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ATIS-1000004.2005(S2020)

Signaling System No. 7 (SS7) – Emergency Telecommunications Service (ETS)

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ATIS-1000006.2005(S2020), *Signaling System No. 7 (SS7) – Emergency Telecommunications Service (ETS)*

Is an American National Standard developed by the **Signaling, Architecture, and Control (SAC)** Subcommittee under the **ATIS Packet Technologies and Systems Committee (PTSC)**.

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American National Standard for Telecommunications

SIGNALING SYSTEM NO. 7 (SS7) – EMERGENCY TELECOMMUNICATIONS SERVICE (ETS)

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Secretariat

Alliance for Telecommunications Industry Solutions

Approved April 8, 2005

American National Standards Institute, Inc.

Abstract

This document builds upon the High Probability of Completion (HPC) Network Capability as described in T1.631-1993 (R1999). The ETS service is expanded to address bearer networks and the ITU-T Recommendation E.106, *International Emergency Preference Scheme for Disaster Relief Operations (IEPS)*.

FOREWORD

The information contained in this foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.

This document is entitled American National Standard for Telecommunications ATIS-1000006.2005, *Signalling System No. 7 (SS7) – Emergency Telecommunications Service (ETS)*.

This document builds upon the High Probability of Completion (HPC) Network Capability as described in T1.631-1993 (R1999). The ETS service is expanded to address bearer networks and the ITU-T Recommendation E.106, International Emergency Preference Scheme for Disaster Relief Operations. It is based on T1.113-2000, *Signalling System No. 7 (SS7) – Integrated Services Digital Network (ISDN) User Part* (revised as ATIS-1000113.2005) It is suited for anticipated needs and applications within and between U.S. networks. These specifications are the result of extensive work by the members of the Interoperability Subcommittee (IOP) – formerly T1S1.3 Subworking Group on U.S. Standards for Common Channel Signalling.

This standard contains three informative annexes, which are not considered part of this standard.

This standard is intended for use in conjunction with American National Standards T1.111-2000, *Signalling system no. 7 (SS7) – Message transfer part (MTP)*; T1.113-2000, *Signalling system no. 7 (SS7) – Integrated services digital network (ISDN) User part*; and T1.401-2000, *Interface between carriers and customer installations – Analog voice grade switched access lines using loop-start and ground-start signalling*.

Footnotes are not officially part of this standard.

Future control of this document will reside with Packet Technologies and Systems Committee (PTSC). This control of additions to the specification, such as protocol evolution, new applications, and operational requirements, will permit compatibility among U.S. networks. Such additions will be incorporated in an orderly manner with due consideration to the ITU-T layered model principles, conventions, and functional boundaries.

The Packet Technologies and Systems Committee (PTSC) – formerly T1S1 – 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.

ANSI guidelines specify two categories of requirements: mandatory and recommendation. 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.

Suggestions for improvement of this standard will be welcome. These should be sent to the Alliance for Telecommunications Industry Solutions, PTSC Secretariat, 1200 G Street, NW, Suite 500, Washington DC 20005.

This standard was processed and approved for submittal to ANSI by PTSC. Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, PTSC had the following members:

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The Interoperability Subcommittee (IOP) and the Signalling, Architecture, and Control Subcommittee (SAC) – formerly T1S1.3 and T1S1.7, respectively – developed this standard.

TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

American National Standard for Telecommunications –

SIGNALLING SYSTEM NO. 7 (SS7) – EMERGENCY TELECOMMUNICATIONS SERVICE (ETS)

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1 SCOPE, PURPOSE AND APPLICATION

1.1 Scope

To ensure that a survivable and enduring National Security/Emergency Preparedness (NS/EP) telecommunications capability is available during emergencies, the U.S. government has endorsed the development and adoption of standards to support increased call completion capabilities for critical users. The Emergency Telecommunications Service (ETS) would be applied during the call setup by providing an identifier for those calls in the SS7 network protocol. This identifier would allow ETS calls to be recognized as they are routed across and between networks so that call completion improvement techniques could be applied by service providers to increase the probability of completion during periods of network congestion or damage.

ETS in its most generic sense provides for preferential telecommunications connectivity for any authorized user from any originating point in the public network. ETS can provide various multi-media features to the user. This standard is limited to the set of features, such as voice, that can be supported by ISUP and BICC.

This standard specifies ISUP and BICC call control protocol enhancements and procedures to support ETS. When such a call goes over a BICC network, the call and bearer are separated and different types of bearer technologies (e.g., ATM and IP) can be used for bearer connection setup. Therefore, a priority indicator is required in bearer networks to identify that a connection set up is associated with an ETS call and to cause priority allocation of bearer resources. As the connection set up progresses through the bearer networks, this identifier enables special routing and preferential treatment to ensure the higher probability of connection establishment. The preferential allocation of bearer resources is maintained for the duration of the call.

The techniques used by service providers to enhance call completions in the network might vary from the application of special network management controls, to the invocation of special routing or queuing mechanisms, to partitioning and prioritizing completion of ETS calls. This standard does not describe any of these special routing or handling procedures in detail, nor does it describe the specific manner in which the user originating the call would indicate to the network the need to have the call so marked. These may be the subject of future American National Standards or may be provided by non-standardized procedures based on agreements among network providers, service providers, and users. This standard also includes descriptions of some allowed options for recognizing an originating call as an ETS call, but these options are not exhaustive, and this standard does not necessarily require support for all options at every originating switch.

The service described in this standard includes these essential portions: