the 9-state former 5 BellSouth region. As a result of the April Release, Southeast CLEC orders submitted to AT&T 6 following the release were adversely affected. CLECs experienced a severe impact in their 7 ability to interface with AT&T's OSS.<sup>6</sup> Staff believes numerous orders were delayed 8 9 significantly due to a backlog. Additionally CLECs did not receive notifications such as: order 10 confirmations, requests for order clarifications, disconnection notices, rejection notices, and 11 communications related to meetings at the customer premises for installations for a period of 12 time following the release. Numerous defects in both the software and the user documentation 13 were identified after the release.

At a May 7, 2008, AT&T Change Management Process meeting between AT&T and participating CLECs, AT&T admitted that problems occurred with the April Release. At the meeting, AT&T provided a detailed chronology of events that occurred the first two weeks after the April release. According to AT&T, during the first week after the April Release, the following three situations caused the greatest impact:

- Outbound transactions to CLECs were monitored and appeared to be working.
   However, AT&T later discovered that outgoing transactions in the form of firm
   order confirmations, clarifications, and rejections were not being delivered to
   CLECs.
- A backlog of CLEC orders were created due to outages and instability of the
   graphical user interface (GUI) system used by AT&T Local Carrier Service
   Center (LCSC).
- The new manual email ordering process introduced numerous errors into CLEC
   orders. In some cases, information contained on the Local Service Request (LSR)
   was being transposed when worked by AT&T service representatives, certain
   fields on the orders were being changed after orders were submitted, and manual
   orders were reflected in the OSS as electronic. AT&T required all of these
   previously submitted orders to be supplemented or suffer "fatal reject" status.
- 32 The details of the second week after the Release are as follows:
  - Some outgoing transactions were still not being received by CLECs, specifically those CLECs who submit orders using the XML application.
- A table in the April Release Local Access Service Request System (LASR) application that the LCSC uses to process incoming transactions ran out of free space causing new orders to back up in LASR.
  - <sup>6</sup> CLEC's pre- and post-April Release ordering processes are described in Appendix A.



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BACKGROUND AND PERSPECTIVE

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# 2.2 Auditing and Quality Assurance

On May 15, 2008, Commission staff initiated an informal workshop to discuss issues surrounding the April Release and AT&T's plans for future OSS releases in the Southeast region. At the workshop, AT&T acknowledged that a variety of CLEC-impacting issues arose in connection with the April Release. AT&T estimated that 71,000 CLEC orders in the 9-state region were negatively affected by the April Release. Of these orders, AT&T stated that 59,000 were electronic orders, and 11,000 were backlogged manual orders.

10 The CLECs participating in the workshop submitted a list of nine action items in priority 11 order that CLECs needed from AT&T to restore or improve productivity lost in the April 12 Release. The list included the following items:

- 13 Restore functions lost in the conversion to non-mechanized ordering via email.
- 14 Example 14 All defects, all severity levels need to be closed in 14 days.
- 15 When editing orders, edit the complete LSR.
- 16 Adequate trained staff must be restored.
- 17 A new comprehensive approach to testing must be established.
- 18 commingled orders should be mechanized.
- 19 Universal log-in and password for all OSS access.
- 20 Data integrity needs to be restored.
- 21 21 Remaining CLEC Best Practice Change Requests need to be accepted and scheduled.

At the workshop AT&T voluntarily committed to temporarily suspend future 22-state 23 OSS Releases in the Southeast pending resolution of the April Release issues and to expand 24 communications and testing of all future 22-state OSS Releases in the Southeast region. Upon 25 Commission staff's request, AT&T memorialized and filed these commitments with the 26 Commission on May 27, 2008. In the filing, AT&T also committed to resolve all April Release 27 software defects, provide proactive support on the new email/manual ordering process, 28 proactively process April Release billing adjustments, and review AT&T's call center and 29 support team staffing levels to meet anticipated demand. AT&T's commitments and response to 30 the CLECs action item list is discussed in detail in Chapter 5. 31

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# 2.3 August 2008 Stipulation

On May 12, 2008, Cbeyond Communications, LLC (Cbeyond), Time Warner Telecom, LP (TWTC), and DeltaCom, Inc. (DeltaCom) filed a petition with the Commission requesting an audit of the April Release. The petition also requested a stay of CLEC-impacting OSS Releases and that the Commission show cause AT&T to explain in detail the circumstances surrounding the April Release and explain why AT&T should not be penalized for its failure to appropriately implement the April Release.

In the petition, the CLECs requested an independent audit be conducted that focuses on 10 the cause of the OSS failures. In AT&T's response to the petition filed with the Commission on 11 June 2, 2008, AT&T denies that an independent audit of the April Release is necessary. AT&T 12 stated that it has provided, and will continue to provide, information and explanations regarding 13 the April Release, and has fully supported CLEC requests for status, escalation, and assistance. 14 AT&T also states that it will continue to respond to CLEC inquiries through individual customer 15 support and weekly conference calls opened to all CLECs. AT&T asserts that its internal review 16 and Expanded Test plan will include any necessary root cause analysis of the April Release 17 18 issues. 19

A conference call was held between staff and the parties on July 31, 2008 exploring the possibility that the audit be conducted by Commission staff. After further discussions, on August 5, 2008, the parties entered into a stipulation and agreed to the audit being conducted by Commission staff. The scope of the audit would be to:

- 24 Document and assess AT&T's root cause analysis associated with the April
   25 Release.
- 2627Document and assess the software defect resolution process associated with the<br/>April Release.
  - Document and assess the pre-April Release and post-April Release CLEC communications.

The scope was approved by FPSC Order PSC-08-0618-PAA-TP on September 23, 2008. 30 Per the stipulation, AT&T also agreed to refrain from implementing future 22-State OSS releases 31 until the Commission's vote of staff's recommendation addressing the final audit report or a 32 33 mutually agreeable timeframe. Additionally, the stipulation states that AT&T shall still be accountable for its commitments filed with the Commission on May 27, 2008. The stipulation 34 anticipated that the final audit report or staff recommendation to the Commission will contain 35 Commission staff's view as to whether appropriate and adequate measures have been undertaken 36 37 to minimize CLEC-impacting issues with future scheduled 22 State OSS releases.

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BACKGROUND AND PERSPECTIVE

# 3.0 KEY LEARNINGS & ROOT CAUSE ANALYSIS

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# 3.0 Key Learnings & Root Cause Analysis

# 3.1 Introduction

One of the primary objectives of this audit was to document and assess AT&T's root cause analysis of the April Release. In response to a request for AT&T's root cause analysis staff was provided with a spreadsheet listing all the key learnings which were identified during the April Release.

9 During every software release, AT&T employs a key learning process that allows 10 employees to identify what went right and what went wrong with the processes, tools, and other 11 release activities. In April 2008, this same process was followed. Key findings were compiled 12 and categorized in two phases at the conclusion of the release. Phase one was obtaining key 13 learnings from the IT organization and was completed on May 16, 2008. Phase two was to 14 solicit key learnings from the AT&T Business unit. This was completed on June 27, 2008. Over 15 60 AT&T employees identified 356 key learnings.

Once the key learnings were identified, AT&T employees formed teams and held facilitated meetings to determine the root cause for each key learning. The teams also developed action plans and assigned owners to each action plan for implementation. Meeting participants included employees from AT&T, as well as the three vendors<sup>7</sup> who participated in the April Release.

# 3.2 Key Learnings

AT&T provided staff with a list of the **356** key learnings on August 29, 2008. Staff obtained an updated status report on the key learnings on October 24, 2008. This listing was extracted from a database maintained for purposes of tracking lessons learned after each release. The information provided to staff included the date the key learning was reported, the key learning review finding, the employee who identified the key learning, the phase in which the key learning occurred, the category of the key learning, the root cause, the employee responsible for resolution, the status, the resolution date, and the resolution.

The 356 key learning findings can be further sorted by categories as follows in Exhibit 1.

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15 KEY LEARNINGS & ROOT CAUSE ANALYSIS

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<sup>&</sup>lt;sup>7</sup> The vendors participating in the April Release were Amdocs, Accenture and Telcordia.

AT&T Key Learnings by Category			
Category	Number Identified <sup>®</sup>	Closed	Open
Conversion and Order of Magnitude (OOM) 179 <sup>10</sup>	41	<u>39</u>	2
Project Management/Release Management	12	11	1
Requirements	37	36	1
IWT/ Warranty Process	38	38	0
Pre-Production Testing/Defects	112	108	4
Production Testing/Monitoring/Defects	46	45	1
Process Issues	30	30	0
Resource Management/Vendor Coordination	35	34	1
Unclassified	5	5	0
TOTAL	356	346	10

EXHIBIT 1

Source: Document Request 1-1

While the majority of the key learnings focused on areas for improvement, the key learnings listing also contained a type of finding classified as "what worked". There were 35 "what worked" key learnings. These are policies, processes or procedures that AT&T employees believe worked well during the release. Generally, the "what worked" key learnings for the April Release fall into the following categories: cross-coordination between individuals and/or teams, workflow management, and supervisory oversight. According to AT&T, cross-coordination precluded some problems from occurring or mitigated the impact if they did occur. Consistent workflow management accelerated problem resolution once a problem was discovered and routinely involved instances of the cross-coordination previously mentioned. Supervisory oversight appeared to be a key component for expeditiously resolving potential issues during the release.

AT&T prioritized the 356 key learnings on a scale of 1 to 4 considering the size of the key learning's impact as well as the timing of implementing changes generated by the key learnings. Key learnings assigned a Priority 1 are problems that will cause immediate negative corporate impact. Priority 2 key learnings are those where the problem will eventually cause a process delay or have a corporate impact. Priority 3 key learning consists of problems that can be temporarily circumvented or by-passed but cannot be deferred indefinitely. Lastly, Priority 4 problems can be temporarily circumvented or bypassed without adverse affect on commitments. The prioritization of the key learnings is shown in **Exhibit 2**.

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- 8 This includes 91 key learnings that AT&T identified as duplications relating to the April Release.
- <sup>9</sup> Status as of October 22, 2008.
- <sup>10</sup> Order of Magnitude 179 or OOM 179 is the project name given to the April Release.

KEY LEARNINGS & ROOT CAUSE ANALYSIS 16

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Key Learnin	igs Prioritizations
Priority	Number of Key Learnings
Priority 1	148
Priority 2	162
Priority 3	32
Priority 4	7
Not Prioritized	7
TOTAL	356
XHIBIT 2	Source: Document Request 4

Some of the more significant key learnings identified by AT&T were:

- Complexity of the project was underestimated (4403)<sup>11</sup>
- Vendor did not have proper knowledge of Southeast systems (4238)
- Vendor teams were not working together effectively (4293)
- Limited, if any, code reviews were performed (4132)
- Database mapping was not performed in a timely manner (4290)
- Documentation for the Local Access Service Request (LASR) production environment was not provided in a timely manner (4097)
- Project metrics were limited, missing, not communicated or reviewed (4136)
- Lack of end-to-end program management, implementation plans and testing plans (4184)
- Project hours required were grossly underestimated (4249)
- High system defect rates were experienced (4182)
- Minimal defect risk management planning was performed (4134)
- Intense pressure to meet milestone dates rather than ability to address issues. (4040)

Staff believes that the major issues experienced by AT&T include the lack of adequate planning, inadequate software testing, the lack of vendor coordination, and poor internal and external communication. For detailed examples of key learnings see Appendix B.

### 3.3 Root Cause Analysis

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AT&T's root cause analysis identified several main themes or issues. Staff believes the analysis revealed a major failure on the part of AT&T management to effectively plan, organize, direct and control the April Release. This failure is evidenced by the following root causes identified by AT&T:

Underestimation of complexity and size of merger efforts
 Insufficient conversion planning
 Over commitment by application teams

<sup>11</sup> <sup>11</sup> The number following the key learning is the key learning identification number.

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1	Emphasis on schedule rather than on quality of the release
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3	<ul> <li>Incomplete and inadequate system testing</li> </ul>
4	80 Insufficient resources
5	Insufficient knowledge and training regarding the AT&T Southeast systems
6	Lack of integrated 22-state program/release management
7	Example 2 Confusion over the roles of project management, program management, release
8	management and defect management
9	Eack of a 22-state pre-production defect management system
10	Lack of a 22-state production monitoring capabilities
11	Erroneous user documentation
12	Poor communications
13	80 Corporate culture
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15	Staff is concerned about the quality of the root cause analysis performed by AT&T. One
16	of the purposes of this audit was to ensure that AT&T had conducted an appropriate root cause
17	analysis to ensure the problems with the April Release are prevented in the future 22-state
18	releases. Root cause analysis is a problem-solving method aimed at identifying the root cause of
19	problems or events. The practice is predicated on the belief that problems are best solved by
20	attempting to correct or eliminate root causes, as opposed to merely addressing the immediately
21	obvious symptoms. By directing corrective measures at root causes, it is hoped that the
22	likelihood of problem recurrence will be reduced. General principles of root cause analysis are:
23	
24	is Mining performance improvement measures at root causes is more effective than
25	treating the symptoms of a problem.
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27	To be effective, root cause analysis must be performed systematically, with
28	conclusions and causes backed up by documented evidence.
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30	There is usually more than one root cause for any given problem.
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32	To be effective the analysis must establish all known causal relationships between the
33	root cause(s) and the defined problem.
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35	Staff does not believe that AT&T adhered to such formal principles for evaluation of the
36	issues associated with the April Release. AT&T response to staff's request for AT&T's root
37	cause analysis was the key learning list, which included a column labeled "root cause". A job
38	aid describing the key learnings reporting process states "describe what you believe to be the
39	root cause of the key learning (the "why"). If you do not know you may leave this field blank.
40	Root causes for all key learnings will be entered into the online tool by Release Management."
41	Staff does not believe any formal root cause analysis was conducted. Instead, employees merely
42	offered opinions that were not critically examined by management. The root causes listed on the
43	key learning document were typically one sentence in length, as shown in the above examples.
44	Staff is not certain that all causal relationships between the root cause and the key learning issue
45	were identified. Additionally, no supporting documentation was provided.
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A general process for performing and documenting a root cause analysis is defined below:

1. Define the problem.

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- 2. Gather data/evidence.
- Ask "why" and identify and analyze the causal relationships associated with the defined problem.
- 4. Identify which causes if removed or changed will prevent recurrence.
- Identify effective solutions that prevent recurrence, are within your control, meet your goals and objectives, and do not cause other problems.
  - 6. Implement the recommended solutions.
  - Observe the recommended solutions to ensure effectiveness.

Staff does not believe that AT&T has adequately implemented a structured process such as this, in its root cause analysis. While employees have worked together to identify the resolutions to the key learnings, staff is concerned that AT&T has not adequately implemented steps number three, six and seven of the process defined above. Many of these resolutions have not been tested and observed to ensure effectiveness. Staff is concerned that the next 22-state release will be the first test of some of these new and improved processes.

Staff also believes that there are at least 16 root causes which should be reevaluated by 21 AT&T.<sup>12</sup> In two cases, a root cause does not appear on the key learning log.<sup>13</sup> In other cases, 22 staff believes the key learning root cause analysis was weak or insufficient and can be improved 23 by continuing to ask the question "why". For example, key learning 4166 notes that a CRIS file 24 was not updated in the test environment. The associated root cause states that the requirements 25 26 were incorrect. AT&T should not stop its analysis there, but further determine why the 27 requirements were incorrect. Another example is key learning 4086, which identified that major flows in the AT&T Southeast region work differently than in the AT&T 13-state region. An 28 29 example provided covered 911 flow; the concern was these differences are noted in the business 30 and technical requirements. The root cause states: "Differences between 13-state and 9-state are 31 not always noted in the requirements." Staff does not believe this root cause analysis adequately 32 address the issue identified.

### 3.4 Resolution Analysis

- AT&T employees identified many beneficial resolutions to the key learnings from the
   April Release. Among the key resolutions identified by AT&T are:
  - Technical Oversight Team (24)<sup>14</sup>
  - Joint Architecture Team (5)
  - Expanded Test Plan (33)
  - Integrated Defect Management Process (15)



<sup>12</sup> The key learning root causes which should be reevaluated by AT&T include 4166, 4283, 7275, 4243, 4041, 4188, 4086,

4142, 4403, 4129, 4277, 4500, 4401, 4021. <sup>13</sup> Key learnings 4193 and 4050 do not contain a root cause.

<sup>14</sup> The number following the resolution represents the number of key learnings resolved by this resolution.

Vendor Quality Assurance Manager (8)
 Vendor Bi-Weekly Meetings (2)
 Training (13)
 Communication Plan (7)
 System Access (12)

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These resolutions directly address what staff considers to be some of the major issues 7 during the April Release. Staff discussed most of these resolutions with AT&T during the audit 8 to validate existence and implementation. Staff confirmed that a Technical Oversight Team and 9 10 a Joint Architecture Team have been identified and that their roles and responsibilities' have been defined. Staff also reviewed the Expanded Test Plan for the November 2008 release and 11 confirmed that the plan has been appropriately expanded. Staff also confirmed that AT&T has 12 identified an integrated defect management process for the 22-states by requiring the Southeast 13 to migrate to the defect system used in the 13-state region. 14

16 Staff confirmed that a vendor quality assurance manager has been identified, however 17 staff has not been provided with any evidence that the identification of this manager will in fact resolve the associated key learnings. Staff could not confirm that all needed training has been 18 conducted, nor could it attest to the quality of the training provided. Three of the ten open key 19 learnings are relating to the need for further vendor training. Staff confirmed that a procedure 20 requiring a communication plan has been put in place, however staff cannot confirm whether the 21 procedure is sufficient to address the issues raised in the key learnings.<sup>15</sup> Finally, staff cannot 22 confirm resolution of the system access issues because two key learnings remain open on this 23 24 topic.

Staff is concerned that several of the key learnings resolutions are merely statements or 26 promises to do better in the future.<sup>16</sup> Staff has no way of validating statements that promise 27 future adherence to a process. For example, key learning 4203 states "For future programs, 28 29 Program Managers will ensure that all Express One/Information Technology Unified Process (IT UP) phases are followed and that no steps are waived." Staff cannot validate the implementation 30 of this resolution. Some of the key learnings address AT&T employee and vendor lack of 31 32 knowledge regarding how the systems in the AT&T Southeast region work. Many of the key learning resolutions to address these issues focus on a need for training. While staff may be able 33 to validate that AT&T has held the training and that the appropriate people attended, staff has no 34 way of validating whether the training has adequately conveyed the needed information. 35 Likewise, many of the key learnings identified a lack of communication between the AT&T 36 regions. Meetings have been established to facilitate needed communication. Staff can validate 37 that the meetings are being held, however staff cannot guarantee that these meetings will resolve 38 the issues. Until another major 22-state release occurs, staff will not know whether these 39 40 resolutions have adequately resolved the concerns. 41

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<sup>15</sup> In the November 2008 Release AT&T posted information on it web-site as required by its communication plan. However, some of the information in the posting which was made for the CLEC benefit was erroneous.
 <sup>16</sup> The following key learnings are examples of resolutions that promise improved behavior in the future which staff cannot validate: 4209, 4223, 4290, 3977, 4006, 4047, 4121, 4152, 4347, 4030, 4292, 4317, 4296, 4038, 4353, 4019, 4142, 4143, 4203, 4268, 4391, and 4286.

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### 3.5 Open Key Learnings

Ten of the 356 key learnings still remain open as of October 22, 2008. Without complete closure staff is concerned that the company is still at risk of future issues. Key learnings which have not yet been resolved relate to training, testing environment, tool development and system access issues. Six of these issues are prioritized by AT&T as a priority 1 while the other 4 are prioritized as priority 2.<sup>17</sup> The open issues are discussed below.

