ATIS-0900414.2012(S2022)

Network to Customer Installation Interfaces – Enhanced 911 Analog Voicegrade PSAP Access Using Loop Reverse-Battery Signaling

AMERICAN NATIONAL STANDARD FOR TELECOMMUNICATIONS

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American National Standard for Telecommunications

Network to Customer Installation Interfaces – Enhanced 911 Analog Voicegrade PSAP Access Using Loop Reverse-Battery Signaling

Alliance for Telecommunications Industry Solutions

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Abstract

This standard provides network-to-customer installation (CI) interface requirements for the connection of a Public Safety Answering Point (PSAP) CI to a network providing access to an Enhanced 911 switching system. The inter-face uses loop reverse-battery signaling with a CI-provided battery source. The inter-face allows users of the En-hanced 911 system to communicate with the PSAP CI and allows the Enhanced 911 system to transmit the caller's emergency service identification (CESID) information to the PSAP CI.

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, this 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.

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between providers, customers, and manufacturers. The Copper/Optical Access, Synchronization, and Transport (COAST) Committee -- formerly the Optical Transport and Synchronization Committee (OPTXS) -- engages industry expertise to develop and recommend standards and technical reports for home, access and transport network and synchronization technologies over copper and optical mediums. COAST is committed to proactive engagement with national, regional and international standards development organizations and forums that share its scope of work. The technical requirements, measurement techniques, metrics, and operational practices documented in COAST's work products encompass copper and optical network interfaces and transceiver functionality required for access to, and transport through, telecommunications networks.

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 document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, COAST1200 G Street, NW, Suite 500, Washington, DC 20005.

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

J. McDonough, NEC America (COAST Chair)
K. Biholar, Alcatel-Lucent (COAST Vice-Chair)
T. Starr, AT&T (COAST-NAI Chair)
M. Sorbara, Ikanos (COAST-NAI Vice-Chair)
T. Bishop, Verizon (TE)
C. Underkoffler, ATIS (Chief Editor)

The Network Access Interfaces (NAI) Subcommittee was responsible for the development of this Standard when it was part of the Network Interface, Power, and Protection Committee (NIPP). The Network Access Interfaces (NAI) Subcommittee is now part of COAST.

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1.1 Scope

This standard provides network-to-customer installation (CI) interface requirements for the connection of a Public Safety Answering Point (PSAP) CI to a network providing access to an Enhanced 911 switching system. The interface uses loop reverse-battery signaling with a CI-provided battery source. The interface allows users of the Enhanced 911 system to communicate with the PSAP CI and allows the Enhanced 911 system to transmit the caller's emergency service identification (CESID) information to the PSAP CI. The requirements of this standard apply at the Network Interface (NI). The NI is the point of interconnection between the telecommunication network (the network) and the customer premises wiring and equipment (the CI). The requirements cover the electrical characteristics of the network and the CI and the interactions necessary for a PSAP CI to receive a call from an Enhanced 911 system, and if necessary, to transfer the call to a secondary PSAP. The voicegrade transmission performance of the network or the CI is not covered. The PSAP database interface is outside the scope of this standard.

The loop reverse-battery signaling interface described in this standard is for incoming calls to the CI and employs a customer installation-provided battery source.[1] It is significantly different from the interface described in ATIS-0600411.2001 (R2011), which describes an interface that uses loop reverse-battery signaling with a network-provided battery source. It is also different from the interface described in ATIS-0600405.2002 (R2011), which describes a loop-reverse battery interface for Direct Inward Dialing (DID) service.

Multiple carriers may be involved in providing the transmission and signaling paths between the PSAP CI and the Enhanced 911 switching system. The interface between the carrier and the Enhanced 911 switching system or intermediate carrier-to-carrier interfaces are not covered in this standard.

The signals that the network presents at the NI are the normal telecommunications system voltages and currents. Alerting signals are normally not encountered at the NI. Voltages and currents due to maintenance activities, and abnormal voltages and currents that are the result of the environment (e.g., induced voltages and currents or lightning) are not covered in this standard.

Tariffs, contracts, or regulatory acts in various jurisdictions may contain additional or more stringent requirements than those in this standard.

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[1] When Enhanced 911 PSAP access is implemented via DS1 using robbed-bit signaling, the signaling states are the same as those transmitted by an interface historically known as Dial Pulse Terminating (DPT) that is described in ATIS-0600403.1999 (R2012).