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Oregon Public Utility Commission

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Telecommunications Analyst
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Re: Call Completion and/or Termination Issues

Dear Mr. Goodwin and Mr. Gray:

Thank you for contacting the Alliance for Telecommunications Industry Solutions (ATIS) regarding call completion and/or call termination issues brought to you from some state telecommunication providers. As you know, ATIS' mission is to develop technical and operational standards that facilitate the reliable operation and interoperability of communications systems and to promote the development of new services to meet the demands of consumers. A description of ATIS' efforts regarding this issue, as well as some industry guidelines and standards that may mitigate these problems, are described below.

As an initial matter, ATIS notes its appreciation for the opportunity to provide input regarding this important issue. ATIS remains committed in its efforts to promote interoperability and the provision of reliable service to end-users and would welcome further input regarding this matter and, particularly, regarding recommendations for enhancements to existing ATIS documents, or to those under development. Moreover, ATIS would welcome the participation of interested parties in any endeavors to update, revise, or create new documents to address any identified gaps.

Restatement of the Issue. ATIS understands that, according to a recent industry survey, customers of some telecommunications service providers (particularly those in rural areas) have experienced problems with their phone service, ranging from situations in which the calling party hears ringing but the called party hears nothing (or there is an unusually long call set-up), the called party's phone rings but the party hears dead air when the call is answered, or there is extremely poor quality on answerable calls.

ATIS also understands that the cause of these problems has not been specifically identified but some potential causes have been suggested, such as: congested or

low quality Internet Protocol (IP) routes; improper call set-up; originating carriers routing calls to Least Cost Route (LCR) providers whose contracts stipulate they will not complete calls to certain NPA-NXXs; or nomadic VoIP providers unwilling to terminate calls to certain areas. It has been suggested that this could be a “call looping issue” that occurs when a call from the Public Switched Telephone Network (PSTN) is handed off to an IP-based LCR provider, gets hung up in a loop, and is delayed or never reaches the terminating network. Additionally, it has been suggested that there could be other issues related to Time Division Multiplexing -to-IP conversions and/or the interworking between the various protocols involved.

ATIS’ Efforts. Upon receiving notification of these problems, two ATIS committees – the Next Generation Interconnection Interoperability Forum (NGIIF) and the Ordering and Billing Forum (OBF) – undertook efforts to examine whether there is a need for a technical- or standards-based solution(s). The ATIS NGIIF and OBF also discussed whether the cause or causes of these problems could be identified based on the information before them, but determined that they could not. ATIS notes that it has access only to information made publicly available and does not have access to more detailed information that may have been provided to individual service providers. Additional data, should it be provided, could allow ATIS to do a more detailed study.

Based on its examination of the information it was provided, ATIS believes that there are existing standards and guidelines (described below) that, if followed, could potentially mitigate the problems. Three points should be understood about these documents, however. First, industry guidelines are voluntary in nature and many service providers may choose not to implement specific guidelines or standards, or portions thereof, based on their unique business and operational needs. ATIS is not, therefore, suggesting that these standards become mandates. Instead, ATIS believes that all service providers should be aware of industry guidelines and make informed decisions that take into account a variety of considerations, including the potential impact of the failure to comply with such guidelines could have on end-users.

Second, ATIS notes that knowledge of, and willingness to implement, the industry guidelines are not the only factors that affect the industry’s ability to mitigate the identified problems. It is also very important for service providers to provide training to their personnel to ensure the effective and consistent implementation of appropriate industry guidelines. ATIS appreciates any support that may be provided from other industry groups to encourage the implementation of the industry guidelines.

Third, ATIS acknowledges there will always be bad actors that may fail to comply with industry guidelines despite adverse impacts on end-users. It has been ATIS’ experience, however, that those providers who are aware of, and participate in, industry efforts to develop guidelines and standards are also more likely to have processes in place to ensure consistent reliability in their services. These providers also are more likely to understand how other carriers’ operate and to take steps to ensure seamless interconnectivity.