Three of the key learnings that remain open are in the OOM 179 and Requirement categories. All three key learnings were caused by inexperience and limited AT&T and vendor knowledge of the AT&T Southeast system and processes. The resolution, according to AT&T includes increased training of the vendor regarding Southeast processes. Training topics will include Order flow, Pre-Order and Order LNP and non-LNP, as well as XML schemas. Training materials have been developed and instructors arranged. AT&T is targeting to have the training completed by the end of October 2008. (4640/4238/4182)<sup>18</sup>

One key learning remains open in the production testing and defects category. The key learnings states there was no way during the April Release to get an accurate assessment of how many CLECs were impacted by a problem. AT&T is developing a tool to look at feeds between applications, in order to track orders by CLEC. There was no resolution date provided for this key learning. (4108)

The pre-production testing and defect category contains four open key learnings. One of the open key learnings was caused by teams being unfamiliar with the process to request connectivity for offshore development teams. Systems and IP validation were different between regions. AT&T is still in the process of communicating existing offshore management offices guidelines to offshore teams and completing connectivity for each application in the 13-state region. AT&T states that this resolution should be complete by the end of December 2008. (4271)

A second pre-production key learnings was caused by a lack of communication between 30 the testing teams. Access to the application was also an issue. Providing vendor access to one of 31 the systems is still in progress with possible completion expected by the end of October 2008. 32 33 (4295)

Another open pre-production testing and defect key learning was caused by having only 35 one environment for integration and system testing. According to AT&T, a separate 36 environment is needed for the development team to complete unit and integration testing that is 37 separate from the system test environment used by the Wholesale Integration Teams. Once code 38 is delivered to the current environment, there is no environment available to deploy defect fixes 39 and/or code changes for parallel minor releases. The resolution for this key learning states "1) 40 Review in/check out process is with LASR Production Support & LASR development teams to 41

<sup>17</sup> Open priority 1 key learnings include: 4182, 4295, 4352, 4245, 4244 and 4411. Open priority 2 key learnings are 4640, 4238, 4108, and 4271

The number following the description is the number assigned to the key learning.

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ensure understanding of process, 2) Create a separate integration test environment". No resolution date was provided for this key learning. (4352)

The final open pre-production key learning was caused by testing teams not familiar with the testing process for DSL applications. The AT&T resolution states that there is a need to address application training needs for future projects for ADSL. A plan is under development. (4245)

An open key learning in the project management category identified unrealistic imposition of due dates for Business Requirement, Technical Requirements, designs, and test plans. The key learning further stated that the project timeline was poorly planned and unrealistic. The AT&T resolution for this key learning will be addressed by the Project Management Organization with other Program Key Learnings in sessions to be conducted in 2009. AT&T's resolution date is the 1st Quarter 2009. (4244)

The final open key learning is in the resource management category. The key learning 16 was caused by over-commitment of programming hours in a short development time. In order to alleviate this issue in the future Amdocs is developing a capacity model that will be used for identifying staffing needs for any future commitment requests. The estimation process will be formalized. No resolution date was provided by AT&T for this key learning. (4411)

3.6 Prematurely Closed Key Learnings

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23 Staff believes there are several key learnings that may have been closed without complete implementation.<sup>19</sup> For example, key learning 3988 deals with a need for updated documentation. 24 The log states that the resolution was in progress on July 11, 2008; however, the key learning 25 was closed on July 25, 2008 with no additional information provided. Another example is key 26 learning 4021 which states the full implementation of the technical oversight team will not occur 27 28 until March 2009. The key learning was closed on August 26, 2008. Key learning 4106 states a 29 need to use XML Schema Validation. The resolution states that a tool to achieve this has been 30 identified. Staff cannot determine from this response if in fact the tool has been implemented, 31 the key learning was closed on September 30, 2008.

33 Another example of a key learning that may have been prematurely closed is key learning 34 4277 regarding a need for management continuity over the course of the System Development Life Cycle. The resolution states "The Amdocs Release Oversight manager role will ensure 35 transitions are more successful in the future and minimize impacts to the release." Staff cannot 36 validate the adequacy of this resolution. Additionally, staff questions whether the vendor is the 37 38 appropriate entity to ensure management continuity. Vendor knowledge and coordination were 39 major issues in the April Release. Despite this, AT&T is either delegating the responsibility or depending on a vendor to resolve approximately 14 key learning resolutions.<sup>20</sup> AT&T needs to 40 41 maintain responsibility for ensuring the adequacy of the implementation of the key learnings

<sup>19</sup> Key learning resolutions which staff believes have been closed prematurely include: 4286, 4181, 4021, 4310, 3988, 4106, 4277, and 4380.

<sup>6</sup> Key learnings which staff believes have been delegated to a vendor include: 4223, 4000, 4293, 4126, 4133, 4405, 4029, 4125. 4213, 4355, 4367, 4277, 4281, and 4411.



through adequate testing and follow-up. Ultimately, the responsibility for successful future releases rests with AT&T and cannot be delegated.

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Additionally, the root cause analysis for key learning 4380 states: "Need improved coordination and direction pertaining to cross company agreements and expectations. Amdocs and AT&T leadership directions seemed to not be in sync." The resolution states:

"New agenda and leadership for the Amdocs-AT&T O&WS Management Committee governance meetings should ensure that coordination issues are easier to escalate. AT&T and Amdocs roles and Service Level Agreement expectations are being clarified going forward as part of contractual documents being worked on as part of the Southeast transitions from Accenture to Amdocs; 05/2008 - Vendor and AT&T Service Level agreements need to be in place so that all parties are on the same page. A workable escalation process needs to be included in the vendor contract."

In an interview on October 2, 2008 the AT&T's contract manager stated she was not aware of any changes to the Amdocs contract or the Amdoc's Service Levels Agreements. An Amdoc's manager also verified that no changes are being made to the contract or to Amdoc Service Level Agreements. Staff is concerned about whether AT&T has adequately clarified Amdoc's responsibilities and deliverables for the future and whether a workable escalation process is included in the contract. AT&T closed this issue on September 19, 2008. Staff believes this issue has been closed prematurely.

# 3.7 Key Learnings & Root Cause Analysis Conclusions

Over 356 key learnings were identified by AT&T employees. AT&T has invested a good deal of time and employee resources in identifying key learnings, root causes and resolutions from the April Release. Staff believes the effort that AT&T has expended will go a long way in resolving issues with the April Release.

Staff has several concerns regarding the key learning analysis as it relates to preventing future problems. First, there are 10 key learnings that remain open as of October 22, 2008. Six of these issues have been rated as Priority 1 by AT&T, meaning that the problem is causing immediate negative corporate impact. Over seven months have elapsed since the April Release. Staff questions whether AT&T paid appropriate attention to prioritization of its issues and worked its highest priority issues first. Despite this, staff anticipates, that most, if not all, of these key learning resolutions will be implemented prior to the next 22-state release.

Secondly, staff is concerned that some of the key learnings may have been closed without sufficient implementation. Staff did not see evidence that AT&T performed any type of followup to ensure that these recommendations were truly implemented and had effectively resolved the identified problem. Staff recommends that AT&T conduct an internal review of the key learning resolutions and validate that resolutions have been adequately implemented and that the resolution have actually resolved the issue in question. Staff also requests that AT&T review all

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key learnings to determine whether other key learnings, in addition to those identified by staff,
 may have been prematurely closed.

Staff also believes that AT&T should reevaluate its root cause analysis for the key learning identified by staff in Section 3.3, as having weak or insufficient root causes. A weak root cause analysis will result in not all of the causal relationships being identified, which will possibly result in a flawed or incomplete resolution. Staff is concerned that this may be the case for selected key learnings. AT&T should reevaluate it key learnings root cause analysis process and ensure that the approach followed is adequate.

Staff believes that AT&T missed an important opportunity to solicit input from its clients in the CLEC community in this key learning process. AT&T made little attempt to gather lessons learned in the April Release from the CLEC community. Had it done so, valuable input regarding the AT&T and CLEC communication process may have been received.

Finally, staff is concerned that AT&T has made numerous statements in its key leanings
which promise future compliance with policies or procedures, or improved future performance.
With only such statements, commission staff cannot fully opine whether appropriate and
adequate measures have actually been undertaken to prevent issues with future releases.

In summary:

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- AT&T should resolve the 10 open key learnings prior to implementing the next 22state release.
- AT&T should perform an internal review to ensure that all recommendations were completely and satisfactorily implemented and that each of the resolutions has adequately corrected the specified issue.
  - AT&T should reevaluate it key learnings root cause analysis process and ensure that the approach followed is adequate.
  - AT&T should reevaluate its root cause analysis for selected key learnings and ensure that all causal relationships have been identified and the resolutions identified are sufficient.
  - >>>> AT&T should reevaluate resolutions which have been identified as prematurely closed, particularly those related to vendor coordination, and take appropriate action.
  - AT&T should consider incorporating input from its CLEC clients in its future key learnings process.

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4.0 DEFECT MANAGEMENT

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# 4.0 Defect Management

# 4.1 Introduction

Documentation and assessment of the defect resolution process was identified as one of the three key objectives of this review. Staff reviewed both the pre-production and production defect management processes associated with the April Release. Sound defect tracking methodology is vital to correcting deficiencies in a software release and to improving internal processes.

The acceptable number of defects for a software release is generally considered dependent on the sensitivity relative to the field, enterprise, or business the software is designed to assist. For instance, air traffic control or military software would arguably have far smaller tolerances for defects than software updating a video game application. This rate should be established in the earliest stages of a scheduled software release, during the pre-design risk assessment phase, by the project development team. AT&T does not identify an acceptable number of defects in advance of a project or release. The company states its goal is zero defects.

Prior to initiation of the audit, AT&T had reported to the Commission that as of June 20,
 2008 there were 229 production defects in the April Release.<sup>21</sup> This information was not correct.
 Staff later discovered there were actually a total of 495 production defects. In addition, staff also
 learned there were 1,340 pre-production defects in the April Release.

### 4.2 Pre-Production Defect Management

Pre-production defects are those that are detected through software testing prior to implementation of the software on the release weekend. AT&T's objective is to ensure that all software testing defects are closed prior to the end of testing in accordance with system test exit criteria. AT&T manages pre-production defects in the application tool called Quality Center. The process begins with identification, validation and documentation of a defect. The process ends with validation of a code fix and the defect is then closed. Defect management can result in process improvement if adequate and sufficient data is captured and documented for each defect.

#### 4.2.1 Pre-Production Defects

The April Release captured 1,340 total pre-production defects. The segregation by severity in Exhibit 3 reveals:



<sup>21</sup> AT&T's response to staff's data request was contained in PSC Order 08-0618-PAA-TP and stated there were 125 CLEC impacting defects and 104 non-CLEC impacting defects.



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	Pre-Production Defects by	Severity
Туре	AT&T Classification	Number <sup>22</sup>
Severity 1	Critical	158
Severity 2	Major	903
Severity 3	Average	279
TOTAL		1,340
XHIBIT 3		Source: Document

ot defects". 14 The term "hot defect" is an internal AT&T term commonly used to describe a defect which 15 represents a process bottleneck and whose continued existence precludes other teams from 16 continuing forward with tasks associated with the release. Applying the "hot" classification to a 17 defect indicates a relatively more urgent need for remediation. These hot defects were also 18 categorized as Severity 1, 2, or 3. There were 41 categorized as Severity 1, 29 categorized as 19 Severity 2, and 1 categorized a Severity 3. AT&T explained that the designation did not alter or 20 blur the established criteria for its severity rankings but simply provided a means of stratifying 21 similar type defects in order to provide for better, more efficient workflow and resource 22 23 management.

Examples of some of the "hot	defects" ranked as Severit	y 1 include:
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- Service order number is not being passed to the Local Exchange Service Order Generator (LESOG) on supplemental requests. (376)<sup>23</sup>
- CALC\_DATE is being passed as blanks to LESOG which causes request to drop for manual handling. (1020)
- No LASR Graphical User Interface (GUI) is not displaying proper error message. (1572)

At the time of the pre-release final code freeze in April, eight pre-production defects remained open.<sup>24</sup> AT&T stated that none were of the most critical type, Severity 1 AT&T further explained that each defect had a full workaround in place to allow normal operations until a permanent repair could be applied downstream, during a normally scheduled warranty or maintenance release.



<sup>22</sup> AT&T originally reported the total number of pre-production defects as 1,257. A subsequent staff inquiry resulted in a revised figure reflecting the higher figure noted above. AT&T stated that 83 conversion defects had been overlooked and not reported in the original response.

<sup>24</sup> AT&T originally stated that six pre-production defects remained open at final code freeze. A later staff inquiry resulted in another revision. This combined with the previously noted oversight leads further staff to a conclusion that there was a lax approach to defect tracking and management for the April Release.

DEFECT MANAGEMENT

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<sup>&</sup>lt;sup>23</sup> The number following the defect is the defect identification number.

The eight pre-production defects still open at the time of the April Release were:

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- So Loop makeup inquiries, without data in some non-mandatory fields, resulted in the inquiry incorrectly being returned in an error status. (Defect No. 1375, Severity 3)
- The LASR GUI display did not display all required fields though a test case proved the fields were addressed, and returned, in notifications. (1562, Severity 2)
- The LASR GUI was not recognizing certain field values. CLECs were instructed to use the LSR remarks section to indicate a need for special handling of these particular values, allowing LSC representatives to process the LSR manually. (1567, Severity 2)
- In LASR, duplicate error messages appeared on screen for service orders after a review had already been performed once and the item resubmitted for review. (1571, Severity 3)
- Firm Order Confirmations (FOC) and provider initiated notifications were being adversely affected for email manual local service requests (LSRs). Local Service Center (LSC) representatives could manually adjust in the LASR GUI. (1580, Severity 2)
- LASR/EU FOC view screen was displaying erroneous order numbers. (1591, Severity 2)
- There was no mechanism in place to ensure a line loss file was processed only once. LEO would process one order per day. LASR could process multiple files but had no means to ensure it didn't process the same file twice. This defect was noted in the log as minimally impacting CLECs because only eight CLECs had elected to receive line loss notices via EDI. (1607, Severity 2)
- Uncertainty whether a particular audit message appearing on pending service orders was necessary with LASR processing the orders. (1618, Severity 3)

According to AT&T, the most problematic defect associated with the April Release was lack of delivery of CLEC notifications. While this defect was not discovered until production, arguably it should have been uncovered in pre-production. Pre-production notification testing was not conducted end-to-end. AT&T admitted that, at least with respect to notifications, everyone "just sort of missed it". This proved to be a critical miss.

#### 4.2.2 Pre-Production Defect Management Key Learnings

42 April Release pre-production defect management tracking was conducted using both 43 Harvest and Quality Center, two defect management and tracking applications. Harvest was 44 used in the 9-state region while Quality Center was used by Amdocs for all LASR-related pre-45 production defects. The employees in the 9-state region did not have access to Quality Center

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during the April Release. This use of two defect tracking systems caused major problems for
 AT&T and was the subject of several key learnings.

During the April Release, there were 27 key learnings attributable to pre-production defect management. Selected key learnings furnished insight into the prevalent pre-production difficulties experienced by AT&T. A more detailed explanation of representative key learnings can be found in **Appendix C**. The following is a sample of the pre-production defect-related problems identified by AT&T to have been prevalent in the April Release:<sup>25</sup>

- Two different, non-interactive defect reporting tools (Harvest and QC) were used for entering and tracking defects. (4383)
- Some operators had no access rights to Quality Center, preventing some from creating adequate, timely defect reports. (4311)
- There were limitations in the QC reporting/tracking tool; some fields were inadequately sized to fully accommodate required descriptions. Information could not be exported to a spreadsheet for further analysis. (4310)
- Values derived on status reports were inconsistent. Different values were derived using the same criteria, dependent on operator input and time of day status reports were run. Format varied for the same reports. (4312)
- There was insufficient pre-production defect management interaction and coordination between the 9-state (and their vendors) and 13-state application groups (and their vendors). Change wasn't adequately communicated to all parties. Interaction that occurred was sometimes late in the pre-production process. (4330)
- Defect patches negated testing that had previously been completed. Last minute fixes were risky, leaving little or no time to test them. Teams focused on achieving deadlines instead of assessing the status of release testing results. (4360)

33 Several other pre-production management issues went unidentified by AT&T and 34 ultimately proved problematic before the April Release. Perhaps most importantly, the 35 individual responsible for pre-production defect management was replaced prior to the release 36 and production phase. Staff believes this caused a lack of defect management operational 37 continuity between pre-production and production environments and was a contributing factor to 38 problems experienced.

### 4.2.3 Pre-Production Defect Management Resolutions

Several improvements have been incorporated to the pre-production defect management process since the April Release. In August 2008, AT&T began using Quality Center as the primary application for pre-production defect management. Not only are the two regions' processes now combined in a single reporting tool, but AT&T also asserts that communications regarding defect management have been improved and streamlined. Efforts to educate

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<sup>&</sup>lt;sup>25</sup> The number following the statement is the key learning identification number.

employees and managers on the defect process have been increased. Stricter controls are now in 1 place for enforcement of the pre-production defect identification and tracking process.

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# 4.3 Production Defect Management

Production defect management is the practice of managing defects found in software that has been implemented and released to the CLECs for use. This implementation occurs over the release weekend. The defect management process begins with the identification of a defect either by AT&T or its vendor. Proper validation and documentation of the defect follows, each an integral part of defect management. The process ends with validation of a code fix in the production environment. The defect is then closed.

### 4.3.1 Production Defects

AT&T tracks the number of defects encountered over the release weekend. This result is can compared to prior releases as a benchmark. Prior to the April Release, AT&T typically averaged 10 defects on a release weekend. During the April Release, a total of 38 defects were validated over implementation weekend, nearly four times the norm.

18 Following the April Release, a total of 495 production defects were reported as of September 5, 2008. Staff notes this number is significantly higher than the 229 production 19 defects originally reported by AT&T to the Commission on June 30, 2008. Exhibit 4 depicts the 20 number of defects by CLEC impact and severity: 21

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Produ	iction Defects		
Severity 1 Critical	Severity 2 Major	Severity 3	Total
64	82	124	270
48	96	81	225
112	178	205	495
	Severity 1 Critical 64 48	Severity 1 CriticalSeverity 2 Major64824896	Critical         Major         Average           64         82         124           48         96         81

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AT&T reported that 270 (54.5 percent) of the defects directly impacted CLEC 26 operations.26 Over one-fifth (22.6 percent) were the most critical type, Severity 1. As of September 5, 2008, 75 defects of the 495 shown above still remained open from the April Release. None of the Severity 1 and only eight Severity 2 defects remains open. The remaining 30 67 open defects are Severity 3.

32 Staff analyzed the total production defects experienced during tri-annual releases for the 33 two-year period 2006-2007. Comparison were made of numbers and types of defects for the 34 entire years of 2006 and 2007, spread across three tri-annual releases each year, versus the

<sup>&</sup>lt;sup>26</sup> CLEC impacting problems are cases where the interface is not working in accordance with the AT&T-SE baseline user requirements or the business rules that AT&T-SE has published or otherwise provided to the CLECs. These problems typically affect the CLEC's ability to exchange transactions with AT&T-SE and may include documentation that is in error, has missing information or is unclear in nature



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number and type of defects associated with only the April Release. This analysis demonstrates 1 the magnitude of the problems and their potential for disruption to the company and to wholesale 2 3 customers. 4

The total number of defects discovered in the three 2006 releases and the three 2007, including all levels of severity, was 126 and 120, respectively. Of those, 79 and 76, respectively, had direct CLEC impact. The total number of defects for the single release of April 2008 was 495, approximately four times larger than the total for either year.

