**Contribution**

**TITLE:** IP NNI Profile

**SOURCE\*:** VERIZON

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**ABSTRACT**

This contribution is based upon the latest report draft (IPNNI-2014-00011R013) and provides textual changes to address concerns that the document may be misinterpreted and used as a measure of technical compliance. New text appears in the Notice of Use and Applicability clause and the Application Section 1.3. Minor changes to text have been made only in the Scope and Purpose sections to: (1) use the work “describe” instead of “specify” and “define”; (2) remove the use of the word “mandate,” “necessary,” and “required” and; (3) clarify that the document describes a Profile (but the document type “Standard” has not been changed). The text in the body of the document describing the Profile has not been altered and is not included in this contribution.

**NOTICE**

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**ATIS-1000063**

ATIS Standard on

**IP NNI Profile**

**Alliance for Telecommunications Industry Solutions**

Approved Month DD, YYYY

**Abstract**

Abstract text here.

**Foreword**

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The [COMMITTEE NAME] Committee [INSERT MISSION]. [INSERT SCOPE].

The SIP Forum’s mission is to advance the adoption of products and services based on the Session Initiation Protocol and to maintain and serve a global community of commercial SIP based service and technology providers. The primary goals of the SIP Forum are to foster interoperability and adherence to standardization efforts, and provide educational resources and a platform for productive communication among industry participants.

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This document was developed by the ATIS/SIP Forum IP-NNI Task Force and is subject to change. The implementation of recommendations, methods and descriptions in this document are not mandatory and participation in the task force does not obligate any ATIS member company to use them.

This document represents the consensus view of the task force however the consensus views expressed herein should not be interpreted as an endorsement by any ATIS member company to create a new technical or regulatory requirement for commercial interconnection arrangements.

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

At the time of consensus on this document, [COMMITTEE NAME], which was responsible for its development, had the following leadership:

[LEADERSHIP LIST]

The [SUBCOMMITTEE NAME] Subcommittee was responsible for the development of this document.

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# Scope, Purpose, & Application

## Scope

This document was developed under a joint ATIS and SIP Forum collaboration. The document defines an IP NNI profile with an emphasis on VoIP. Other Multimedia services will be addressed in subsequent releases.

The scope of this profile document is to:

1. Define a reference architecture that sets forth the common functional entities for Carrier to Carrier Interconnection. This reference architecture will be from the perspective of the interconnection points between carriers and will not deal with implementation details inside the networks on either side of the IP-NNI.
2. Describe the normative standards (including IETF RFCs, 3GPP, and other existing standards) associated with these protocols that are supported by each element of the reference architecture. The options that MUST or SHOULD be supported within a given standard will also be described for this profile.
3. Describe for this profile the customary methods for negotiating protocols, protocol extensions, and exchanging capability information between carriers. The methods of formulating SIP protocol messages are where multiple options exist in standards.
4. Describe for this profile the presentations of Fully Qualified Domain Names in “From:” and “To:” fields including use of TEL URI format, including P-Asserted Identity (PAI).
5. For IP originated Calls, describe the preferred header [SHOULD] for Calling Name data [CNAM], and how that data is presented to the terminating proxy including format, syntax and processing of such data. Note: The expectation is that the signaling of CNAM would not survive interworking to SS7.
6. Define support for underlying transport [e.g. UDP, TCP, SCTP].
7. Describe an audio codec selection strategy that minimizes the need for transcoding and a transcoding strategy that balances the workload between originating and terminating carrier.
8. Describe strategies for DTMF and Fax support.
9. Describe call loop detection and avoidance methods.
10. Describe common Quality of Service objectives including network overload and congestion notification and processing mechanisms.
11. Investigate issues surrounding known interoperability problems (e.g. PRACK [RFC 3262], early media, ptime, etc.).

## Purpose

IP Interconnection among service providers is significantly increasing as the transition of the PSTN from SS7/TDM to SIP/IP networks progresses. Current deployments of SIP/IP in the core carrier networks have exposed operational and implementation differences on how IP for SIP traffic works ‘on the wire’. These differences complicate interconnection, and in some cases require ‘protocol normalization’ to achieve full interoperability. The call control protocol SIP [RFC 3261] is defined in the IETF and is further refined in profiles developed by 3GPP or ATIS that reflect regional and/or national differences in implementation. There are hundreds of IETF SIP and 3GPP specifications that are open to interpretation, creating ambiguity in the detailed options that are implemented. This often requires Session Border Controllers or I-CSCF proxies reconcile the signaling between service providers and resolving those ambiguities. Time and effort is also required to document the differences and configure the SBC or I-CSCF proxy to implement the necessary changes to the on the wire protocol.

The purpose of this effort is to identify a baseline set of features that should be common to all IP-NNI implementations for voice service, and where gaps or ambiguities are identified in existing standards, request that those gaps be addressed by the responsible Standards Development Organizations [SDOs].

This document describes the standards and options that are supported for this NNI Profile. They will provide carriers with a description of the IP-NNI in the areas where the standards leave multiple options, or are ambiguous.

In addition, this NNI Profle will increase the use of key words [i.e. MAY, SHOULD, MUST] where operational experience indicates that such enhancements are beneficial .

## Application

This document describes an NNI Profile that may be used for planning North America deployments, but may be applicable for deployments outside North America.

Impact on Services - The NNI Profile described by this document is not intended to “certify” equipment and does not establish a new “compliance” requirement for existing or future products and services offered by any ATIS member company.

Impact on Interconnection Arrangements - The NNI Profile described in this document does not account for every interconnection scenario and although Providers may voluntarily employ it to facilitate interconnection planning, it is not a replacement for the technical discussions required during the development of commercial interconnection arrangements.

Impact on Regulations - Commercial interconnection arrangements allow Providers to address differences in their network and customer needs, and establishing this NNI Profile as an ATIS Standard or Technical Report is not an endorsement by any ATIS member company to alter any existing regulatory obligation, or create a new regulatory obligation.

## Requirements

**<S.1.2.3 R/CR/O – 00010 – Start>**

Requirement

Note:

**<S.1.2.3 R/CR/O – 00010 – End>**