



ATIS-1000020

**ETS Packet Priority for IP NNI Interfaces –
Requirements for a Separate Expedited Forwarding
Mechanism**

TECHNICAL REPORT



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ATIS-1000020, *ETS Packet Priority for IP NNI Interfaces – Requirements for a Separate Expedited Forwarding Mechanism*

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ATIS Standard on

ETS Packet Priority for IP NNI Interfaces – Requirements for a Separate Expedited Forwarding Mechanism

Alliance for Telecommunications Industry Solutions

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Abstract

This Technical Report (TR) provides the requirements for a separate Expedited Forwarding (EF) mechanism that can recognize a class of traffic for preferential treatment via a unique DiffServ Code Point (DSCP). This class of traffic includes Emergency Telecommunications Service (ETS) Voice over IP (VoIP) calls/sessions with the requirement of a pre-determined quantity of reserved bandwidth for ETS service.

Foreword

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, 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. International Telecommunication Union Telecommunication Sector (ITU-T) and U.S. ITU Radiocommunication Sector (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 *must*, 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.

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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:

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1 Scope

1.1 Scope

This Technical Report (TR) provides the requirements for a separate Expedited Forwarding (EF) mechanism that can recognize a class of traffic for preferential treatment via a unique DiffServ Code Point (DSCP). This class of traffic includes Emergency Telecommunications Service (ETS) Voice over IP (VoIP) calls/sessions with the requirement of a pre-determined quantity of reserved bandwidth for ETS service.

1.2 Background

ATIS-1000011, *ETS Packet Priority for NNI Interfaces – Use of Existing DiffServ Per Hop Behaviors* [Ref 1], recommends the use of a predetermined Local/Experimental DiffServ Code Point (DSCP) for ETS VoIP traffic particularly at Network-Network Interfaces (NNI). The justification for this recommendation is based on current limitations of the Expedited Forwarding (EF) Per Hop Behavior (PHB) [RFC 3246, *An Expedited PHB (Per Hop Behavior)*, March 2002 (Ref 4)] in Differentiated Services [RFC 2475, *An Architecture for Differentiated Services*, December 1998 (Ref 5)] and on the high admission control priority requirements for ETS in IP networks [ATIS-0100003, *User Plane Priority Levels for IP Networks and Services* (Ref 2)] [ATIS-1000005, *Service Description of ETS* (Ref 3)].

In the IETF, the Internet Assigned Numbers Authority (IANA) assigned a separate EF code point, 44, for Capacity-Admitted Traffic [Ref 6]. An operator can treat the ETS class of service requiring preferential treatment as a type of Capacity-Admitted traffic that uses that separate EF code point.

2 Normative References

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

[Ref 1] ATIS-1000011, *ETS Packet Priority for NNI Interfaces – Use of Existing DiffServ Per Hop Behaviors*.¹

[Ref 2] ATIS-0100003, *User Plane Priority Levels for IP Networks and Services*.¹

[Ref 3] ATIS-1000005, *Service Description of ETS*.¹

[Ref 4] IETF RFC 3246, *An Expedited PHB (Per Hop Behavior)*, March 2002.²

[Ref 5] IETF RFC 2475, *An Architecture for Differentiated Services*, December 1998.²

[Ref 6] IETF RFC 5865, *A Differentiated Services Code Point (DSCP) for Capacity-Admitted Traffic*, May 2010.²

¹ This document is available from the Alliance for Telecommunications Industry Solutions (ATIS), 1200 G Street N.W., Suite 500, Washington, DC 20005. < <https://www.atis.org> >

² This document is available from the Internet Engineering Task Force (IETF). < <http://www.ietf.org> >