10 AT&T OSS software releases have a specified warranty period. This usually takes the form of a two-week period during which known defects are corrected through the execution of 11 four maintenance releases. The goal of these maintenance releases is to fix any defects found 12 13 with the software during and immediately after implementation. Because of the magnitude of problems with the April Release, the warranty period was extended from two to four weeks and 14 15 defect reporting for this release continued until mid-August 2008. 16

17 Of the defects experienced during the extended warranty period for the April Release, slightly over half were CLEC impacting. Of those, the preponderance of warranty defects (70.5 18 percent) was in the two most severe categories. The overall distribution of Severity 1 to Severity 19 3 CLEC-impacting defects was 39.6 percent, 30.0 percent, and 29.5 percent respectively. 20 Exhibit 5 shows the warranty period defect by severity and CLEC impact. 21

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Warranty Period Defects				
Defects	Severity 1 Critical	Severity 2 Major	Severity 3	Total
CLEC Impacting	59	46	44	149
Non-CLEC Impacting	32	54	49	135
TOTAL	91	100	93	284
TOTAL EXHIBIT 5	91	100	93 Source: 1	Do

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# 4.3.2 Production Defect Management Key Learnings

During the April Release, there were 32 key learnings derived from production testing 27 defects. Studying a few representative examples from the key learnings provides insight into 28 some of the more prevalent, recurring difficulties. A more detailed explanation of some of the 29 production key learnings can be found in Appendix D. The following are among the most 30 31 problematic production defects during the April Release:<sup>27</sup> 32

> 80 Business unit practices varied between the 9-state and 13-state regions. Regional differences were not ascertained until critically late in the pre-release schedule. Emergency fixes had to be implemented. (4007)

80 Responsibility for defect resolution was not clearly delineated. Resolutions were different in the 9-state and 13-state regions, leading to inconsistencies. (4059)

<sup>27</sup> The number following the statement is the key learning identification number.

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Defects were not well documented. Defects were being worked directly with resolution teams, bypassing established procedures. As a result, developers were sometimes being kept away from higher priority issues. (4061)

Defect management guidelines were being ignored. Multiple defects were assigned under a single defect number. This obscured accountability and traceability. The southeast did not have access to Vantive and not all vendors were following AT&T defect management protocols. Testing groups' efforts were overlapping. (4124)

#### 4.3.3 Production Defect Management Resolutions

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13 Key improvements have been implemented to the production defect management process 14 since the April Release. A 22-state, production defect management process is now in place using 15 Vantive. AT&T states it believes that communication regarding production defect management has been improved. AT&T states it has also implemented stricter controls of the production 16 17 defect determination and tracking process. Training has been conducted to ensure that employees 18 adequately understand the defect process. 19

20 The company stated that both the number and scope of practice exercises prior to releases 21 have been increased to heighten operator proficiency and awareness. All managers involved 22 with defect tracking and analysis have undergone remedial training following the April Release. 23 Though no firm number of sessions could be identified by AT&T, the company stated that as 24 many as three such sessions have been held since April and included not only defect managers 25 but vendor representatives as well. These sessions were generally conducted using a 26 teleconference bridge with PowerPoint guides sent to all participants.

28 As discussed in the previous chapter, one key learning remains open in production testing 29 and defects category. The open key learnings in this category states there was no way during the 30 April Release to get an accurate assessment of how many CLEC orders were impacted by a problem or defect. AT&T is developing a tool to look at feeds between applications, in order to 31 32 track orders by CLECs. There was no resolution date provided for this key learning.

#### 4.3.4 Production Defect Root Cause Analysis

35 The defect management data base has a field for designating a root cause for each defect. 36 Staff reviewed the root causes for the April Release defects to ensure that AT&T was taking 37 appropriate action to prevent future occurrences. Staff found that:

38	DECTE A CONTRACTOR
39	≥ 51.4% of defects were caused by developer coding errors.
40	8.3% of defects were cause by coding logic or sequencing errors.
41	>>> 5.2% of defects were caused by environment misconfiguration e.g. wrong code
42	version used.
43	3.8% of defects were caused by incorrect or missing system requirements.
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45	Over 22% of the defects did not have a root cause identified. The newly developed
46	Production Defect Management Guide does not give any guidance on root cause analysis, other

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than providing the list of 33 potential root causes that could be entered into the data base. No information is provided in the defect management guide regarding who is responsible for reviewing root cause information and for taking appropriate action. Staff is concerned by this lack of emphasis on root cause analysis and by the missing root causes. While staff believes that AT&T has taken appropriate steps to prevent coding errors in the future by increased communication and increased developer training much more attention is needed for the defect root cause analysis process.

#### 4.4 Defect Classifications

AT&T has two systems for classifying defects. Defects are classified by severity and by whether or not they are CLEC impacting. The manner in which the defect is classified has an impact on CLECs.

#### 4.4.1 Severity Classification

During the April Release, AT&T did not employ a uniform severity methodology to classify defects. The 9-state and 13-state severity definitions were different, in the number of severity levels and the allowable number of days for remediation.

Defect Remediation Period by Severity					
Severity	9-state Days Allowed*	13-state Days Allowed**			
1	No Information	0 to 5 days			
2	Within 10 days	0 to 45 days			
3	Within 30 days	0 to 60 days			
4	Within 45 days	N/A			
XHIBIT 6	* Source: AT&T SE Change Control Process Guide10/28/0				

<sup>\*</sup> Source: AT&T SE Change Control Process Guide10/28/08 \*\* Source: Document Request 4-11

Application of a severity code is a manual process, requiring the employee opening a
 defect to assign a numerical value for the degree of severity based on established criteria. The
 assigned severity value is then verified prior to permanent inclusion on the defect list.
 Production key learnings indicate that this verification process was not always performed or was
 sometimes applied incorrectly during the April Release.

Defects within the 9-state region are classified on a severity scale of 1 (critical) to 4 (cosmetic). Defects within the 13-state region are also ranked for severity but use a different ranking system, employing only three grades of severity. Details regarding differences in the ranking can be found in **Appendix E**. As shown in **Exhibit 6** above, significant differences exist in the allowable timeframes for remediation.

AT&T stated that it recognized the disparity and has established a defect management process which includes a single severity coding protocol for future releases. Staff still has concerns regarding whether a single standard has been, or in fact, can be adopted. The AT&T website contains a newly-published Change Control Process Manual dated October 28, 2008.

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This manual contains the same severity codes and remediation days as shown in Exhibit 6 above
 for the 9-state region. It does not appear that any changes have been made. In fact, staff believes
 AT&T could not make changes to this manual without approval from the CLECs.<sup>28</sup>

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Additionally, staff believes changes to the remediation period would also require the approval of the Florida Public Service Commission. A wholesale service quality measure titled Percentage of Software Error Corrected in "x" Business Days (CM-6) ordered by the Florida Public Service Commission requires AT&T to report defect correction timeliness. The "x" specifically refers to the remediation period of 10, 30 and 45 days for Severity 2, 3 and 4 defects, respectively. The benchmark is that 95 percent of the defects should be corrected in the allowed timeframe.

Staff notes the CM-6 service quality measurement data report on the AT&T PMAP 13 website reveals that AT&T failed the metric sporadically for several months following the April 14 15 Release. AT&T reported that it failed the measure for Severity 2 defects for May, June, August, 16 and September 2008. It also reported that it failed the measure for Severity 3 defects for May, July, August and September.<sup>29</sup> Despite these failures, AT&T calculated that it owed no penalties 17 for missing this measure under the Self-Effectuating Enforcement Mechanism (SEEM). AT&T 18 is supposed to pay \$1,000 for every defect that did not meet the 95% benchmark. While staff is 19 aware of differences between the SQM and SEEMs calculations, staff is very concerned 20 regarding the accuracy of the information being provided for the Change Management 21 measures.<sup>30 31</sup> When specifically asked about Change Management SQM accuracy AT&T stated 22 23 that all information posted was accurate. Staff does not agree and believes further review is needed by both AT&T and staff regarding accuracy of the Change Management measures.<sup>32</sup> 24 25

If, in fact, the information is found to be accurate, staff has further concerns regarding the adequacy of the measures which can be addressed in a future review of the SQM and SEEM plan scheduled for 2009. At a minimum, staff believes the 95 percent benchmark needs to be reviewed. Additionally, there may need to be a remediation requirement for Severity 1 defects.

#### 4.4.2 CLEC Impacting Classification

AT&T defines CLEC impacting as those production defects which directly affect CLECs' ability to do business. The AT&T-SE Change Control Process manual dated October 28, 2008 defines CLEC impacting as problems which typically affect the CLEC's ability to exchange transactions with AT&T-SE and may include documentation that is in error, has missing information or is unclear in nature.

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<sup>&</sup>lt;sup>32</sup> Close or fix date was missing from the defect listing provided to staff. If this information is not populated in the data base staff questions what field is being used as input to the SQM and SEEM calculations analysis.



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<sup>&</sup>lt;sup>28</sup> The Change Control Manual includes that statement: Jointly Developed by the Change Control Sub-team comprised of AT&T-SE and CLEC Representatives.

<sup>29</sup> No severity 4 defects were reported.

<sup>&</sup>lt;sup>30</sup> AT&T's SQM website did not report any defects corrections for the month of April and June for Severity 2, and none for the month of April and July for Severity 3. However AT&T's Enhanced Defect Report for April 29, 2008, shows numerous severity 2 and 3 defects closed during April that should have been included in the metric. Additionally, there were at least 30 severity 2 defects closed in June according to the July 2, 2008 Enhanced Defect Report.

<sup>&</sup>lt;sup>31</sup> Staff's analysis of the defects reported in Document Request 1-4 also reveals AT&T would have failed the benchmark for both Severity 2 and 3 for May through September 2008.

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Staff is not sure how, when or by whom defects are classified as CLEC impacting or non-CLEC impacting. This classification is not addressed in any of the AT&T defect manuals reviewed by staff. A listing of defects, known as the Enhanced Defect Report, is published daily on the AT&T website. However, the Defect Production Management Guide states that the report is edited by Wholesale Business prior to posting. Staff questions why Wholesale Business would be editing this report provided to CLECs. Perhaps this is when the decision regarding CLEC impact is made.

9 If a defect is classified as non-CLEC impacting CLECs are never made aware that the 10 defect exists. The defect will not occur on the Enhanced Defect Report. Additionally staff 11 believes that AT&T is excluding non-CLEC impacting defects from the calculation of the defect-12 related SQM and SEEM measures discussed above. Staff is concerned that AT&T may be 13 incorrectly applying the classification of non-CLEC impacting defects, and therefore a 14 substantial number of defects are not being reported to the CLECs. In the April Release, 225 of 15 the 495 defects were classified as non-CLEC impacting and were never seen by CLECs.

16 17 A review of the AT&T non-CLEC impacting reported defects revealed defects which appear to be CLEC impacting. For example, Defect 183062 states "CCKT is not being sent on original 18 FOC" and Defect 183035 states "Order number missing on SE jeopardizes." Jeopardizes and 19 FOCs are both notices sent to CLECs. Staff believes that missing order numbers and missing 20 information in fields of these notifications would be CLEC impacting. CLECs need to know that 21 22 this information is not available so they can plan accordingly. Staff believes that AT&T should 23 reevaluate its use of the CLEC impacting classification. 24

#### 4.5 Defect Methodology and Organizational Changes

AT&T has indicated an understanding and appreciation of the difficulties with defect management experienced in the April Release. As a result, the company has taken steps to improve pre-production and production defect identification, tracking, and remediation.

Two changes stand out as the most critical going forward. First, defect tracking for all future releases has been migrated to one manager and a single management team rather than separate region-specific oversight. Secondly, AT&T states that as of August 16, 2008, the 9state region was incorporated into the 13-state defect management process.

AT&T states that a review of code-related defects resulting from the April Release was undertaken as a result of the problems encountered. Resolutions for future releases include a rejection of late business requirement changes, more frequent and comprehensive code walktroughs' within the LASR development team, and additional resources added to the LASR development team.

Going forward, Quality Center will be the pre-production defect management application. Production defect management will employ the Vantive application. Depending on when in the release cycle a defect occurs, it will be initially recorded and tracked, from inception to closure, using either Quality Center or Vantive for future releases.

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1 AT&T has also published defect management resources to further clarify individual and 2 team responsibilities. These new publications will assist in the overall process of defect 3 management. The three major resource guides are: 4

- 80 Wholesale Production Defect Management Guide (January 2008)
- IT Defect Production Management Guide (August 2008)
- 80 Wholesale Test Ordering Defect Management Guidelines (October 2008)

9 For pre-production, the defect organization has also undergone a comprehensive revision. 10 Defect management has been made more robust than the days preceding the April Release. The 11 company states that this is evidence of their resolve to detect defects early and devise 12 satisfactory, non-disruptive resolutions whenever possible prior to a release. Two Assistant Vice 13 Presidents (AVP) have now replaced the Executive Director. The AVPs are responsible, 14 respectively, for Consumer IT and Customer Care and Billing & IT Solutions.

4.6 Defect Management Conclusion

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Never before had AT&T ever encountered defect management problems such as those resulting from the April Release. The scope of defects encountered overwhelmed its ability to comprehensively respond in a timely manner and resource fatigue eventually became a problem multiplier. The scope, volume and magnitude of the 495 production defects exceeded AT&T's experience, expectations, and ability to adequately respond.

Defect tracking management, from methodology to remediation, was often uncoordinated. Defects were captured in different applications that did not share common architecture or an ability to communicate Disparate systems delayed the full comprehension of problems and subsequently hindered management response. Duplicative entries in two systems led to varying but continuing levels of confusion about specific responsibilities. The inability of various defect tracking systems to communicate or cross-populate denied management valuable analysis tools with which to efficiently discern pre-production and production defect trends.

31 Prioritization of defects was impaired, allocation of resources was impacted and remediation arguably delayed in some instances. Though AT&T stated that defect analysis tools 32 worked as designed in each region, some managers allowed that input errors and user oversights 33 34 precluded optimum performance. The number of defects resulting from the April Release, particularly those of the most critical severity type, quickly outstripped AT&T's ability to 35 36 immediately respond in a proactive, comprehensive, and systematic manner. Staff believes the 37 company grossly underestimated the quantity, scope, and severity of defects that might be encountered with this release. 38 39

AT&T has demonstrated interest in getting to the core of April Release problems. As a
 result, organizational structures and responsibilities for defect management have been adjusted.
 The defect tracking system has been streamlined and rests in a single system. Training has
 increased in anticipation of future releases. Despite these changes, staff has some concerns
 regarding the overall effectiveness of the defect management at AT&T. Staff is particularly

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concerned with defect root cause analysis, defect remediation timeframes and accuracy and
 adequacy of the defect related change management service quality measures.

- The following are staff recommendations regarding defect management:
- AT&T should review the April Release defects and the root causes identified for each and ensure that a root cause has been identified and that appropriate action has been taken to prevent future occurrences.
- AT&T should improve its emphasis on defect root cause analysis through written policies and procedures, assignment of responsibilities and employee training.
- AT&T should continue to evaluate the consolidation of its defect management process to ensure that defects are resolved in an expedient manner and are compliant with the benchmarks established by the Florida Public Service Commission.
- 80 AT&T should review the accuracy of data collection and reporting for all Change Management Service Quality Measures and the Self-Effectuating Enforcement Mechanism.
- AT&T should reevaluate its use of the CLEC impacting classification and either eliminate it, giving CLECs full visibility of defects or have a clearly communicated definition of when it is applicable.

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5.0 COMMITMENTS & CLEC COMMUNICATIONS

### 5.0 Commitments & CLEC Communications

#### 5.1 Commitment Objectives

As noted previously, on May 15, 2008, Commission staff held an informal workshop to discuss issues surrounding AT&T's April Release. At the workshop, AT&T agreed to suspend future planned 22-state OSS releases until the following objectives were met:

- 8 Resolve April Release defects
   9 Expand CLEC communications
   10 Develop an Expanded Test Plan
   11 Provide proactive support on email manual ordering process
  - Provide proactive billing adjustments
  - Improve customer support team responsiveness

To satisfy these objectives, AT&T voluntarily made 32 commitments to the Commission. The list of commitments was memorialized in a subsequent filing with the Commission on May 26, 2008. During this audit, staff requested AT&T to provide updates of the implementation status of each commitment. AT&T provided supporting documentation or evidence of implementation for each commitment.

This chapter discusses and provides staff's assessment of AT&T's efforts regarding the objectives listed above and the supporting commitments for each objective. Appendix F discusses staff's assessment of each of the 32 commitments.

Staff notes that AT&T's objective to Expand CLEC Communications directly relates to one of the three objectives of this audit. Commission staff has documented and assessed pre-April Release and post-April Release CLEC Communications in Section 5.3.

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### 5.2 Resolve April Release Defects

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Defects are problems that occur when the OSS interfaces are not working in accordance with AT&T's baseline user requirements or business rules. Defects are discovered by AT&T in the pre-production environment and discovered by both CLECs and AT&T in the production environment. AT&T identified 1,340 pre-production April Release defects and 495 production April Release defects. Before moving forward with implementation of future 22-state OSS releases, AT&T agreed to first resolve defects associated with the April Release. The following three commitments were established to achieve this objective:

- 1. Resolve all Severity 1 and 2 defects.
  - 2. Provide status related to the transmittal of Line Loss Notifications.
  - Provide status related to the Billing Completion Notices.

42 AT&T contends that each of the above commitments has been satisfied, and as a result, 43 the objective to resolve April Release defects has been met. However, staff notes that as of

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COMMITMENTS & COMMUNICATIONS



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September 5, 2008, eight Severity 2 defects remained open. Staff expects these eight defects to
 be remedied prior to implementation of the next 22-state OSS release. Staff believes it is
 premature to close the following commitment until AT&T provides supporting documentation
 that addresses the closure of the open defects:

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1. Resolve all Severity 1 and 2 defects.

#### 5.3 Expand CLEC Communications

AT&T's primary vehicle for communicating issues to CLECs is through AT&T's Change Management Process (CMP).<sup>33</sup> Monthly CMP meetings are used to discuss upcoming changes to OSS interfaces, report on AT&T-initiated and CLEC-initiated Change Requests,<sup>34</sup> system outages, software documentation changes, and regulatory changes. Therefore, the CMP process is of great importance to AT&T and CLECs. AT&T uses an Accessible Letters notification process to provide CLECs with an advanced notice and agenda for the monthly CMP meetings.

17 CLECs raised concerns with the adequacy of AT&T's CMP shortly after the merger of AT&T and BellSouth. The development of change requests, issuance of change notifications, 18 19 and administration of CMP meetings changed as a result of the merger. CLECs that operate in 20 the former BellSouth 9-state region found that portions of the former Change Control Process 21 (CCP) procedures were no longer in place or documented. In response, AT&T acknowledged a need for improved external communications with CLECs, particularly in connection with the 22 23 April Release. AT&T committed to expand and improve on communications with CLECs. 24 including the discussion of April Release issues, and to provide proactive communications for 25 future 22-state OSS Releases in the Southeast region. AT&T provided staff with a list of 11 26 commitments specific to CLEC communications: 27

- Maintain recurring status calls with customers until the earlier of the resolution of Severity 1 and 2 defects resulting from the April OSS release or consensus that calls are no longer necessary.
- 5. Continue to status plans for currently scheduled 22-state releases within existing monthly CMP Meetings. Enhance clarity of pre-release communications by providing a review of all systems and customer interface changes included in future 22-state releases in advance of Accessible Letter communications. Use this input to improve the clarity of Accessible Letter information.
  - Outline CLEC training plans and materials for future 22-state releases. Take into consideration customer input prior to finalization of such training. Release CLEC training materials in accordance with CMP/CCP timeframes.
- Recorded messages will be made available during Release Implementation Weekends reporting on current status and "go/no go" readout.
- A virtual "War Room" will be established during the initial three days after scheduled releases to update customers of any Post Release issues. Daily calls can be expanded/extended as necessary.



