



ATIS-I-0000045

**IP Services Interconnect Technical Report:
Assessment of Requirements and Specifications**

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1 Executive Summary

1.1 Problem Statement

With the widespread deployment of high-speed wireless and wired broadband networks, operators are migrating their existing services such as voice and SMS into an all-IP implementation. In addition, new services, such as HD voice and video communications are being introduced into the all-IP networks. As a result, operators need to ensure interconnection and interoperability between service providers (e.g., Fixed, Wireless and Cable) for all IP-based services, both existing and forward-looking services. Standards have been defined by leading SDOs (e.g., IETF, ITU, 3GPP, PacketCable, GSMA, i3Forum, SIPForum, ATIS PTSC) to address interoperability. However, many options exist across these overlapping standards, and agreement as to which of the specifications to base the interconnect upon is often a key initial step.

1.2 Objective/Scope

The objective of the focus group is to define a strategy for developing an IP services interconnect specification suitable for all service provider types (wireless, wireline, and cable), encompassing basic, advanced, and future services.

The scope includes forward-looking services such as HD Voice, Video, Messaging, and Data. Requirements are identified for a set of interconnection profiles built on existing standards to enable these services and to deliver a consistent user experience across all types of networks (e.g., Wireless, Fixed, and Cable).

This analysis is complementary to a joint effort with the SIP Forum (the ATIS/SIP Forum IP-NNI Task Force) to develop a fully specified IP-NNI for voice services.

1.3 Analysis Model & Methodology

Representative use cases are identified for each IP service to assess the standards coverage across the key technical areas of services interconnect including session establishment and signaling, addressing and routing, and media handling.

1.4 SDO/Gap Analysis

Any areas where existing specifications for interconnection of advanced services are inconsistent or incomplete are identified.

2 Reference Architecture

Figure 2.1 illustrates the interconnection reference model created by the ATIS Packet Technologies and System Committee (PTSC) for IP NNI supporting VoIP, video, and data. Illustrated are Border Elements (BEs) to enable IP interconnection between Service Providers. A BE includes an Interconnect Session Border Controller and Data Border Function.