ATIS-0500019.2010(S2021)

REQUEST FOR ASSISTANCE INTERFACE (RFAI) SPECIFICATION

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ATIS-0500019.2010(S2021), *Request for Assistance Interface (RFAI) Specification*

Is an American National Standard developed by the **Next Generation Emergency Services (NGES)** Subcommittee under the **ATIS Emergency Services Interconnection Forum (ESIF)**.

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REQUEST FOR ASSISTANCE INTERFACE (RFAI) SPECIFICATION

Alliance for Telecommunications Industry Solutions

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Abstract

This ATIS Standard defines the Request For Assistance Interface (RFAI) between the Emergency Services Next Generation Network (ES-NGN) and a Public Safety Answering Point (PSAP). Initially, Requests for Assistance are emergency voice calls and RFAI defines the foundation for supporting future types of Requests for Assistance. The RFAI specification may be used by PSAP CPE vendors and Network Equipment Providers that are implementing IP-based solutions as part of the transition and evolution to the Next Generation 9-1-1 emergency services (NG9-1-1).

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 Emergency Services Interconnection Forum (ESIF) provides a venue to facilitate the identification and resolution of technical and/or operational issues related to the interconnection of emergency services networks with other networks (e.g., wireline, cable, satellite, Internet, etc.). ESIF is an open technical/operational forum to identify and resolve interconnection issues through the voluntary participation of interested parties. The interest of all members will be served by observing the principles of openness, fairness, consensus, and due process.

ESIF develops standards and other documentation for the interconnection of emergency services networks. ESIF will liaise with industry, governmental, standards, and public safety organizations to apprise them of its deliberations and decision, and ensure the proper coordination of activities. Discussion will be focused on the application of current and emerging technologies to maintain and support the interconnection of emergency services 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, ESIF Secretariat, 1200 G Street NW, Suite 500, Washington, DC 20005.

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TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

American National Standard for Telecommunications –

Request for Assistance Interface (RFAI) Specification

1 SCOPE, PURPOSE, & APPLICATION

1.1 Scope

The future of Emergency Services network architectures predicts that some network interconnections will continue to rely on the existence of a legacy selective routing function (TN-based routing) for some time. The RFAI architecture was developed to meet the needs of interconnection to functional entities that provide legacy selective routing while they are still needed in the network.

This document defines an ATIS Standard for an emergency *Request For Assistance Interface (RFAI)*. This interface is a SIP-based interface between an IP Selective Routing (IPSR) Function, which is part of the ES-NGN functionality, and a Request For Assistance SIP User Agent (RFAUA) Function located in a Public Safety Answering Point (PSAP) or other authorized agencies as defined in the context of NG9-1-1. This document uses the term *PSAP* to mean both PSAP and other authorized agencies.

The RFAI specification supports the transition from today's legacy technology into IP-based technology which includes functionality in the ES-NGN and the PSAP CPE. The RFAI specification supports the transition to NENA's i3 stage of evolution by delivering location routing keys (e.g., Telephone Number [TN], Emergency Services Routing Key [ESRK], or Emergency Services Query Key [ESQK]) to the PSAP that allow the PSAP to query for Automatic Location Identification (ALI). The RFAI specification has been developed to support the transitional period that begins with the introduction of IP-based technology in the ES-NGN and the PSAP. The RFAI specification is fully evolvable to NENA's i3 stage of evolution architecture. This interface specification will support emergency call delivery to a PSAP and also provide bridging capability among PSAPs.

1.2 Purpose

The purpose of the RFAI specification is to define an interoperable SIP-based interface between the ATIS Emergency Services Next Generation Network (ES-NGN) and SIP User Agents in the PSAP CPE call processing equipment (typically located within a PSAP). The RFAUA Function in the PSAP contains these SIP User Agents, or the SIP proxy that serves them.

Specifically, the RFAI architecture is intended to define a new interface between the new functional network elements, IPSR and RFAUA. These new functional elements serve to provide a transitional step from a legacy TDM environment to an IP environment that serves a PSAP. The transitional signaling is accomplished via the RFAI defined IPSR. In the transitional network, the IPSR takes incoming TDM signaling, does TN based routing and converts it to SIP protocol for communication to the RFAUA. The IPSR also includes the ability to accept incoming SIP signaling and to route based on TN information.

NENA has defined the primary transition path as using a Legacy Selective Router Gateway between an existing Selective Router and a PSAP upgraded with an i3 interface. ATIS ESIF envisions a different transition strategy, where the existing selective router is replaced with a new selective router with new capability (an IPSR) and the PSAP is upgraded with a different interface (RFAI) rather than the NENA defined i3 interface. Ultimately, IPSR functionality will be replaced by i3 ESRP functionality once the