<sup>33</sup> This was formerly known as the Change Control Process (CCP) in the BellSouth 9-state region.
 <sup>34</sup> Change Requests are requests to modify OSS systems.

- 9 Provide a single document that clearly describes roles/responsibilities/titles for the following AT&T personnel to assist with more effective customer contact and escalation points: 1) Wholesale Customer Support Managers, 2) Information Services Call Center, 3) Mechanized Customer Production Support Center.
- 10. Perform internal documentation review to enhance clarity of Web-based Defect Reporting (EDR Report) - Updated beginning 5/15 and ongoing.
- 11. Perform internal documentation review to enhance clarity of XML Documentation.
- 12. Correct identified issue with reject reason field to restore to pre-release length of 5 characters.
- 13. Perform internal documentation review to enhance clarity of Systems Outages Notifications.
  - 14. Will take into consideration comments received from customers to date and cover results with CLECs once completed.

AT&T contends that each of the above commitments has been satisfied, and as a result, 15 the objective to expand CLEC communications has been met. Staff agrees that AT&T has 16 satisfied seven of the 11 commitments. Details of staff's analysis of items 4 through 14 can be 17 found in Appendix F. Staff believes the following four commitments should remain open until 18 AT&T provides additional supporting documentation for staff to concur with closure of these 19 20 items: 21

- Outline CLEC training plans and materials for future 22 State releases. Take into 6. consideration customer input prior to finalization of such training. Release CLEC training materials in accordance with CMP/CCP timeframes.
  - 11. Perform internal documentation review to enhance clarity of Web-based Defect Reporting (EDR Report) - Updated beginning 5/15 and ongoing.
  - 13. Perform internal documentation review to enhance clarity of XML Documentation.
  - 14. Will take into consideration comments received from customers to date and cover results with CLECs once completed.
- 5.4 Develop an Expanded Test Plan
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32 The purpose of an application test plan is to coordinate all the individual efforts 33 associated with the application. Individual test plans are developed at the project level to ensure new functionality is sufficiently designed, tested and validated. Pre-production tests are 34 designed to ensure that all systems will function acceptably when migrated from the test 35 environment to the production environment. Furthermore, the pre-production test environment is 36 comprised of multiple end-to-end testing to closely replicate the production environment. The 37 38 overall testing objectives include the following: 39

- 20 Ensure that the software satisfies documented requirements
- Ensure that newly implemented features and defect fixes do not have a negative impact on the current systems
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**COMMITMENTS & COMMUNICATIONS** 

Ensure that each sub-system component processes the input data correctly whether data is valid or invalid, and that the output data created can be correctly processed by the next sub-system component

#### 80 Ensure that existing operations are not degraded from earlier releases

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AT&T's April Release incurred defects that went undetected during AT&T's preproduction testing process. Primarily, the errors impacted outbound transactions to CLECs such as the accuracy and completeness of the firm order confirmations (FOCs) that are sent to CLECs to acknowledge that AT&T has received and accepted a CLEC order. Specifically, AT&T failed to read and return notifications sent via the EDI and XML front-end applications. The local number porting process, disconnection process, as well as the supplemental ordering process, also experienced significant delays after AT&T implemented the April Release.

According to AT&T, 16 CLECs participated in the April Release testing; however AT&T acknowledged that additional emphasis should have been placed on end-to-end testing and CLEC participation. End-to-end testing verifies system functionality by following a set of data from its inception through all points where it is processed, including completion to billing.

AT&T also acknowledged that a larger set of regression tests should have been performed and the cumulative impact of volume tests was not recognized during the short time frame to implement the April Release. Regression testing ensures that new release changes and enhancements function as expected with prior releases. Volume testing ensures that the release operates effectively at specific volume levels.

In response to an inadequate Test Plan for the April Release, AT&T implemented a 22state Test Plan. The AT&T's 22-state Test Plan is an Expanded Test plan with the objective of communicating the test approach and summarizing the project level test plans that are required to accomplish successful pre-production testing of OSS releases. The 22-state Test Plan is focused on Integrated System Testing and User Acceptance Guidelines.

The 22-state Test Plan will require completion of release milestone dates and tasks before entering the pre-production test phase and before exiting the pre-production test phase. In other words, actual start of testing may vary by project but testing must be completed by the "complete date" in the Test Plan schedule. If criteria are not met or resolved within an acceptable or the designated time frame, the issue will be escalated to the 22-state test lead coordinator.

The 22-state Test Plan entrance criteria require unit testing, assembly testing, and connectivity/integration testing to be complete with a pass rate of 100%. Exit criteria requires 99% pass rate for all regression test cases, a 100% pass rate for all user acceptance tests, no unresolved Severity 1 or 2 defects, all testing activities to be complete and closed at least one week before start of deployment to production, and all test results and defects to be documented in the Quality Center and available for reporting as needed. Staff believes these test plan enhancements will play a significant role in preventing future release issues.

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AT&T provided six commitments specific to lessons learned from the April Release to aid in the development of an Expanded Test Plan for future 22-state OSS releases.

- 15. Utilize root cause analysis of release defects to expand Testing Plans with special focus in the area of delivering outbound transactions. Specific tests will be established for validating that outbound transactions such as FOCs, Clarifications, Completion Notices and Billing Completion Notices are delivered to their destination point in a form compatible with existing standards and interface agreements.
- 16. Encourage and support greater CLEC participation in cooperative testing for all releases, utilizing existing CLEC test environments.
- 17. Evaluate manual process to determine what steps can be taken to test the process and allow CLECs the opportunity to practice for new forms/templates.
- Going forward, scheduled 22 State releases for the SE region will provide overlap between the existing and new Customer Interfaces (EDI, XML and Verigate/LEX/LENS), in order to allow customers to plan/test/develop individual migration strategies to the new interfaces.
- 19. Testing to include appropriate back out plans for the implementation weekend.
- 20. Development of Emergency Plan with a focus on 1) Customer Notification and Support. 2) Defect Resolution, 3) Expanded AT&T staffing requirements.

AT&T contends that each of the above commitments has been satisfied, and as a result, the objective to develop an Expanded Test Plan has been met. Staff concurs with AT&T to close each commitment with the understanding that AT&T will fully utilize the newly Expanded Test Plan upon implementation of future OSS releases. Details of staff's analysis of items 15-20 can be found in **Appendix F**.

5.5 Provide Proactive Support to Email Manual Ordering Process

As part of the April Release, AT&T consolidated its 13-state region and Southeast region manual ordering process for complex orders. The 22-state manual ordering consolidation consisted of replacing the AT&T Southeast region manual facsimile ordering process with an email ordering process currently used in the AT&T 13-state region.

The new email process requires CLECs to access and download a choice of approximately 20 different manual LSR forms available on AT&T's CLEC Online website. The new process replaces the customized WebForms that were previously downloaded from the LENS interface used in the 9-state region. The change in this process reduced some of the functionality previously available to CLECs in the 9-state region.

40 AT&T acknowledges that numerous issues arose with implementation of the manual 41 email ordering process in the Southeast region. Such issues include; CLECs' inability to get 42 manual orders through to AT&T, AT&T not returning acknowledgements (time, date, receipt of 43 orders) to the CLECs, incorrect manual ordering guidelines, and a 60 percent increase in CLEC 44 calls into AT&T's call centers.

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In response to the issues raised with implementation of the new manual email ordering process, AT&T committed to provide proactive CLEC support to facilitate user introduction to the new process. AT&T made eight commitments specific to the manual email ordering process:

- 21. Provide Support/Education by providing continued proactive, individualized customer support on Email/Manual Forms process for next 60 days to facilitate user introduction. Including customer working sessions to assist in successful submission of the Manual LSR Forms through use of the email process.
- 22. Lead a monthly Email/Manual Forms User Forum to provide common support and address current manual process issues until all 22 State releases are completed.
  - Continue to work with all CLEC customers who request further assistance or education on the manual LSR ordering process.
- Assess CLEC concerns where all pages of a form are required whether or not all pages contain data. Address customer concerns regarding the requirement of additional data.
- 25. Review and assess the prioritized list of customer change requests for enhancements to the 22 State Email LSR Process. Reevaluate merger related OSS Change Requests previously submitted through the Change Management process.
- 26. Complete updates to the Local Ordering Handbook to reflect changes via the Accessible Letter.
  - 27. Proactive review and update of the 22-state manual LSR forms and email process documentation to address customer feedback
  - Expand documentation quality control processes to ensure multiple layers of review prior to release of documents to the customers.

AT&T contends that each of the above commitments has been satisfied, and as a result, the objective to provide proactive support to the email manual ordering process has been met. Staff agrees to close seven of the eight commitments. Details of staff's analysis for items 21-28 can be found in **Appendix F**. Staff believes the following commitment should remain open until AT&T provides supporting documentation for staff to concur with closure of this item:

- 25. Review and assess the prioritized list of customer change requests for enhancements to the 22 State Email LSR Process. Reevaluate merger related OSS Change Requests previously submitted through the Change Management process.
- 5.6 Proactive Billing Adjustments

AT&T committed to respond to billing concerns that arose out of the April Release. On the May 28, 2008 April Release defect status call, AT&T discussed the goal of identifying key billing issues and proactively processing billing adjustments without the need for CLECs to file billing disputes. AT&T specifically stated that CLEC monthly recurring and non-recurring charges would be adjusted accordingly in order for bill credits to appear on either the June or July 2008 CLEC bills. Below is AT&T's specific billing adjustment commitment:

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29. Proactive Billing Adjustments, Claims Clean-Up Process for addressing exceptions, Communication Plan

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AT&T contends that the above commitments have been met to satisfy the objective to provide proactive billing adjustments. Staff concurs with AT&T to close this item, and would note that AT&T has 85 billing service representatives supporting the CLEC Southeast billing activities. Of these, 10 were dedicated to April Release issues. According to AT&T, the billing adjustments for AT&T's 9-state region amounted to \$1,437,161. For AT&T's Florida

operations, total billing adjustments were \$245,634.

#### 5.7 Center/Support Team Responsiveness

AT&T committed to provide CLEC support and responsiveness to resolve April Release issues. In response, AT&T provided staff with three specific commitments to handle the influx of calls associated with the April Release:

- 30. Implement a temporary plan of action to handle calls by other service centers.
- Continue to manage April Release related expedites for the processing of acknowledgements for any individual situations if not addressed by the mechanized transmittal efforts.
- 32. Continue to review staffing levels to meet anticipated demand for Wholesale Customer Support and Centers.

AT&T contends that each of the above commitments have been met to satisfy the objective to provide improved center/support team responsiveness. Details of staff's analysis of items 30-32 can be found in **Appendix F**. Staff believes the following commitment should remain open until AT&T provides additional supporting documentation for staff to concur with closure of this item:

32. Continue to review staffing levels to meet anticipated demand for Wholesale Customer Support and Centers.

#### 5.8 Commitments & Communications Conclusion

31 Of the 32 commitments provided by AT&T, staff agrees that 25 can be closed with the 32 understanding that AT&T should be held accountable for upholding these commitments during the implementation of all future 22-state OSS releases. Staff recognizes that AT&T has taken 33 34 positive steps to address these commitments and further believes action taken by AT&T should 35 minimize future disruptions. However, until the next 22-state release, staff cannot fully validate 36 that the changes that have been implemented will prevent future problems. Staff cannot attest to 37 the quality of the changes made, merely that changes have been implemented. For example, staff confirmed the existence of the Expanded Test Plans for the November release, but staff can not 38 39 attest to AT&T's adherence to the Expanded Test Plan in future release and the adequacy of 40 AT&T's implementation of the plan.

42 Staff believes AT&T is closing the remaining seven commitments prematurely. Staff 43 contends that further supporting documentation is warranted or the processes to resolve the 44 commitments have yet to be fully addressed or implemented. For example, AT&T has not

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**COMMITMENTS & COMMUNICATIONS** 



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provided documentation supporting the resolution of all April Release defects and the process of consolidating pre-ordering and ordering business rules has not been fully implemented. Staff recommends that AT&T reevaluate its closure of these seven commitments and take necessary steps to assure the commitments have been fully addressed.

Below are staff's conclusions based on the assessments of the seven objectives AT&T agreed to fulfill before implementing future 22-state OSS releases:

5.8.1 Resolve April Release Defects

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AT&T agrees that reducing the number of software defects is beneficial to both AT&T and CLECs and that OSS releases with numerous defects can inhibit a smooth transition between releases. Unfortunately, the April Release had errors (i.e., software defects) that impacted the CLECs ability to process orders.

Staff acknowledges AT&T's remedial actions to resolve issues surrounding the April 15 Release defects, including the consolidation of defect tracking management and revisions to the 16 defect reporting format. However, the sheer number of software defects that emerged from the 17 April Release is such a significant issue alone to substantiate staff's concerns with the CLECs 18 difficulty in effectively using AT&T's pre-ordering and ordering OSS capabilities. Staff cannot 19 fully discern the effectiveness of AT&T's defect resolutions or work-arounds and must rely on 20 21 AT&T's confidence in the defect management process in place for future 22-state OSS releases. 22 As a means of monitoring AT&T's defect management process, staff recommends that AT&T 23 prepare and provide staff with pre-production and production defect status reports specific for 24 each 22-state OSS release as they occur. 25

#### 5.8.2 Expand CLEC Communications

AT&T implemented numerous corrective actions to address the communication failures that occurred pre- and post-April Release. Such corrective actions include having weekly status calls with CLECs to discuss April Release defects, providing CLECs with customer service contact information, implementing training guides, using the monthly Change Management Process (CMP) meetings to communicate the status of future OSS releases, and holding conference calls with CLECs after an OSS release.

34 While staff commends AT&T for taken necessary steps to improve communications with 35 CLECs, staff still questions the overall effectiveness of AT&T's Change Management monthly meetings, the principal outlet for communicating with CLECs. None of AT&T's commitments 36 37 address possible deficiencies or improvements needed in this Change Management Process, particularly the monthly Change Management calls, now that they have been consolidated under 38 a 22-state umbrella. Staff believes that AT&T has not provided a clear indication or direction of 39 the new Change Management meeting framework to evaluate and address CLEC concerns. For 40 example, at times there were conflicts between what AT&T was saying was done and what 41 actually was done, such as the completion of the Local Ordering Handbook. Additionally, 42 CLECs have raise concerns that AT&T would not have the appropriate technical staff on the 43 Change Management conference call to address an issue on the agenda. Staff has seen repeated 44 evidence of this. Staff also notes that there remains an open item on the monthly Change 45 46 Management agenda to discuss the effectiveness of the Change Management process. However,

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staff has yet to see any evidence of discussion on this topic. Staff recommends that AT&T clearly define and document the monthly Change Management meeting process, including AT&T's 22-state process for escalating CLEC issues, including AT&T's 22-state process for escalating CLEC issues raised during the monthly meetings.

6 Staff also has a general concern that the current Service Quality Measurement Plan 7 (SQM) and Self-Effectuation Enforcement Mechanism Plan (SEEM) not be adequately designed 8 to capture failures of such magnitude as the April Release. AT&T's SQM and SEEM are 9 designed to capture and compare the quality of service delivered to CLECs. AT&T's failure to comply with applicable SOM performance measurements will trigger SEEM remedy payments 10 to CLECs and/or the state of Florida. The SQM Plan includes performance measurements for 11 12 AT&T's Change Management Process. The measurements capture the timeliness of resolving 13 software defects and implementing changes to software documentation, but staff believes the 14 SQM does not capture the effectiveness of the defect resolution or revised documentation. In 15 other words, the defect or documentation may have been fixed in a timely manner, but the fixes 16 may not be acceptable by the CLEC community. 17

Furthermore, the SQM and SEEM Plans may incorporate processes used in the former BellSouth 9-state region that have now changed. One example is the number of days established to resolve software defects. The current SQM Plan uses the standards in accordance with 9-state procedures, yet staff has learned that AT&T's 22-state practice may be to follow the standards in accordance with the 13-state region's procedures.

Because of the possibility that the SQM and SEEM Plans do not capture several aspects of a major OSS release, including the appropriate penalties to be imposed, staff believes the Commission should commence an expedited review of AT&T's SQM and SEEM Plans prior to implementation of 22-state releases scheduled in 2009.

#### 5.8.3 Develop an Expanded Test Plan

AT&T acknowledges that adequate testing procedures for the April Release, including 30 end-to-end testing, could have prevented significant defects from going into production. A key 31 feature in AT&T's newly Expanded Test Plan is the focus on the delivery of outbound 32 transactions which was the primary issue that surrounded the April Release. AT&T is also 33 encouraging greater CLEC participation in cooperative testing and will provide overlap between 34 existing and new OSS interfaces to allow for CLECs to gradually transition to the new OSS 35 interfaces. Staff has yet to see Expanded Test Plans for future 22-state releases, since those 36 plans are necessarily unique to each release and are not finalized until shortly before release 37 38 implementation. AT&T has committed to providing staff with copies of the Test Plans when 39 they become available. Staff further recommends that AT&T continue to educate CLECs on 40 future 22-state release test plans.

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#### 5.8.4 Provide Proactive Support to Email Manual Ordering Process

AT&T made numerous commitments and has taken numerous steps to address and
 correct errors associated with the implementation of the new 22-state manual email ordering
 process. AT&T continues to provide CLECs with customer support and education on an as needed basis.

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2 However, in staff's opinion, AT&T's new manual email ordering process is not equal to, 3 or at parity, to what BellSouth previously provided to its CLEC customers in the 9-state region. While AT&T would argue that the new manual ordering process may provide the same 4 5 "functionality" that existed in the 9-state region, staff believes that the new 22-state process of 6 completing and submitting a manual LSR is more burdensome for CLECs. 7

8 Specifically, CLECs using the 9-state region manual fax ordering process would choose 9 the Manual LSR option from the LENS interface main menu. From there, a Graphical User 10 Interface (GUI) tool would allow for several LSR data entry fields to be auto-populated. Additionally the GUI would perform several self-edit checks prior to the submission of the order. 11 The LSR would be completed by a CLEC representative and faxed to AT&T for processing. 12 AT&T, upon receipt would have to manually enter the order into the order process system. In 13 14 comparison, for the new 22-state manual email ordering process, CLECs must first launch 15 several pages from AT&T's CLEC Online website to get to the manual LSR forms. From there, 16 CLECs would choose from seven core product template forms and 17 different LSR manual 17 forms. An LSR form may require up to 10 pages of data entry to be performed by a CLEC 18 representative before submitting to AT&T for processing. There are no auto-population of fields 19 and no self-edit checks. Without this functionality there is a much greater CLEC risk of error in 20 placing an order. 21

22 Implementation of the new 22-state manual email ordering process was beneficial to 23 AT&T, because the company incurred back-end efficiencies in the processing of orders. Email 24 orders can be directly loaded into the order processing system without manual intervention on 25 the part of AT&T. However, the new manual processing changes have increased the likelihood 26 of increased order rejections and order processing time which will weaken the CLECs ability to 27 effectively compete. Staff recommends that AT&T continue to enhance the 22-state manual 28 email ordering process to include efficiencies, including auto population and edit checks, which 29 previously existed in the manual processing of orders in the 9-state region.

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#### 5.8.5 Provide Proactive Billing Adjustments

Staff concludes that AT&T adequately responded to billing concerns that resulted from 32 the April Release. AT&T took corrective action to prevent a backlog of CLEC billing disputes 33 by proactively processing billing adjustments. According to AT&T, all April Release billing 34 adjustments have been completed, and to the best of staff's knowledge, CLECs have yet to raise 35 36 concerns with regards to the adjustments. Staff believes AT&T's actions have remedied the 37 CLECs' concerns.

