



ATIS-1000076

ATIS Standard on -

Reliability and Quality of Service Enablers –
PSTN Transition to IP Packet Networks



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Alliance for Telecommunications Industry Solutions

Approved February 13, 2017

Abstract

This ATIS Standard provides a comprehensive list of standards, technical requirements, and technical reports that have already been developed in areas of IP packet reliability, priority, and Quality of Service (QoS). The goal is to demonstrate that IP packet networks and services are subjected to a similar level of depth and rigor as the PSTN on issues related to reliability, priority, and QoS.

Foreword

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between providers, customers, and manufacturers. The Packet Technologies and Systems Committee (PTSC) develops and recommends standards and technical reports related to services, architectures, and signaling, in addition to related subjects under consideration in other North American and international standards bodies. PTSC coordinates and develops standards and technical reports relevant to telecommunications networks in the U.S., reviews and prepares contributions on such matters for submission to U.S. ITU-T and U.S. ITU-R Study Groups or other standards organizations, and reviews for acceptability or per contra the positions of other countries in related standards development and takes or recommends appropriate actions.

The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word *may* denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, PTSC, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of consensus on this document, PTSC, which was responsible for its development, had the following leadership:

- M. Dolly, PTSC Chair (AT&T)
- V. Shaikh, PTSC Vice Chair (Applied Communication Sciences)
- P. Tarapore, Technical Editor (AT&T)

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1 Scope & Purpose

The Alliance for Telecommunications Industry Solutions (ATIS) Public Switched Telephone Network (PSTN) Transition Focus Group Report [ATIS-I-0000034] indicated several potential issues for the reliability and Quality of Service (QoS) aspects associated with the transition to IP-based packet networks and services. As stated in the Packet Technologies and Systems Committee (PTSC) Issue 129:

“There is a need to further review the reliability and QoS aspects within the PSTN Transition Focus Group Report. This report focuses on availability and robustness requirements and a strong requirement for ETS service reliability. In addition, there are no metrics or quantitative assessment methods specified. There are vague references to QoS parameters and a strong requirement for interconnection/interface QoS. In addition, there are no metrics or quantitative assessment methods specified.”

Accordingly, the purpose of this ATIS Standard is to provide a comprehensive list of standards, technical requirements, and technical reports that have already been developed in areas of Internet Protocol (IP) packet reliability, priority, and QoS. The goal is to demonstrate that IP packet networks and services are subjected to a similar level of depth and rigor as the PSTN on issues related to reliability, priority, and QoS.

Standards, technical requirements, and technical reports related to IP packet network and service reliability, priority, and QoS are enumerated in this ATIS Standard. These documents provide an extensive set of metrics, classification schemes, and measurement parameters associated with IP packet network and service reliability, priority, and QoS. The list is comprehensive but by its very nature it presents a snapshot in time; new documents continue to be developed. The goal of this document is to demonstrate significant efforts undertaken by the telecommunications industry to deliver reliable services with desired levels of priority and QoS over packet networks.

The standards and documents listed here include work from several ATIS Committees, International Telecommunications Union Telecommunication Sector (ITU-T) Study Groups, and the Internet Engineering Task Force (IETF) and the 3rd Generation Partnership Project (3GPP).

2 References

The following standards contain provisions which, through reference in this text, constitute provisions of this ATIS Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this ATIS Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

2.1 Normative References

ATIS-0100003, *User Plane Priority Levels for IP Networks and Services*.¹

ATIS-0100006, *Service Restoration Priority Levels for IP Networks*.¹

¹ This document is available from the Alliance for Telecommunications Industry Solutions (ATIS) at: < <https://www.atis.org/docstore/> >.