Existing ATIS Standards/Guidelines. There are numerous industry guidelines pertaining to the interconnection and interoperation of telecommunications providers that can be used to mitigate the impact of inconsistencies between networks, including guidelines that address the installation,

testing, maintenance and troubleshooting of both legacy and Next Generation Networks. End users may experience better service when service providers are using the same basic practices. These standards/guidelines include, but are not limited to, the following:

- **ATIS-0300032 - Interconnection Between LECs - Operations Handbook Local Interconnection Service Arrangement**
This document outlines procedures for the installation, testing, maintenance and arrangement of local interconnecting service trunks. The document addresses: the responsibilities for Local Service Customers and Local Service Providers; NXX code opening guidelines; and trunk trouble reporting, trunk make busy, clearance, and restoration guidelines.
- **ATIS-0300009 - Installation and Maintenance Responsibilities for Special Access Services, WATS Access Lines, and Switched Access Services Feature Group "A"**
This document provides service providers' operations personnel and customers with general procedures for the installation, testing and maintenance of Special Access Services, WATS Access Lines and Switched Access Services Feature Group "A." Additionally, the document identifies responsibilities for the functions and services identified above, trouble reporting procedures, and information that should be shared for trouble reporting, sectionalization and repair.
- **ATIS-0300010 - Installation and Maintenance Responsibilities for Switched Access Services Feature Groups "B", "C", and "D"**
This document outlines telecommunications service provider and customer installation and maintenance responsibilities for Switched Access Services and includes procedures for the installation and maintenance of trunk side connected Access Services Feature Groups B, C and D. Specifically addressed in this document are issues such as: NXX code openings; FG D CIC testing; network modification notification and trouble detection responsibilities; trouble reporting procedures; 500/800/900 NXX services; and toll free database, Line Information Database and access services provided by multiple exchange carriers.
- **ATIS-0300011 - NIIF Reference Document Part III - Installation and Maintenance Responsibilities for SS7 Links and Trunks**
This document outlines service provider and customer responsibilities for the Signaling System 7 (SS7) interface between Interexchange and Access Service Providers. It deals with the physical interconnection of trunks and link(s), as well as with the software necessary to support the use of link(s) to transport SS7 messages between carriers. All telecommunications networks and providers that utilize SS7 should recognize these operational guidelines.
- **ATIS-0300023 - Installation and Maintenance Responsibilities for X.75 Gateway Services**
This document provides guidelines for operations personnel of telecommunications service providers and customers to prepare procedures for the installation and maintenance of X.75 Gateway Services. The document includes installation and maintenance guidelines as well as guidance on acceptance and inter-carrier testing.

- **ATIS-0300030 - Installation, Testing and Maintenance Responsibilities for Facilities**
This document outlines telecommunications service providers' and customers' responsibilities for the installation, testing and maintenance of facilities, including the acceptance and maintenance test parameters for DS-1 and DS-3.
- **ATIS-I-000022 - ATIS Consolidation & Convergence Task Force Assessment and Recommendations**
This document contains recommendations addressing the transition of telecommunications network facilities and technology platforms in a multi-carrier environment. The assessment focuses on the technologies, processes, and policies identified as most significant in this migration: (1) fiber replacing copper; (2) reduction in the number of network centers; and (3) changes in legacy geographic- and service-based policies.

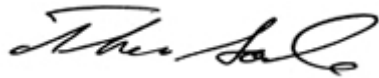
The documents listed above are publicly available from the ATIS Document Store at <http://www.atis.org/docstore/default.aspx>. These documents are available free to members of ATIS NGIIF; a fee is charged for non-members.¹

Documents Under Development. ATIS also notes that there is work in progress that may be relevant to this issue. For instance, the ATIS NGIIF is currently developing a suite of documents related to the convergence of current legacy networks with Next Generation Networks and the transition to Next Generation Networks. These documents will include procedures pertaining to installation, testing, maintenance and trouble reporting issues as the industry continues to transition from legacy networks to IP-enabled and other emerging technologies. ATIS believes that this work on convergence may be useful in addressing some of the concerns that have been raised.

ATIS appreciates the opportunity to provide its input and would welcome your participation and/or your encouragement of others to participate in any endeavors to update, revise, or create new documents to address any unresolved issues pertaining to this matter.

If you have any questions, please let me know.

Sincerely,



Thomas E. Goode
General Counsel

Cc: John McHugh, OPASTCO
Barbara Vrahnos, NECA

¹ To facilitate access, ATIS will make these documents available to all affected parties who are not ATIS members at a reduced cost, by contacting our offices at 1-202-434-8841.