#### 5.8.6 Improve Customer Support Team Responsiveness

40 Staff applauds AT&T for dedicating additional resources to resolve ordering processing 41 issues associated with the April Release. Furthermore, shortly after the April Release, AT&T created an escalation process for CLECs to send orders that had not processed correctly or had 42 43 insufficient information. However, staff is concerned that AT&T's customer support 44 responsiveness may be short-lived.

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AT&T acknowledges that CLEC April Release related calls had to be diverted to 1 additional call centers to handle the demand, but now that business is back to normal, CLEC 2 calls in the Southeast region are now solely handled by AT&T's Birmingham call center 3 operations. Given the impact of the April Release and the magnitude of future 22-state releases, 4 5 staff is concerned with the adequacy of resources to meet CLEC demands upon implementation 6 of future 22-state releases. AT&T stated that call center activity is continually reviewed based on 7 current and forecasted demand, yet staff was not provided with an assessment of current call 8 center activities and staffing levels, nor was an assessment provided based on future 22-state 9 releases. Staff recommends that AT&T provide staff with such assessments.

### 5.8.7 Summary of Commitment and CLEC Communication

Recommendations

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39 40 In summary, staff recommends the following actions:

- AT&T should reevaluate its closure of seven commitments (items 1, 6, 11, 13, 14, 25, and 32) and take necessary steps to assure the commitments have been fully addressed.
- AT&T should clearly define and document the monthly Change Management meeting process.
- The Commission should commence an expedited review of AT&T's SQM and SEEM Plans prior to implementation of 22-state releases scheduled in 2009.
- AT&T should prepare and provide staff with pre-production and production defect status reports specific to each 22-state OSS release as they occur
- AT&T should provide staff with Expanded Test Plans for all future 22-state releases as they become available, and continue to educate CLECs on future 22-state release test plans.
- AT&T should continue to enhance the 22-state manual email ordering process to include efficiencies that previously existed in the manual processing of orders in the 9-state region.
- AT&T should provide staff with an assessment on current call center activities and staffing levels, and an assessment of call center activities based on future 22-state releases.



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**6.0 APPENDICES** 

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### Appendix A Ordering Processes

#### **CLECs' Pre-April Release Electronic Ordering Process**

Following the BellSouth and AT&T merger, AT&T began migrating and consolidating the former BellSouth 9-state southeast OSS platform into a single pre-ordering and ordering OSS platform for use across AT&T's 22-state region. At the time of the merger, AT&T's Local Wholesale OSS operated uniformly in all of AT&T's 13-state region for many of the same CLEC customers doing business in the former BellSouth 9-state region. AT&T determined that the 13-state OSS system would produce greater efficiencies for the benefit of both AT&T and its customers throughout the 22-state region.

12 The former BellSouth 9-state southeast OSS process flow is shown in Exhibit 7. The 13 exhibit depicts a high-level system flow for electronic pre-ordering and ordering processes prior to the April Release. Provisioning service for a new CLEC customer begins with the pre-order 14 process. CLECs submit pre-order queries to AT&T through one of two available pre-ordering 15 electronic interfaces; the Direct XML/Telecommunication Access Gateway (TAG)<sup>35</sup> or the Local 16 Exchange Navigation System (LENS).<sup>36</sup> The pre-order process is used by CLECs to gather 17 preliminary customer information, such as validating customer address, selecting telephone 18 19 numbers, and obtaining service order due dates. In response to a pre-order query, AT&T returns 20 either a valid pre-order response or an error message to the CLEC.

21 The valid pre-order information is then used by the CLEC to begin the ordering process 22 with the origination of a Local Service Request (LSR). A CLEC enters the LSR into AT&T's 23 OSS via one of three available ordering interfaces: TAG, LENS, or Electronic Data Interchange (EDI).<sup>37</sup> The LSR then passes through AT&T's Service Gate Gateway (SGG)<sup>38</sup> and into AT&T's Local Exchange Ordering (LEO)<sup>39</sup> system to store and validate the format and content 24 25 26 of the data. If the LSR is unreadable or does not contain accurate and complete information on 27 all required and conditional fields, a reject or auto-clarification is returned to the CLEC. When 28 the LSR is complete and accurate, the service order is then entered into AT&T's Local Service Order Generator (LESOG),<sup>40</sup> which coordinates downstream provisioning activity and monitors 29

<sup>&</sup>lt;sup>40</sup> LESOG performs additional edits and flags orders with errors. LESOG validates LSRs based on AT&T's business rules. If an LSR does not adhere to the business rules, LESOG generates auto clarifications. If LESOG cannot determine the cause of a clarification, LESOG forwards the LSR to a service representative for manual review.



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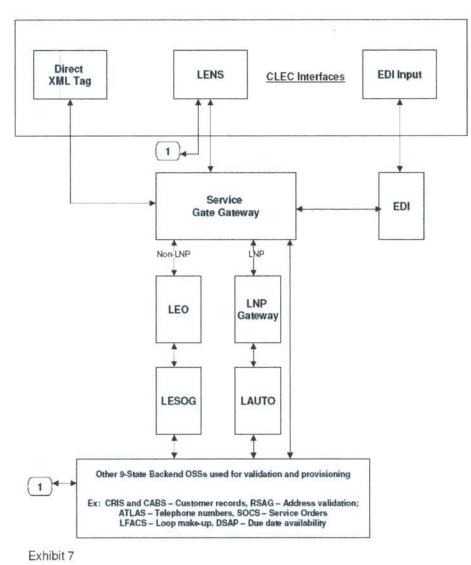
<sup>&</sup>lt;sup>35</sup> TAG/Direct XML interface allows CLECs to develop their own software applications to obtain information from AT&T's OSS. CLECs can incorporate various internal functions, such as downloading information directly to their own inventory/billing systems, creating their own customer databases, and generating internal reports.

<sup>&</sup>lt;sup>36</sup> LENS is a graphical user interface (GUI) that connects directly via the Internet into AT&T's OSS and is based on the TAG architecture. This interface was developed to provide CLECs with an alternative method of connection to AT&T through the Internet.

<sup>&</sup>lt;sup>37</sup> EDI is a batch-driven machine-to-machine interface, which uses industry standards as its foundation. Business files are exchanged between AT&T computer applications and CLEC computer applications that are encoded to comply with standard EDI transaction sets for data transmission.

<sup>&</sup>lt;sup>38</sup> SGG is a routing and editing software application to help ensure the process of complete and error-free transactions.

<sup>&</sup>lt;sup>39</sup> LEO stores information and is the interface for LSR processing. LEO provides first-level validation to ensure all appropriate fields of the LSR are populated.



### AT&T's Electronic Pre-Ordering and Ordering Process Flow Pre-April Release

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the status of the order. LESOG begins the generation process for a Firm Order Confirmation (FOC) response to be delivered to the CLEC. The FOC is confirmation that the LSR was validated by AT&T, and contains a FOC due date, which is the date AT&T commits to completing provisioning of the order.

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#### **CLEC's Pre-April Release Manual Ordering Process**

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In the former BellSouth 9-State region, LSRs for Complex and Resale orders are submitted via facsimile or electronically. However, both entry modes require manual intervention on the part of AT&T. All CLEC Complex and Resale orders are processed at one of AT&T's Local Carrier Service Centers (LCSC). The 9-state LCSC locations were located in Atlanta, Georgia, Fleming Island, Florida, and Birmingham, Alabama.

Exhibit 8 provides the process flow for manual orders that are submitted via facsimile. 12 As shown, LSRs faxed by CLECs are received at an LCSC and automatically imaged, assigned 13 an image number, and stored in the LCSC's Local Ordering Imaging System (LOIS)<sup>41</sup> server. 14 An AT&T clerk retrieves the LSR from the fax server, sorts and scans the LSR for legibility and 15 completion of required fields. The LSR is then logged in to the Local Order Number (LON)42 16 tracking system on a first-in-first-out basis. Illegible or incomplete LSRs are rejected and sent 17 back to the CLEC via LON. The completed LSR is forwarded to an AT&T Work Assignment 18 19 Manager, who in turn, assigns it to an LCSC service representative for processing. The service representative will request further clarification from the CLEC if needed, or process the order 20 and submit it to the Service Order Communication System (SOCS)43 for order validation and 21 provisioning. Upon validation, a FOC is sent back to the CLEC's facsimile server via LON. 22

Exhibit 9 depicts the process flow for Complex and Resale orders submitted 23 electronically that require manual intervention (commonly referred to as partially mechanized 24 orders). Partially mechanized orders are submitted using one of the order entry interfaces 25 (LENS, EDI, or TAG). The order flows into the AT&T's LEO and LESOG systems to perform 26 edit check and then stored in LEO for manual processing. LCSC service representatives retrieve 27 the LSR from LEO and process in a similar manner as orders received via facsimile. However, 28 29 upon validation, the FOC notice is returned to the CLEC via the same interface through which 30 the order was received.



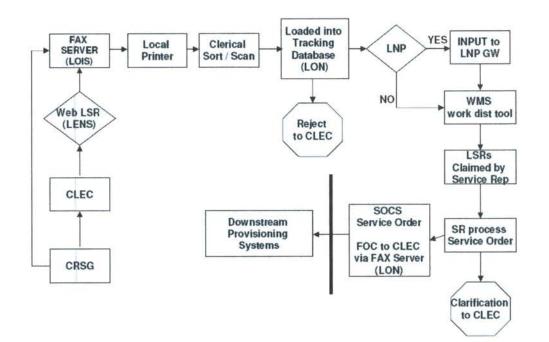
<sup>&</sup>lt;sup>41</sup> LOIS is a fax server that provides automated imaging of LSRs. The image is assigned an image number and is stored in LOIS until further processing.

<sup>&</sup>lt;sup>43</sup> SOCS is responsible for the collection, storage, and distribution of service orders. SOCS performs the final validation based on AT&T's business rules to ensure that service orders can be built correctly. This is the beginning of the provisioning process.



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<sup>&</sup>lt;sup>42</sup> LON is an inventory-based system responsible for tracking the processing status of LSRs.

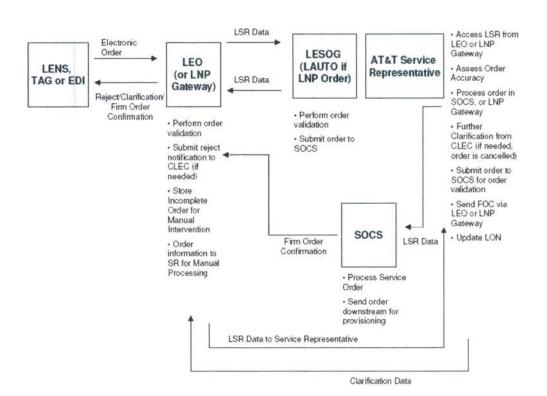


#### AT&T's Manual Order Facsimile Process Flow Pre-April Release

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AT&T's Partially Mechanized Order Process Flow Pre-April Release

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#### AT&T's April Release and Future 22-State OSS Releases

Part of AT&T's merger objectives is to implement a consolidated suite of external and internal interfaces, tools, and processes to support pre-order and ordering of Wholesale Local services. The 22-state consolidated OSS process flow is shown in Exhibit 10. The eventual goal of consolidating OSS interfaces is the retirement of three existing 9-state front-end applications; LENS, EDI, and Direct XML/Tag. To achieve this goal, AT&T's consolidated OSS Release plan consists of the following five-step phased-in strategies:

#### Phase 1 (April 2008 Release)

AT&T initiated the first phase of its OSS Release plan (Release 27.1) on April 19, 2008.
 This phase, commonly referred to as the April Release, primarily consisted of implementing the
 following key features and changes:

- Replaced the 9-state LEO application with Local Access Service Request (LASR) application used in AT&T's 13-state region.
  - Replaced the 9-state Work Assignment Management System (WMS) with Work Flow Management (WFM) system used in AT&T's 13-state region.
  - Introduced the new 22-state pre-order Verigate pre-ordering web-based application into the 9-state region.
  - Replaced the 9-state manual facsimile ordering process with the 13-state manual email process.

Both LEO with LASR are AT&T backend applications (non-CLEC interface) that
 provide order management, tracking and exception handling for LSRs. According to AT&T,
 implementation of the LASR application would include the same functions that were available in
 LEO, with the exception of the processing of work assignments.

Work Assignments would now be handled by the WFM system which replaces the 9state WMS. WFM is a software application that coordinates tasks, resources and data to ensure that service representatives receive the necessary work assignments to process LSRs.

The April Release also streamlined the number of tools used by AT&T center support personnel to facilitate CLEC service requests. This included adding AT&T's 13-state web-based application (Verigate) that provides preorder functionality, similar to the Local Exchange Navigator Service (LENS) used in the former BellSouth 9-state region. Additionally, with the April Release, the facsimile process CLECs use to submit manual orders in the 9-state region was replaced with a new email based manual process. The new manual email ordering process flow is depicted in **Exhibit 11**.



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#### Phase 2

AT&T's Phase 2 will consists of enhancements to the Verigate pre-ordering browser application implemented with the April Release. Additional functionality will be added including CLECs having the ability to request an unparsed (i.e., raw data) customer service record by account number, and obtain estimated due dates. It should be noted that the former BellSouth LENS application currently being used by CLECs for pre-ordering activities in the 9state region will still be available for use until retirement in early 2010.

#### Phase 3

The next phase of AT&T's OSS strategy is to introduce and implement the new 22-state XML Gateway application. XML Gateway is a front-end application and will support pre-order and ordering transactions. XML Gateway will eventually replace EDI and Direct XML/TAG systems currently being used in the 9-state region. EDI and Direct XML/Tag retirements are targeted for late 2009 or early 2010.

#### Phase 4

17 AT&T plans to introduce a second front-end application, Local Service Request 18 Exchange System (LEX). LEX is a web-based application for online creation, submittal, and 19 maintenance of LSRs. LEX will replace the LENS interface currently being used in the 9-state 20 region.

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#### Phase 5

AT&T's final phase consists of retiring the LENS, EDI, and XML front-end interfaces currently used in the 9-state region. AT&T anticipates retiring these systems in 2010. AT&T will also retire the 9-state SGG back-end application at the same time. The routing and editing functions performed by SGG will be implemented into the new 22-state LASR application, released in April 2008.

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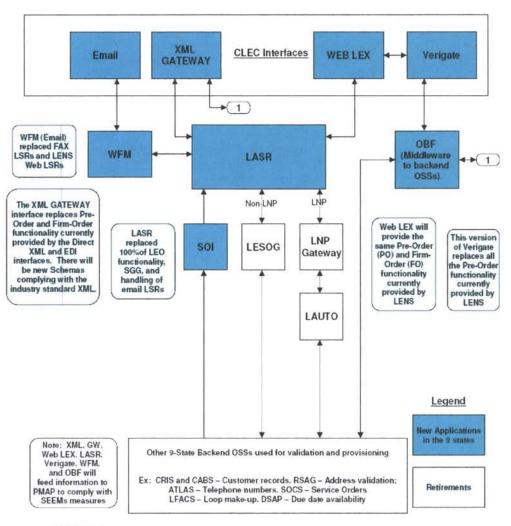


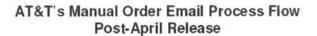


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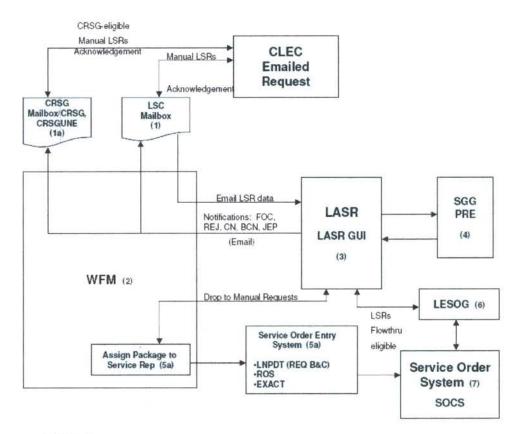


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### Appendix B Sample of Key Learnings by Category

The following is a sample of some of the issues, root causes and resolutions found in each of the categories above:

#### **Conversion and OOM 179**

There are 41 key learnings in this category of which two are still open. This category is defined by ATT as anything related to the LEO or LASR data base conversion and how it was managed. Order of Magnitude or OOM 179 is the name given to the Local Wholesale Merger effort. Eight percent of the key learnings were in this area. The following are two examples of the key learnings identified in the Conversion and OOM 179 category:

**Key learning 4228** states: "Due to the prioritization of defects identified in the first Mock Conversion, validation defects were given a lower priority and were never worked prior to the start of the second Mock Conversion...This process severely limited the speed and efficiency in working the new PONS. (compressed timeframes) The **root cause** was identified as: "Testing schedule was reduced to meet the implementation date, as such, the testing phases were overlapped. Because of this situation, the developers had less time to correct defects and various test teams identified similar defects." AT&T's **resolution** for this issue is: "The 22 State Test plan will include time allowances for the various test phases to minimize overlap. The start date for different test types is staggered to mitigate test environment volume issues and test overlap." *AT&T has closed this key learning*.

Key learning 4290 states: "The data base mapping was not conducted early in the project timeline." AT&T reports the root cause as "the importance, size and complexity size of the mapping effort was not recognized early in the project life cycle. This may have also contributed to the assumption that involvement from Southeast SME's would not be required." The AT&T resolution to this issue is: "Project Managers have been notified that all conversion activities within projects require a well thought out and peer reviewed plan in order to process conversion activities, making sure detailed set of tasks, dates, dependencies for the project are known right from the start. For future conversions, complete data mapping work very early in the project, during technical requirements. The newly created Technical Oversight team, as part of their vendor coordination responsibilities, will oversee all conversion activities, which is a vendor deliverable." AT&T has closed this key learning. Staff is unable to validate this resolution has resolved the key learning.

#### **Project Management and Release Management**

This category contains 12 key learnings which focus on how the release or projects were managed. There were 10 key learnings in this category, one of which is still open. Over 3.3% of

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Key learning 4104 states: "The ongoing number of CR's [change requests] made it confusing to all project members with discussions still occurring during WIT testing ." AT&T described the root cause as: "Business Requirements were too high level when walked through in July. Interim Local Releases deployed after BRs [business requirements] baselined necessitated changes (CRs) to the original July 2007 BR; ADSL was a Retail pgm and some of the Requirements came from the Retail side, sometimes late. CRs had to be approved at the Pgm level and were delayed and backlogged." AT&T's resolution for this issue is to hold bi-weekly training/working sessions by the PM Tech lead/EPE." AT&T has closed this key learning.

#### Requirements

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This category contains the 37 key learnings related to requirements and other technical 16 documentation. This includes business requirements, technical requirements, system feature 17 designs and interface agreements. This also includes any requirements that impacted PMAP. 18 Over ten percent of the key learnings were in this category. One of these key learnings still 19 20 remains open. The following are two examples of the key learnings that were found in the requirements category.

- Key learning 4142 states: "Impacts to Wholesale were not assessed correctly and assessments were incomplete. Wholesale PD&I and Bus Requirement were brought in late into the project. Received only an half hour overview about the project (verbally without written documentation). Was given one week to write BR and no time to prepare an ETE (End-to-End document)." AT&T identified the root cause as "Projects did not follow existing process therefore, Wholesale was not properly represented in the beginning of the project." The AT&T resolution states the following: "Closed to BU and Retail. Retail projects will follow the process and go through RWRB so Wholesale impacts can be identified upfront." AT&T has closed this key learning. Staff believes this root cause analysis and resolution are not complete.
- >> Key learning 4203 states: "A reporting subsystem for SE was a significant missed business requirement ... " The root cause was identified as "Phase 1 of the Express One process was omitted. Therefore, teams impacted were not recognized and/or notified up front." The AT&T resolution states "For future programs, Program Manager will ensure that all Express One/IT UP phases are followed and that no steps are waived." AT&T has closed this key learning. Staff believes this resolution is a statement or promise of improved future behavior and as such staff cannot verify its implementation.

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#### Implementation Weekend Testing (IWT) and Warranty Process

This category is defined as anything related to the deployment of code into production or the way Implementation Weekend Testing and the Warranty activities are managed. Warranty Process is the two week period following a release during which four warranty releases are held to implement fixes for the related defects. There were 38 key learnings in this category which have all been closed. Approximately 10.6 of the total key learnings were in this category. The following are two examples of the key learnings in IWT and Warranty Process category:

Key learning 3996 states: "There was a lot of confusion in getting everything tested, 200 knowing what was going in, what had to be done to get it in and who was coordinating, but we managed to get it calmed down and documented and planned out." AT&T identified the root cause for this issue to be "There was not comprehensive plan of which testing group would be testing and when. Notification of code movement was vague or not communicated to all test groups." The AT&T resolution for this key learning is "Testing: Instances when multi-team testing coordination is needed should be identified up front. Will hold Commit Meetings for minors and warranties to ensure the correct teams are identified for testing. Code Moves: Software Configuration Release Management (SCRM) will continue to be responsible for notification of code deliveries and will escalate to Release Management when necessary. 6/17/08 - Commit meetings began 5/30/08. Presently meeting twice a day for the 6/22 releases to ensure testing, code delivery, etc, are all validated. Going forward Release Management has agreed to hold "commit meetings" so that cross-organizational testing considerations will be identified. Release Management and IWT improved communication of defects, including who is responsible for testing. For the next tri-annual release Sharon's team will hold daily calls to identify testing needs, code movement and defect status until warranty is over." AT&T has closed this key learning. (3996) Staff is unable to validate that these resolutions will adequately resolve the key learning.

Key learning 4047 states: "What was role of release management, program management and project management particularly over IWT weekend and into production weeks?" The root cause for this key learnings was identified as "Not a clear delineation between Release Management and Defect Manager groups." AT&T's resolution states "Release Manager will communicate scope of teams in bi-weekly status meetings." AT&T has closed this key learning. Staff is not satisfied that this resolution alone without documentation will adequately resolve this issue.

#### **Pre-Production Testing and Defects**

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This category is defined by AT&T as anything related to the process and practices around system testing and pre-production defect management as well as lessons learned from the defects themselves. This was by far the largest category, with 112 key learnings identified. These key learnings compromised 31.4 percent of the total number of key learnings. From the analysis of

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this category it is apparent that AT&T had problems prior to the implementation of the release 1 and knew that the problems existed. Four of these key learnings remain open. The following 2 are two examples of key learnings that were found in the pre-production testing and defect 3 4 category:

> Key learning 4274 states: "Regression testing failed to identify production problems with the LASR system in the Southeast." According to AT&T's root cause analysis "SE LASR was developed and initially became part of the SE order flow with the April Release. ETE test plans existed, however, they did not always include notifications. The definition of ETE was applied inconsistently. Need more emphasis on CLEC notification testing." The AT&T resolution states that: "As a result of a feasibility analysis, both Accenture and WIT SE are taking the following steps for the August release. Accenture is adding Billing Completion Notices (BCN), Jepordary Notices (Jep), Completion Notices (CN), malformed XML, Deny/Restore to the testing notification suite. Test will include review of 855/865 to ensure fields are being looked at. WIT SE added FOC, Jep, CN, BCN, POS, & Rejects. Additional detailed validation of the EDI/XML files at the field and tag level are also being performed. WIT SE executed the majority of the test cases as regression that was executed for the April Release. WIT SE also re-executed the majority of the parallel test cases executed for April." AT&T has closed this key learning.

- No Key learning 4310 states: "QC tool was inadequate for managing defects and test case links." The AT&T identified root cause states: "Limitation in tool." The AT&T resolution states that: "CTS CR 428 has been created to resolve the QC tool issues." However the resolution also states that this issue was "Resolved with Pre-Production KLR 4311" which states "Kathy Smith met with Olga Trimboli on 6/23/08 to discuss workarounds needed for the CTS website metrics until the upgrades are in place." AT&T has closed this issue with the evidence that "work around have been discussed. Staff is concerned that this key learning may have been closed prematurely.

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#### **Production Testing Monitoring and Defects**

33 The production testing, monitoring and defect category is defined as anything learned 34 from critical production defects and any other center issues, as well as the management of 35 production issues. Further, this category includes anything related to the monitoring of 36 applications, queues and communication paths between applications. There were 46 key learnings in this category of which one remains open. This category comprised 12.9 percent of 37 the key learnings. Below are two examples of key learnings found in this category. 38 39

> Not Key learning 4390 states: "At one point post Production, there was a 60% increase into the center due to the CLEC impacting changes and the new error codes and messages they were receiving and because they were not prepared for the email LSR process." The AT&T identified root cause for this key learning was: "The Local Ordering Handbook (LOH) was out of sync and CLECs were unfamiliar with the new error codes. This resulted in increased call volumes in the centers." AT&T's

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resolution states: "All remaining planned merger implementations will have overlap between implementation of new ordering interfaces and existing interface retirements by at least one release to avoid risks of flash cut, per the existing OOM179 planning. To help manage/reduce volume of customer calls into the Centers: (1) As of 5/22/08, customers have been provided a single document that clearly describes roles/responsibilities to assist with more effective customer contact and escalation points. (2) Continue proactive, individualized customer training on Email/Manual Forms process, in effect as of 4/24/08. (3) Lead a monthly Email/Manual Forms User Forum to provide common support and respond to current issues across all CLEC customers, effective beginning with 7/9/08 CUF meeting. (4) The CMP/CCP team will review each system related accessible letter (AL) to ensure AL accurately reflects release information to the CLEC community. The CMP/CCP will approve such AL before they are issued. (5) Beginning with 8/16/08 Release, AT&T will create and post on CLEC online a release status document which will be updated twice daily during the weekend. This will be announced to the CLEC community via accessible letter." AT&T has closed this key learning.

Key learning 4001 states: "LASR miscoded the header on EDI requests - applied the 203 inbound header to the outbound record resulting in 14,000 notifications not transmitted back to the CLECs. How did this happen? Was 6 days before the problem was found - what could have been done to find this error sooner?" The AT&T root cause for this issue states "Software defect PSAP PR#21979754 System Requirement issue. Notifications were not tested ETE, otherwise the defect may have been found pre-production. A miscommunication between Amdocs requirements and development resources resulted in the notifications being marked incorrectly as inbound instead of outbound so EDI could not submit them to the users." The AT&T resolution states "There is a need to see the order as it flows through each system. The current Dashboard that is being developed will provide visibility from numbers in/out. For individual Orders, LASR owns that function, however, the O&WS Intelligent Report (Dashboard) will address the monitoring and alerting for Out-of-Norm conditions. The developers have added an additional step to their integration testing. In the future, in addition to validating that the request is sent to the appropriate application, the developers will validate that the receiving application actually received the request. They will also verify the content sent looks correct per the IIA that is in place." AT&T has closed this key learning.

#### **Process Issues**

38 Process issues are anything related to the Express One process or procedures, or any 39 other process that worked well or needs improvement. There were 30 key learnings in this area, 40 which have all been closed. The 30 represents slightly over 8.4 percent of the total key learnings 41 identified. The following are three examples of key learnings AT&T employees identified in the 42 process issues category:

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Key learning 4021 states: "Integrated Project Plan-There was not a good integrated project plan put in place. The SE requested one and we did get an integrated WBS,

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but there was not a good over-arching plan where anyone took ownership and followed through (Things did get better after connectivity testing completed in Jan) on how the two vendors could work together." AT&T's root cause states "Need improved coordination between all impacted vendors." The AT&T resolution states "Technical Oversight will be partially implemented with full implementation by March 2009 release. Technical Oversight will be responsible for ensuring cross vendor coordination. ITUP/PRISM and the 22 state test plan resolve this issue." AT&T has closed this key learning. Staff believes this is an example of a incomplete root cause analysis and a resolution that that may have been closed prematurely.

- New learning 4038 states: "Communication, in general, was lacking." The root cause for this key learnings was "Too many groups sending out communication updates. During post-implementation, there were multiple lists/reports going out with the same data which allows for confusion or issues with synchronization of data. During post-implementation, there were multiple lists/reports going out with the same data which allows for confusion or lack of synchronized data." The AT&T resolution states: "Create a detailed communication plan for the overall project/release. For post-implementation, develop a comprehensive report to fulfill the needs of the business and IT making this the single source for data. Disseminate reports weekly thru implementation and the warranty period." AT&T has closed this key learning. Staff cannot validate whether this resolution adequately resolves the issue.
  - 80 Key learning 4134 states: "Minimal Risk Management planning. This led to very poor prioritization of issues in production because of a lack of knowledge of consequences of defects and limited visibility into what changes were being worked at any one time." The AT&T root cause for this key learning states "The defect impact was not understood and therefore, defects were not prioritized most effectively." AT&T's resolution is "Implementation of a technical oversight group to assess risks. In addition, Jeff Scheibe's (Amdocs) 13-state Performance Measures team and SE Performance team exchanged information to raise Amdocs awareness of SE SEEMS and PMAP changes. With August release, new Risk Management process was rolled out. This was managed by the release management team." AT&T has closed this key learning.

**Resource Management and Vendor Coordination** 

The Resource Management and Vendor Coordination category contained 35 key 37 learnings identified by AT&T employees. One of these key learnings is still open. This category 38 is defined by AT&T as anything related to the communication, integration and or coordination 39 between multiple vendors, as well as the management of vendor resources. This category 40 represents 9.8 percent of the total key learnings identified. The following are three examples of 41 the key learnings that were identified in the resource management and vendor coordination 42 43 category:

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Key learning 4181 states: "Amdocs Managed Services outsourcing deals are structured on AT&T's 13-state region SDLC framework... As such, Amdocs performs Application Development and Maintenance (ADM) roles for its applications, and AT&T owns end-to-end Program and Project Management roles as well as Infrastructure roles (for example, ITO services). The incumbent vendor in the SE (Accenture) had different program level roles and responsibilities, which included Infrastructure roles. The shifting organizational change management aspects of this program were not fully addressed. For example, there was ongoing confusion identifying ownership of aspects of the production system, which delayed production system access and defect resolution." The AT&T root cause for this key learning states "Infrastructure support roles differed between vendors causing delayed requests." The AT&T resolution states "Long Term: David Stryk will address long term contract issues. Date is TBD Short Term: Raise PM awareness of different contract commitments. PMs will manage expectations of various vendors and vendor roles. PM will utilize Governance as needed to clarify roles. David Schuringa will communicate to PM teams." AT&T has closed this key learning. Staff believes this issue may have been closed prematurely.

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40 41 Key learning 4277 states: "There was a lack of development management continuity over the course of the SDLC. The LASR development transitioned between.... This led to confusion." The AT&T root cause states "Knowledge management and retention." The AT&T resolution states "The Amdocs Release Oversight manager role will ensure transitions are more successful in the future and minimize impacts to the release." AT&T has closed this key learning. Staff is concerned about AT&T's delegation of the responsibility of this issue to a vendor.

Key learning 4286 states: "DBA resources were grossly understaffed. Before Amdocs was asked to help, 2 DBA resources were maintaining and supporting all of the existing 13-state LASR databases and trying to support the database conversion." AT&T root cause states "Staffing: Through the transition of O&WS from AT&T to Amdocs, the staffing of additional DBA resources for LASR was not addressed. The size of the work effort for the database conversion was underestimated. The mapping and data conversion work was not performed early in the project life cycle." The resolution identified by AT&T was: "Review LASR DBA staffing needs (in progress). Perform mapping and data conversion work early in the project life cycle. Recognize the size of the work effort needed for data conversions. Mapping for the LENS to LEX and the LNP to LASR conversions is being completed up front in the project life cycle. To address staffing needs: - Reviewing capacity - Assessing forecasted work - Identifying skill sets." *AT&T has closed this key learning.* Staff believes key learning has been closed prematurely.

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### Appendix C Pre-Production Defect Management Key Learnings

During the April Release, there were 27 key learnings attributable to pre-production defect management. Studying several representative example key learnings (KLR) can furnish greater insight into the prevalent difficulties experienced as part of pre-production. Emphasis has been added by staff to highlight salient issues:

Selected Pre-Production Defect Management Key Learnings						
KLR	Finding	Root Cause	Resolution			
<mark>4310</mark>	QC tool was inadequate for managing defects and test case links. 1) The Test Case # field in the Defect module held a maximum of 40 characters and allowed duplicates; if text was entered and the defect was subsequently linked, the text was overwritten by the internal TC#. 2) The Linked Entities > Other panel of the defect listed all the items linked to the defect but did not list a path, making it difficult to identify the TC location without clicking the link (example defects 12, 13, any defect with linked items); could not export defect link information into a spreadsheet for easier filtering/manipulation.	Limitation in tool	CTS CR 428 has been created to resolve the QC tool issues. Resolved with Pre- Production 4311			
4311	No access to QC database Prevented reporting metrics that were not available through QC or CTS website (examples: counting blocked TCs, counting defect links, counting number of times a defect was encountered). A CR was opened requesting access but is on hold.	Quality Center was chosen as the Corporate Standard test defect management tool and provides several reporting options. If more functionality is desired, the user community has the ability to submit work requests.	(name deleted) and (name deleted) met on 6/23/08 to discuss workarounds needed for the CTS website metrics until the upgrades are in place Complete.			
4312 Duplicate #4383 also exists	CTS reports are inadequate for daily status reporting. QC reports had to be created. Depending on who ran what report	The mission of the CTS Metrics web site is to serve as a single, standard source for metrics. It is, however, fairly new	The Wholesale change requests were submitted earlier to CTS.			

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Selected Pre-Production Defect Management Key Learnings					
KLR	Finding	Root Cause	Resolution		
	at what time, different values were retrieved. Everyone should use the same report for status consistency.	and is being evolved to meet the needs of all supported users while striving to maintain the integrity of standardization. As such, there are some gaps between what is currently available through the web site and some unique needs of individual groups.	The work requests have been prioritized and will be tracked to completion. (name deleted) and (name deleted) met on 6/23/08 to discuss workarounds needed until the CTS metrics web site can be upgraded. Complete.		
4330	Design reviews needed between the application groups (9-state and 13- state). Not enough visibility between the groups. Change wasn't communicated all the way through the applications/groups. Late interaction between groups.	Lack of coordination between 9-state (and their vendors) and 13-state (and their vendors).	Weekly meetings are held where designs are peer reviewed, signoffs are obtained, and all vendors are educated regarding any architectural change. Will engage PTAs, Joint Architecture Review Board and ensure participation across all regions and applications. Meetings will include people that are knowledgeable of the applications and can perform impact analysis.		
4360	Too many defect fixes during the month leading up to Production. This negated a lot of testing that had been previously completed. Implementing this many fixes at the last minute was extremely risky and left no time for a quiet week or a soak/regression period.	Teams were focused on achieving the shortened milestones instead of assessing the status of the release testing.	By 9/9/08-The 22-state test plan will include multiple Go/No Go decision gates to assess status of testing/defects. In addition, test and defect coordination, for SE Region impacting projects, will be conducted by the new SE technical oversight team created as a result of Key Learnings from the April Release. 9/11/08: Decision Gates are addressed in IT UP. Testing Exit Criteria are addressed in section 2.1.2 of the 22 State WRTP.		

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KLR	Finding	Root Cause	Resolution
			The criteria must be met for a project before it can be considered a "GO" for the release.
4383	Due to process differences, two defect reporting tools were used for entering and tracking defects. Accenture/Telcordia defects were opened, tracked and closed in Harvest, while the ITX pre- production defect management process utilized the QC tool.	Due to process differences, two defect reporting tools were used for entering and tracking defects. Accenture/Telcordia defects were opened, tracked and closed in Harvest, while the ITX pre-production defect management process utilized the QC tool.	All regions will utilize QC. To help unify the process, the following steps were completed. WIT Wholesale Test Ordering Defect Management Guide updated for 22-states -(name deleted) Complete (5/30), QC training for the SE test teams- completed by (name deleted) Complete (6/6), Weekly meetings with E1 and QC SMEs to support users of QC and defect management - (name deleted) - Ongoing.

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#### Appendix D Production Defect Management Key Learnings

During the April Release, there were 41 key learnings attributable to production defect management. Studying several representative example key learnings can furnish greater insight into the prevalent difficulties experienced as part of production. Emphasis has been added by staff to highlight salient issues:

	Selected Production Defect M	1anagement Key Le	arnings
KLR	Finding	Root Cause	Resolution
<mark>4007</mark>	Thursday before the release, IT learned that the BU wanted all CLEC LSRs blocked from entering the system. The SE had always just put in a Q. The 13-state drops them on the floor if entered.	Regional process differences were not realized before the release.	SE will now block LSRs similar to 13-state region. A permanent fix was installed with the August release.
	Had to put in an emergency fix (PV GUI file to change edits in SGG to stop LSRs, and then put the original file back on production morning.		
	Need to decide the long term how this should be managed - fix or is this it? Need clearer understanding of the BU differences between states and what needs to be changed to be consistent.		
	Numerous environmental issues (i.e. LASR GUI access) surfaced during the week of implementation and there was confusion on who was resolving these issues.	Production environment had to be readied and was running behind. It wasn't clear who	Need to ensure all things are done to track status. Issues need to be tracked at a program or release level. (name deleted) will add this
4059	IWT/RSR Defect Management was involved in trying to resolve them, as was Governance, and neither of these groups should have gotten involved in this.	should have set up production environments.	to the implementation script; first draft to be updated on 7/5/08.
	,	Inconsistencies in how things are handled in different regions.	Task will include accesses for LASR GUI, WFM and Verigate (IWT test ID) Defect Forensics root caused to Environment will be analyzed and action plans taken as necessary"
			Status: Closed - Relative to Action Plan Complete.

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1	Selected Production Defect Management Key Learnings				
KLR	Finding	Root Cause	Resolution		
<mark>4061</mark>	There were too many people working defects directly with the LASR team. Normally, exact scenarios/actual scenarios are documented. Some of the DRs were not well documented. Some working sessions kept developers away from priority issues. With as many Severity 1's as were opened, business priorities need to be addressed first.	Defects were opened and developers began working not in priority order. Process was bypassed. Documentation became unclear. Defect descriptions were not in layman terms but were in developer type language.	Clearly documented defects allow development to work them more easily. Then if a working session is needed, the defect management team normally sets them up <b>Training - Reinforcing the</b> processes that are already in place. 7/9 (name deleted ) held defect meeting with LASR; went through all the defect management tools. Will hold one more meeting prior to 8/16. That should close this KLR.		
<mark>4062</mark>	Post Production - Defect management team was not involved in many of the working sessions. In order to help manage the defects, they should be involved.	Application teams were not aware to include defect mgmt team in 'defect resolution working sessions'. Some teams continued with pre- production defect process in production.	Involve Defect Management Team in the post production defect working sessions. (name deleted ) had meeting with LASR to re-enforce request to include defect mgmt team. Additional meetings will be held to re-enforce, (leading up to Aug.) (name deleted ) had weekly meetings with LASR to re- enforce Defect Management involvement.		
4124	Defect Tracking - Multiple defects were worked under a single defect number without clear accountability or traceability.	Not all vendors understood the rules and the accountability. Different groups were testing pieces of the single defect number. Existing guidelines state that there should be one issue per defect. SE didn't have access to Vantive. More training was	Defect management policies were reviewed with LASR team on 6/11. Met with all other teams the week of 6/30. All teams now use a common tool, Vantive, for post production defect management. Duplicate of (KLR) 4120. SE successfully migrated to Vantive.		

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KLR	Finding	Root Cause	Resolution
		needed for the SE region and the newer 13-state folks on how the defect management process works.	
<mark>4194</mark>	Because of the desire to get issues resolved as quickly as possible, production defect severity definitions for Sev 1 and 2 DRs was ignored during implementation and warranty.	Need to standardize the Severity definitions between 9- state and 13-state teams and processes.	Review existing guidelines and definitions with the group. The SE folks were migrated to Vantive. (name deleted ) is working on a 22-state defect management process.

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Source: Document Request 1

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#### Appendix E Regional Severity Comparison

During the April Release, different regional severity classification methods existed between AT&T's 13-state operations and those of the 9-state legacy BellSouth system. A side-by-side comparison is insightful, providing insight into problems experienced during the release.

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W		ler and Pre-Order   arison of 9-state an	Production Severity Levels d 13-state Regions
		9-state*	13-state**
Severity 1	Description	Critical Problem results in a complete system outage and/or is detrimental to the majority of the development and/or testing efforts. (Note: Severity 1 defects that are discovered in "Production" will be classified as a Type I System outage)	Extreme System Problem This applies to any problem which may impact the CLEC/LSC, has no manageable workaround, and also meets at least one of the following criteria: Blocks execution of all or a majority of implementation weekend test conditions or production order/preorder functions, More than 50% of multiple CLEC transactions or orders are impacted Extreme LSC impact (500 orders per week falling out) Major 271 compliance Executive or presidential complaint High profile customer High volume customer
	Fix Time	No information.	0 to 5 Days Fix and recover as soon as possible. Expectation is that issue will be resolved as quickly as possible. All necessary development testing, SCRM and implementation resources moved to resolve the issue. Severity 1 defects are exempt from CMP, warranty, and maintenance release processes. However, they are reviewed for Accessible Letter impacts. If necessary, an information

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#### Wholesale Order and Pre-Order Production Severity Levels Comparison of 9-state and 13-state Regions

		9-state*	13-state**
		Serious System functionality is degraded with serious impact to the users and there is not an effective	Major Production Problem Any defect production problem, may impact the CLEC/LSC, has NO manageable workaround, and also meets at least one of the following criteria: Blocks execution of several test conditions during
	Description	Work-around.	Implementation Weekend Testing or production order/preorder functions. More than 20% of multiple CLEC orders impacted.
			LSC impacted by 50 to 499 orders per week.
			Performance measures missed; more than \$20,000 and less than \$100,000 monthly fines levied
Severity 2			A combination of the following severe business impact considerations: • Major 271 compliance • Executive or presidential complaint • High profile customer • High volume customer
	Fix Time	Within 10 business days following the date upon which AT&T SE's defect validation process is scheduled to complete.	0 to 45 Days For defects found during the tri-annual release warranty period that do not require an Accessible Letter, fix immediately for installation in a warranty release. For defects found after the tri-annual release warranty period, development is required to provide root cause and fix description within seven calendar days. Implementation of fix required within 60 calendar days. Fix time is directly dependent on CMP, the defect position on the prioritized maintenance release packaging list and the number of defects in queue.
	Description	Moderate System functionality is Degraded with a Moderate adverse impact to the users and there is an effective work-around.	Average For defects found during the tri-annual release warranty period that do not require an Accessible Letter, fix immediately for installation in a warranty release. For defects found after the tri-annual release warranty period, development is required to provide root cause and

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		9-state*	13-state**
Severity 3		J-state	prioritized maintenance release packaging list, and the number of defects in queue.
	Fix Time	Within 30 business days following the date upon which AT&T SE's defect validation process is scheduled to complete.	0 to 60 days
Severitv 4	Description	Cosmetic There is no immediate adverse impact to the users.	N/A
	Fix Time	Within 45 business days following the date upon which AT&T SE's defect validation process is scheduled to complete.	N/A

\*Source: AT&T SE Change Control Process Guide \*\*Source: Document Request 4

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#### Appendix F Staff's Analysis of AT&T's Commitments

AT&T provided a list of forty commitments specific to lessons learned from the April Release and development of future 22-state OSS releases. The commitments, current status, and staff's assessment of each are discussed below:

#### 1. Resolve all Severity 1 and 2 defects.

10 Defects are problems discovered in pre-production and production versions of an application interface. The problems occur when the OSS interfaces are not working in 11 accordance with AT&T's baseline user requirements or the business rules that AT&T has 12 established. Pre-production defects are identified and initiated by AT&T application test teams 13 prior to an application being released into production. Production defects are identified and 14 15 initiated by CLECs or AT&T through AT&T's Change Management/Control Process (CMP) after an application is released into production. CMP is the method by which AT&T manages 16 requested changes (e.g., software, hardware, regulatory) to existing interfaces and the 17 introduction of new interfaces. 18

Upon identification, defects are assigned one of four severity levels for the purpose of 20 prioritizing the development of software correction. According to AT&T's Southeast CMP 21 Process Guide, a Severity 1 defect is one that is critical and results in a complete system outage 22 or is detrimental to the majority of the development or testing efforts. A Severity 2 is one that is 23 serious and results in severe degradation of system functionality and there is not an effective 24 work-around. A Severity 3 defect is moderate and results in system degradation, but there is an 25 effective workaround. A Severity 4 defect is cosmetic, meaning that there is no adverse impact 26 27 to the users.

AT&T further delineates defects as either CLEC-impacting and non CLEC-impacting. CLEC-impacting defects have a direct impact on the CLEC's ability to exchange transactions with AT&T and may include documentation that is in error, has missing information or is unclear in nature. Non CLEC-Impacting defects impact AT&T backend interfaces and CLEC orders are not affected. The definitions of non-CLEC and CLEC impacting defects have been the subject of much debate over numerous years.

AT&T specifically committed to resolve Severity 1 and Severity 2 defects opened in the Southeast region that resulted from the April Release. AT&T identified 112 Severity 1 April Release production defects. Of these 112 defects, 64 were CLEC-impacting and 48 were non-CLEC impacting. The 112 Severity 1 defects were resolved and closed as of September 5, 2008. AT&T further identified 178 Severity 2 defects. Of these 178 defects, 82 were CLEC-impacting and 96 were non-CLEC impacting. As of September 5, 2008, eight Severity 2 defects remain open, of which six are CLEC impacting.<sup>44</sup>

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<sup>44</sup> As of September 5, 2008, AT&T identified the following DRs as open: 185023, 185085, 185153, 185120, 184784, 184686, 184682, and 184633.

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**Staff's assessment:** Staff believes that it is premature to close this item. AT&T has satisfied the resolution of all Severity 1 defects; however, **eight** Severity 2 defects remain open. Staff expects the remaining Severity 2 defects to be remedied prior to implementation of the next 22-state OSS release.

#### 2. Provide status related to transmittal of Line Loss Notifications.

The April Release resulted in Severity 1 defects associated with the flow of status reports, such as CLEC Line Loss Notifications. According to AT&T, all outstanding defects associated with Line Loss Notifications have been fixed and all outstanding Notifications were transmitted successfully on May 16, 2008. AT&T resumed normal transmission of Line Loss Notifications on May 17, 2008. AT&T considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item.

#### 3. Provide status related to the Billing Completion Notices (BCN).

Similar to the issue regarding Line Loss Notifications, Severity 1 defects were opened that impacted CLECs receipt of Billing Completion Notifications. According to AT&T, system issues impacting Billing Completion Notifications were resolved on May 20, 2008. By June 9, 2008, AT&T completed transmission of all delayed Billing Completion Notifications. AT&T considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item.

## 4. Maintain recurring status calls to discuss resolution of Severity 1 and Severity 2 April Release defects.

Beginning on May 12, 2008 AT&T held weekly status calls opened to all CLECs to discuss the resolution of the April Release Severity 1 and 2 defects. Notification of the calls was communicated to CLECs via AT&T's Accessible Letter notification process. On the July 15, 2008 call, the CLECs agreed that it was no longer necessary to continue with the weekly calls to discuss the April Release defects. AT&T now considers this item to be closed.

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44 45 Staff's assessment: Staff concurs with AT&T to close this item.

5. Continue to status plans for currently scheduled 22-State releases within existing monthly CMP/CCP Meetings. Enhance clarity of pre-release communications by providing a review of all systems and customer interface changes included in future 22 State releases in advance of Accessible Letter communications. Use this input to improve the clarity of Accessible Letter information.

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AT&T uses the monthly Change Management Process (CMP) meetings to communicate the status of future OSS releases and customer interface changes. According to AT&T, the Change Management team will review each system related Accessible Letter to ensure that it accurately reflects release information to the CLEC community. The CLEC input gained from the monthly meetings will also be used to improve the clarity of future Accessible Letters. AT&T further added a standing agenda item to the CMP meetings to review Accessible Letter clarity. AT&T considers this item to be closed.

9 Staff's assessment: Staff concurs with AT&T to close this item with the understanding 10 that AT&T will continue to provide the status of future OSS releases via the Change 11 Management and Accessible Letter processes. AT&T has demonstrated that the Accessible 12 Letter format has improved and the Change Management Process agenda includes discussion of 13 the status of all OSS releases or changes to existing OSS.

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#### 6. Provide an outline of CLEC training materials for future 22-state releases.

AT&T is developing CLEC training plans for future 22-state releases and the plans have been verbally shared with CLECs at CMP meetings to date. AT&T will further provide online leader led training sessions for the November 2008 and March 2009 Releases. In support of this commitment, AT&T provided staff with outlines of the available training, including training enrollment procedures and a timeline for the November 2008 and March 2009 Releases. The training plans will be on the agenda for the November CMP meeting. AT&T considers this item to be closed.

Staff's assessment: Staff believes that it is premature to close this commitment. While staff recognizes AT&T's efforts to develop guidelines for the next two OSS Releases, the training guidelines and specific plans have yet to be provided to staff and discussed with the CLECs.

#### 7. Make available to CLECs a recorded message that reports the status of releases during implementation weekends.

The CLECs agreed with AT&T to provide the status of releases during implementation weekends via AT&T's CLEC Online website. According to AT&T, the release status will be updated and posted twice each day over the implementation weekends. AT&T considers this item to be closed.

40 **Staff's assessment:** Staff concurs with AT&T to close this item. Staff agrees that 41 AT&T has implemented a process of reporting the status of releases during implementation 42 weekends.

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8. Establish a virtual "War Room" during the initial three days after scheduled releases to update CLECs of any post-release issues.

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In response to this commitment, AT&T stated that it will issue an Accessible Letter one 2 week prior to each future 22-state OSS release providing conference bridge information to the 3 CLECs. A conference call will be held each day for three days following each scheduled release 4 to discuss any post-release issues. AT&T also advised the Commission staff that AT&T will 5 create and post on its CLEC online website a release status document which will be updated 6 twice daily during a release weekend. This was announced to the CLEC community via an 7 Accessible Letter on August 8, 2008. AT&T further noted that beginning with the November 8 2008 Release and for all 22-state release thereafter, AT&T will provide a brief update of the 9 issues covered on the daily war room calls. AT&T considers this item to be closed. 10

12 Staff's assessment: Staff concurs with AT&T to close this item. Staff believes AT&T 13 has developed a procedure that adequately documented the virtual "War Room" process which 14 will be implemented in future 22-state OSS releases.

# 9. Provide a single documentation that clearly describes the roles and responsibilities of AT&T's; 1) Wholesale Customer Support Managers, 2) Information Services Call Center, and 3) Mechanized Customer Production Center.

AT&T provided documentation describing the general understanding of the roles, responsibilities, and functions of AT&T's customer service contacts listed below. The documentation was provided as an attachment to AT&T's June 12, 2008 Accessible Letter and posted to AT&T's CLEC Online website. AT&T considers this item to be closed.

- 10 Information Services Call Center
- 80 Mechanized Customer Production Support Center
- 80 Senior Carrier Account Manager
- 80 Wholesale Support Manger
- 80 Local Service Center

Staff's assessment: Staff concurs with AT&T to close this item.

#### 10. Perform internal documentation review to enhance clarity of web-based defect reporting.

AT&T provided revised documentation supporting the process for creating a daily defect report. The documentation further clarifies defect descriptions and also includes additional internal procedures, such as multiple peer-to-peer review prior to posting. AT&T considers this item to be closed.

44 **Staff's assessment:** Staff believes that it is premature to close this commitment. Staff 45 acknowledges that AT&T has developed internal documentation to enhance the clarity to support 46 the process for creating a defect report. However, staff is concerned that the information

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provided on the web-based defect report does not adequately reflect enough information for
 CLECs to discern the status and resolution of defects. This issue was raised by the CLECs in the
 November 5, 2008 CMP meeting.

## 11. Perform internal documentation review to enhance clarity of XML documentation.

AT&T provided documentation outlining the methods and procedures for developing one consolidated repository to view the business rule requirements for pre-ordering and ordering. Via AT&T's CLEC Online website, CLECs have the ability to view the Local Ordering Handbook (LOH), Local Service Pre-Ordering Requirements (LSPOR), and Local Service Ordering Requirements (LSOR). According to AT&T, modifications will be made to each using a phased-in approach by discussing each phase (OSS Release) with the CLEC prior to implementation. AT&T considers this item to be closed.

17 Staff's assessment: Staff believes that it is premature to close this commitment. While 18 the process of consolidating the pre-ordering and ordering business rules has been documented, 19 the process itself has not been fully implemented. AT&T noted that the AT&T Southeast LSOR 20 will be available with the November OSS Release, while the LSPOR is currently in development 21 and will be available after implementation of the 22-state XML application.

#### 12. Correct identified issue with reject reason field to restore to pre-release length of 5 characters.

With implementation of the April Release, LSR reject messages and codes were modified to conform to the new 22-state email manual ordering process. The reject codes were flawed. As a result, AT&T subsequently reset the LSR reject codes to the conditions used prior to the April Release. AT&T issued an Accessible Letter on May 13, 2008, advising the CLECs of the revised manual LSR reject code to be reset at a length of 5 characters. The list of the revised reject messages and codes were included as an attachment to the Accessible Letter. AT&T considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item.

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## 13. Perform internal documentation review to enhance clarity of Systems Outages Notifications.

System outage notifications are currently accessible via a CLEC link posted on AT&T's CLEC Online website. The outages are sorted by interface type (e.g., LENS, EDI, and TAG) and further broken down by time of occurrence and reason for the outage. In response to the CLECs concerns regarding the clarity of the system outage notifications, AT&T states, "The system outage notification process has not changed, however organizationally, we have realigned (completed as of March 10, 2008) in such a way that the outage notifications are now

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communicated across all regions of AT&T by the Information Services Call Center (ISCC). The
 ISCC, based upon the concerns raised following the April Release, has improved the detail and
 clarity of the communications." Both the pre- and post-merger processes are to send the CLECs
 an email within 15 minutes that verifies the existence of an outage.

6 AT&T further reviewed several months of the SQM and SEEM reports as well as the 7 corresponding pre- and post-outage reports to determine if changes should be applied to AT&T's 8 wholesale SQM and SEEM plans. According to AT&T, the data matches correctly and no 9 changes are warranted.

10 11 Staff also notes that on June 12, 2008, AT&T gave a presentation to Commission staff on 12 the overview of the April Release impacts to its wholesale Performance Measurement Analysis 13 Platform (PMAP) and SEEM plans. An additional discussion on this topic was provided to the 14 CLEC community on June 24, 2008, as part of an OSS status update call. AT&T assured staff 15 and the CLECs that testing was done to ensure continued receipt of appropriate data required to 16 produce SQM and SEEM measures and calculate remedies. AT&T considers this item to be 17 closed.

19 **Staff's assessment:** Staff concurs with AT&T to close this item as it relates to system 20 outage notifications. However, staff notes that it will soon be initiating a review of AT&T's 21 wholesale Performance Assessment Plan.

## 14. Take into consideration comments received from customers to date and cover results with CLECs once completed.

In response to this commitment, AT&T noted that CLEC comments are captured and
addressed within the CMP Action Logs The Action Log contains the initiator (CLEC name) of
the comment, the date comment was received, a summary of the comment, the current status, and
AT&T's reply. The results of the Action Log are discussed with the CLECs once completed.
AT&T considers this item to be closed.

33 **Staff's assessment:** Staff believes that it is premature to close this item. Although staff 34 agrees with AT&T's process of using the Action Log to captured CLEC comments after they 35 have been accepted, AT&T did not elaborate on the company's current CMP procedures and 36 processes for escalating and denying CLEC action item requests.

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## 15. Utilize root cause analysis of release defects to expand Testing Plans with special focus on the area of delivering outbound transactions.

AT&T will expand testing plans with special focus in the area of delivering outbound
 transactions. Specific tests will be established for validating that outbound transactions such as
 firm order confirmations, clarifications, completion notices, and billing completion notices
 delivered to their destination point in a form compatible with existing standards and interface

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1 agreements. AT&T noted that relevant key learnings from the root cause analysis will be 2 incorporated into future test plans. AT&T considers this item to be closed.

**Staff's Assessment:** Staff concurs with AT&T to close this item with the understanding that AT&T would fully utilize the newly expanded Test Plan upon implementation of future OSS releases. Staff notes that AT&T's expanded 22-state Test Plan incorporates end-to-end testing to include cooperative testing with CLECs and simulations to test outbound notifications. Furthermore, the scheduling of individual project test plans will be determined in alignment with the overall milestone dates for each OSS release.

### 16. Encourage and support greater CLEC participation in cooperative testing for all releases, utilizing existing CLEC test environments.

In response to this commitment AT&T noted that efforts have been made to encourage greater CLEC participation in pre-release testing via CMP meeting and Accessible Letters. AT&T provided an extract from the minutes of the September 10, 2008 CLEC User Forum meeting where AT&T noted acceptable CLEC testing associated with email acknowledgements for CLEC placed orders. AT&T considers this item to be closed.

**Staff's assessment:** Staff concurs with AT&T to close this item with the understanding that AT&T will continue to encourage CLEC cooperative testing for future OSS releases.

### 17. Evaluate manual process to determine what steps can be taken to test the process and allow CLECs the opportunity to practice for new forms/templates.

To satisfy this commitment AT&T offered online sessions with interested CLECs to walk through the changes to LSR forms used for manual ordering. Sessions were scheduled and announced via the CLEC Users Forum. For any implementation of new forms, AT&T will hold sessions within 30 days of the implementation date. AT&T considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item with the understanding that AT&T will continue working in the same manner to support any individual CLECs that may raise issues with regards to the completion and processing of LSR forms used in the manual email ordering process.

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18. Going forward, schedule 22-state releases for the SE region will provide overlap between the existing and new customer interfaces (EDI, XML, and Verigate/LEX/LENS), in order to allow customers to plan/test/develop individual migration strategies to the new interfaces.

44 AT&T's current OSS release plans associated with implementation of new functionality 45 and implementation of 22-state platforms will have overlap built into it. In support of this 46 commitment, AT&T provided to staff an October 10, 2008 Accessible Letter that served as a

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notice for retirement of AT&T's Southeast region interfaces in late 2009. In the letter, AT&T further noted that AT&T's Southeast region interfaces will continue to be available upon introduction of new 22-state releases, such as the XML Gateway. AT&T considers this item to be closed

Staff's assessment: Staff concurs with AT&T to close this item.

#### 19. Testing to include appropriate back out plans for the implementation weekend.

According to AT&T, future 22-state OSS release back out plans are still in the production stage and noted that back out scripts are pre-written and approved at least a week prior to the release weekend. In response to this commitment AT&T provided a boiler-plate Back Out Plan that includes provisions for:

- 80 Identifying impacted applications
- 80 Identifying fixes that are not feasible
  - 80 Communicating with executive teams
  - 80 Communicating with CLECs to review back-out options.
  - 80 Stopping production
  - 80 Removing production code and reverting to the previous version

Staff's assessment: Staff concurs with AT&T to close this item with the understanding that AT&T will develop and implement back out plans, if needed, specific to each future 22-state OSS release.

#### 20. Development of Emergency Plan with a focus on 1) Customer Notification and Support, 2) Defect Resolution, 3) Expanded AT&T staffing requirements.

AT&T has documented an Emergency Communication Plan that addresses defect identification, defect resolution, weekend release staffing, and customer notification,. The Plan further outlines communication steps to be followed within defined intervals if a back out decision is made.

37 Staff's assessment: Staff concurs with AT&T to close this item; however, staff believes 38 that AT&T's Communication Plan can be improved. The Plan appears to have not been 39 thoroughly developed and thought-out in detail. Additionally, it is unclear to staff how the Plan 40 is communicated with AT&T personnel and incorporated into company policies and procedures.

 Provide continuing education, individualized customer support, and customer working sessions to assist in successful submission of the manual LSR forms through use of the email process.

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1 AT&T created an internal process of pulling together members of its Wholesale Support 2 Management team to assist CLECs in working sessions scheduled by AT&T Account Managers. 3 The Wholesale Support team would be able to identify the specific issue or related product 4 information to allow the right resource to assist on the CLEC call. AT&T implemented the 5 following steps for resolving the email process issues and now considers this item to be closed:

- 6 80 Obtaining pertinent information from CLEC concerning specific issue 7 8 80 Referring to manual email ordering documentation on CLEC Online to determine 9 if it addresses the issue 10 11 80 Obtaining additional assistance from manual email ordering from AT&T's subject 12 13 matter experts (SMEs) 14 & After resolution, AT&T will provide information to the CLEC via email or phone 15 16 80 Escalating issues with significant difficulty to manual email ordering subject 17 matter experts to arrange for an on-line overview training session 18 19 Staff's assessment: Staff concurs with AT&T to close this item with the understanding 20 that AT&T's enhanced internal process to proactively support and resolve manual email ordering 21 issues remains intact. 22 23 24 Lead a monthly email/manual forms user forum to provide common support 25 22. and address current manual process issues until all 22 state releases are 26 completed. 27 28 AT&T created an email manual ordering forum as a standing segment to the monthly 29 CLEC User Forum (CUF) agenda. The meeting is opened to all CLECs. In response to the 30 commitment, AT&T provided the Accessible Letters announcing the June, July and August 2008 31 CLEC User Forum monthly meetings to discuss issues surrounding the manual email ordering 32 process. AT&T considers this item to be closed. 33 34 Staff's assessment: Staff concurs with AT&T to close this item with the understanding 35 that any manual email ordering issues that may occur in the future can be addressed via the 36 37 CLEC User Forum, if necessary.
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41 42 23. Continue to work with all CLEC customers who request further assistance or education on the manual LSR ordering process.

In response to this commitment, AT&T provided a listing of 23 CLEC customers who
 requested further assistance in resolving manual email ordering issues. AT&T noted that CLEC
 working sessions are held when requested. AT&T considers this item to be closed.

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Staff's assessment: Staff concurs with AT&T to close this item with the understanding 2 that AT&T will continue working in the same manner to support any individual CLECs that may 3 raise issues with regards to the manual email ordering process.

> 24. Assess CLEC concerns where all pages of a form are required whether or not all pages contain data. Address customer concerns regarding the requirement of additional data.

AT&T provided a May 30, 2008 Accessible Letter submitted to CLECs to be used as assistance in preparation of the manual LSR forms. In the letter, AT&T provides details of some of necessary inputs to complete the LSR form correctly, reasons for errors, and updates made to the Manual Ordering Guidelines and Local Ordering Handbook. AT&T considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item with the understanding that AT&T did address the CLECs concern regarding the requirements for additional data to properly complete manual LSR forms. However, staff believes that issuance of one Accessible Letter after another is not the appropriate means to provide corrections to ordering processes. For example, below is a listing of 15 Accessible Letters addressing the manual email ordering 20 process alone. Staff believes that AT&T and the CLECs should develop and pursue an 21 alternative means of documenting and communicating corrections and resolutions made to 22 23 existing processes that are used in a production environment.

- Accessible Letter CLECSE08-054, April 25, 2008, re: Manual LSR Remarks -LOAs and Commingle EELs - Special Handling (All Carriers)
- Accessible Letter CLECSE08-055, April 25, 2008, re: Manual LSR Update for the DDD-Desired Due Date and D/TSENT - Date and Time Sent fields (All Carriers)
- ≥ Accessible Letter CLECSE08-059, May 2, 2008, re: Updated for Manual LSR Update or the DDD-Desired Due Date and D/TSENT - Date and Time Sent fields (All Carriers)
- ∞ Accessible Letter CLECSE08-060, May 2, 2008, re: Use INIT EMAIL Field On The LSR Manual Form As Alternative Email Address For Receipt Of Notifications
- ∞ Accessible Letter CLECSE08-061, May 2, 2008, re: SUPER FATAL AND MANUAL REJECT MESSAGES ASSOCIATED WITH 22-STATE MANUAL EMAIL FOR (ALL CARRIERS)
- 42 Accessible Letter - CLECSE08-067, May 8, 2008, re: MANUAL LSR UPDATE 43 FOR THE PORTED NBR (PORTED NUMBER) FIELD ON THE LOOP SERVICE 44 W/NUMBER PORTABILITY AND NUMBER PORTABILITY FORMS (ALL CARRIERS)

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- Accessible Letter CLECSE08-068, May 8, 2008, re: Manual LSR Update for the PORTED NBR (Ported Number) field on the Loop Service w/Number Portability and Number Portability forms (All Carriers)
- Accessible Letter CLECSE08-070, May 13, 2008, Replacement for CLECSE08 and CLECSE08-068 - Manual LSR Update for the PORTED NBR (Ported Number) field on the Loop Service w/Number Portability and Number Portability forms (All Carriers)
- Accessible Letter CLECSE08-071, May 13, 2008, Update to Manual Reject Messages (All Carriers)
- Accessible Letter CLECSE08-072, May 14, 2008, Address Corrections for REQTYP A (All Carriers)
- Accessible Letter CLECSE08-075, May 20, 2008, Complex Product Ordering Responsibility Changes (All Carriers)
- Accessible Letter CLECSES08-030, May 20, 2008, Billing Completion Notifications Backlog Transmission to CLECs
- Accessible Letter CLECSE08-077, May 21, 2008, LSR Manual Ordering Guidelines Updated and a New Frequently Asked Questions Document (All Carriers)
- Accessible Letter CLECSE08-086, May 30, 2008 Updated the Manual Ordering Guidelines, New Frequently Asked Questions Document and the 27.1 LOH (22-State) (All Carriers)

# 25. Review and assess the prioritized list of customer change requests for enhancements to the 22-state email LSR process. Reevaluate merger related OSS Change Requests previously submitted through the Change Management process.

35 CLEC change requests for enhancements to the manual email ordering process are 36 submitted to AT&T via the CLEC User Forum Issue Submission Form. AT&T then assigns and 37 prioritizes the change requests internally. In response to this commitment, AT&T provided three 38 specific change requests that address the email manual ordering process:

- CUF Issue 08-006, May 26, 2008 re: acknowledgements not being returned to CLECs on manual orders.
- ≥ CUF Issue 08-008, May 27, 2008 re: updating of Manual Ordering Guidelines.
- ▷ CUF Issue 08-009, May 27, 2008 re: LSC Manual ordering Process Flow.

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1 ATT states that two of the three change requests have been resolved. The third, CUF 2 Issue 08-009, is noted as "in progress" with a targeted review for discussion in the September 3 2008 AT&T/CLEC Email Ordering Forum. AT&T considers this item to be closed.

5 Staff's assessment: Staff believes that it is premature to close this item. It appears that 6 CUF Issue 08-008 may have been discussed and possibly resolved in the September 2008 Email 7 Ordering Forum; however, no supporting documentation was provided to staff to concur with 8 closure of this item.

As part of this commitment AT&T also stated that it will re-evaluate merger related OSS Change Requests previously submitted through the Change Management process. AT&T did not provide any documentation in support of the re-evaluation. Staff would point to the CLECs "Best Practices" provided to AT&T for consideration when implementing the new 22-state OSS releases. At the May 2008 staff workshop, the CLECs argued that AT&T failed to adequately address and respond to the Best Practices.

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#### 26. Complete updates to the Local Ordering Handbook to reflect changes via the Accessible Letter.

This commitment addresses the issue regarding incorrect manual ordering guidelines. According to AT&T, the updates to the manual ordering guideline, also known as the Local Ordering Handbook (LOH), have been completed. The updates and changes are reflected in the Accessible Letters issued subsequent to the April Release. Staff notes that item 4 above identifies the specific Accessible Letters. AT&T considers this item to be closed.

**Staff's assessment:** Staff concurs with AT&T to close this item with the understanding that AT&T did address the CLECs concern regarding the updates to the Local Ordering Handbook. However, staff believes that issuance of one Accessible Letter after another is not the appropriate means to provide corrections to ordering processes. Staff believes that both AT&T and the CLECs should work together to develop and pursue an alternative means of documenting and communicating corrections and resolutions made to existing processes that are used in a production environment.

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#### 27. Proactive review and update of the 22-state manual LSR forms and email process documentation to address customer feedback.

In response to this commitment, AT&T provided staff with a May 21, 2008 Accessible Letter denoting that updated manual ordering documentation supporting the 22-state manual LSR forms and the email process. AT&T provided a link for viewing of the manual ordering guidelines. In the Accessible Letter, AT&T further states that a Frequently Asked Questions document has been developed to provide additional detail concerning form usage, the email process, error conditions and helpful references. AT&T considers this item to be closed.

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Staff's assessment: Staff concurs with AT&T to close this item.

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#### 28. Expand documentation quality control processes to ensure multiple layers of review prior to release of documents to the customer.

6 According to AT&T, the existing CLEC documentation quality process has been 7 expanded to include additional layers of review for updates to the Local Ordering Handbook 8 (LOH). In addition, a Southeast Local Service Order Requirement (LSOR) will be implemented 9 for the November 2008 release which was developed using the quality review process. The 10 LSOR will be available on AT&T's CLEC online website for the November Release. AT&T 11 considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item.

29. Proactive billing adjustments, claims clean-up process for addressing exceptions that are not addressed in the proactive approach, and communication plan for the CLECs.

AT&T provided staff with an August 14, 2008 Accessible Letter discussing the 20 resolution of the billing adjustments. The letter indicates that bill credits will appear on bill 21 periods starting July 25, 2008 through September 30, 2008. Furthermore, support of the credits 22 will be posted to AT&T wholesale Performance Measurement and Analysis Platform (PMAP). 23 AT&T provided staff with an update of this commitment on October 23, 2008, wherein AT&T 24 stated that all bill adjustments have been completed. According to AT&T, the billing 25 adjustments for AT&T's 9-state region amounted to \$1,437,161. For AT&T's Florida 26 operations, total billing adjustments were \$245,634. AT&T considers this item to be closed. 27

Staff's assessment: Staff concurs with AT&T to close this item.

#### 30. Implement a temporary plan of action to handle calls by other service centers.

34 In March 2008, AT&T consolidated the former BellSouth Jacksonville, Florida and Birmingham, Alabama call centers, also known as Local Carrier Service Centers (LCSC) into 35 one center located in Birmingham. As a result of the consolidation, the average speed of answer 36 37 time more than doubled from February 2008 to March 2008 (41.74 seconds to 91.5 seconds). 38 The average answer time remained high, at 62.29 seconds, in April 2008, due to the increased 39 number of CLEC calls for orders that were backlogged by the April Release. In response, AT&T 40 assigned call centers outside of the Southeast region to receive and expedite the processing of 41 CLEC orders. In May, times returned to pre March levels, at 38.11 seconds. All April Release 42 related calls temporarily handled by other service centers out of the Southeast region were moved back into AT&T's Birmingham LCSC by May 19, 2008. AT&T considers this item to be 43 44 closed.

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Staff's assessment: Staff concurs with AT&T to close this item.

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# 31. Continue to manage April Release related expedites for the processing of acknowledgements for any individual situations if not addressed by the mechanized transmittal efforts.

In May 2008, AT&T implemented an escalation process for any CLEC orders that may
still be missing notifications after the April Release defects appeared to be resolved. The
escalation process begins with the CLEC order being assigned to AT&T's Wholesale Support
Manger, who in turn, can escalate the order up to the Director of the Local Carrier Service
Center (LCSC). AT&T considers this item to be closed.

Staff's assessment: Staff concurs with AT&T to close this item.

#### 32. Continue to review staffing levels to meet anticipated demand for Wholesale Customer Support and Centers.

In response to this commitment, AT&T stated that its Local Carrier Service Centers
 (LCSC) continually reviews staffing requirements based on current and forecasted demand.
 AT&T considers this item to be closed.

Staff's assessment: Staff believes that it is premature to close this item. AT&T failed to provide staff with any documentation in support of staff requirements. At a minimum, staff expects to see an assessment of staffing levels based on current and forecasted demand and the impact to staffing levels based on implementation of future 22-state OSS releases.

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#### Appendix G Glossary of Acronyms and Terms

Term or Acronym	Definition	
9-state	This is the legacy BellSouth region and includes the states of Florida,	
	Georgia, Alabama, Tennessee, Mississippi, Louisiana, South Carolina,	
	North Carolina, and Kentucky.	
13-state	This is the legacy SBC Communications' region and includes the states	
	of Texas, Kansas, Missouri, Illinois, Indiana, Michigan, Ohio,	
	Wisconsin, California, Nevada, Arkansas, Oklahoma, Connecticut.	
ADSL	Asymmetrical Digital Subscriber Line – A transmission technology that	
	allows the use of one existing local twisted-pair to provide high-	
	bandwidth data and voice services simultaneously.	
AVP	Assistant Vice President	
ССР	Change Control Process	
CLEC	Competitive Local Exchange Company – An AT&T wholesale customer	
	who competes with the Incumbent Local Exchange Carrier (ILEC) and	
	other carriers in providing local service.	
СМР	Change Management Process	
CRIS	Customer Record Information System - The AT&T proprietary corporate	
	database and billing system for non-access customers and/or services.	
DSL	Digital Subscriber Line – Allows customers to provide simultaneous two-	
	way transmission of digital signals at speeds of 256 kbps via a two-wire	
	local channel.	
EDI	Electronic Data Interchange – The computer-to-computer exchange of	
	inter and/or intra-company business documents in a public standard	
	format.	
EDR	Enhanced Defect Report	
EPE	Experienced Process Expert - Individual identified as process expert	
	during implementation and use of Express One, and later as the IT	
	Unified Process (IT UP) across 22-state region.	
ETE (or ETET)	End-to-End Test is a test that verifies system functionality by following a	
	set of data from its inception through all points where it is processed.	
	ETET crosses multiple systems and Development Management/Test	
	groups. Test cases are designed at a high level to prove connectivity	
	between applications are up and working properly.	
Express One	The IT standard Software Development Life Cycle management process	
•	used by the 13-states prior to the introduction of IT UP.	
FOC	Firm Order Confirmation	
FPSC	Florida Public Service Commission	
GUI	Graphical User Interface	
ISDN	Integrated Services Digital Network – An integrated digital network in	
	which the same time-division switches and digital transmission paths are	
	used to establish connections for different services. ISDN services	
	include telephone, data, electronic mail, and facsimile.	
	interve tereprone, dua, electronic man, and facsimile.	

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APPENDIX G



Term or Acronym	Definition		
IT UP	IT Unified Process – A Software Development Life Cycle process		
II UF	introduced in late third quarter 2008 as the new 22-state standard that		
	combines the Wireless Unified Process and Express One.		
IWT	Implementation Weekend Testing is the User Acceptance testing of code		
1 W 1	in production.		
KLR	Key Learnings Resolutions		
LASR	Local Access Service Request System – System used by 22-state region		
LASK	to track and process Local Service Requests from CLECs		
LAUTO	The automatic processor in LNP Gateway that validates LSRs and issues service orders.		
LCSC	Local Carrier Service Center - The AT&T center which is dedicated to		
	handling CLEC LSRs and preordering transactions, along with associated		
	expedite requests and escalations.		
Legacy System	Term used to refer to BellSouth Operations Support Systems		
LENS	Local Exchange Navigation System – The BellSouth application		
	developed to provide both preordering and ordering electronic interface		
	functions for CLECs.		
LEO	Local Exchange Ordering - The BellSouth system which accepts the		
	output of CLEAC interfaces and provides first-level validation to ensure		
	all appropriate fields are populated.		
LESOG	Local Service Order Generation - A BellSouth system which accepts the		
	service order output of LEO and enters the service order into the Service		
	Order Control System using terminal emulation technology.		
LEX	Local Service Request Exchange System – Interface used in 13-state		
	region for LSR input		
LNP	Local Number Portability – In the context of this document, the		
	capability for a subscriber to retain their current telephone number as		
	they transfer to a different local service provider.		
LOIS	A fax server that provides automated imaging of LSRs.		
LON	An inventory-based system responsible for tracking the processing status		
	of LSRs.		
LSC	Local Service Center		
LSR	Local Service Request – A request from a CLEC for local resale service		
	or unbundled network elements.		
O&WS	Ordering & Wholesale Solutions is an organization within Customer		
00000	Care and Billing (CC&B).		
OmegaMan	Third party software product for monitoring systems/queues on		
omogunium	mainframes.		
OOM179	Order of Magnitude 179 is a reference to the first estimating point of the		
	AT&T/BellSouth Wholesale Local Merger Program. It has become the		
	reference name for this merger program.		
OSS	Operations Support Systems – Multiple support systems and databases		
000	which are used to mechanize the flow and performance of work. The		
	term is used to refer to overall system consisting of complex hardware,		
	computer operating system(s), and applications which are used to provide		
	computer operating system(s), and applications which are used to provide		

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Term or Acronym	Definition		
	the support functions.		
OWS PMO	Ordering & Wholesale Solutions Project Management office		
PGM	Program Manager		
РМАР	Performance Measurement Analysis Platform – Provides delivery of performance reports via the web and facilitates analysis of the summary level data.		
РМО	Project Management Organization		
PRISM	Primary Repository for Information Systems Management is the graphical user interface and database that supports the IT Unified Process (IT UP).		
QC	Quality Center		
SCRM	Software Configuration Release Management team manages the code delivery from one environment to the next.		
SEEM	Self-Effectuating Enforcement Mechanism – A tiered remedy structure in which payments are made either to the CLEC and/or state regulatory agency, depending on the type an level of parity/benchmark miss that occurs.		
SGG	A routing and editing software application to help ensure the process of complete and error-free transactions.		
SLA	A Service Level Agreement is an established or agreed upon commitme time frame and level of service for a given deliverable.		
SOCS	System responsible for the collection, storage, and distribution of service orders.		
SQM	Service Quality Measurements		
ST2	System Test 2 is one of the 9 state test environments used to conduct system tests.		
TechM	Tech Mahindra – Subcontractor for Amdocs performing some testing functions during the April Release.		
UAT	User Acceptance Testing is performed to validate the system of program t the User Requirements.		
Vantive	The primary tool used to manage post production defects.		
WBS	Work Breakdown Structure – Steps outlining a project plan for project management purposes.		
WFM	Work Force Management		
WMS	Work Assignment Management System.		
WIT	Wholesale Integration Tests in the Amdocs system testing team.		
XML	eXtensible Markup Language – An internal standards-based data formatting option designed for information exchange on network systems.		

# DECLASSIFIED

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APPENDIX G