

ATIS NGN Framework

ATIS Next
Generation Network
Framework Part I:
NGN Definitions,
Requirements, and
Architecture

ATIS Next
Generation Network
Framework Part II:
NGN Roadmap 2005

ATIS Next
Generation Network
Framework Part III:
Gap Analysis
coming 2006

Issue Summary

March 2006

The ATIS Next Generation Network (NGN) Framework is the first comprehensive set of “next-gen” requirements delivered internationally from the North American telecommunications industry. It defines a high-level architecture for NGN that meets the business and wide-scale deployment needs of ATIS member companies. It is a business-driven action plan for achieving implementable, interoperable converged network standards. This effort establishes the perspective of ATIS’ large & diverse membership on NGN and contributes to the global development of NGN standards.

In addition to an architecture for future network services, the ATIS NGN Framework includes requirements for new networks to interface seamlessly with existing communications systems.

To make the transition to a fully converged NGN network, service providers need a standards-based, service-enabled network architecture that is ready and able to deliver value-added services. To fulfill these needs, the NGN target architecture as defined by ATIS should support:

- Open, standards-based interfaces allowing “plug-and-play” integration of any number of applications.
- A standardized session control function through which application servers can signal. This allows full convergence of services over a number of access modes—blending instant messaging with unified communications and VoIP, for example.
- A logical subscriber database that holds all customer profile data, so that it can be consistently accessed from anywhere in the NGN. This concept, similar to the Home Location Registers (HLRs) and Visitor Location Registers (VLRs) of the wireless world, makes both service rollout and ongoing administration manageable and scalable.
- A set of access-independent application and service creation capabilities that enable converged applications and services to be adapted to any device the end-user chooses and delivered with consistency (subject to the inherent constraints of the specific access technology and device).

ATIS NGN Framework

The NGN Framework outlines high-level requirements and guiding principles for a broad range of topics, including:

- NGN network interconnection
- Interface between Application Service Providers (ASP) and Next Generation Service Providers (NGSP)
- Mechanisms to measure and predict service quality
- Public Service Provider (fixed and mobile) convergence
- Convergence of the Public Service Provider and the Customer Premises Network
- Access criteria for NGN conformance
- Infrastructure evolution for incremental replacement of legacy services, including: PSTN Simulation; PSTN Emulation — TDM Replacement and Voice Band Data and Relay; and Mobile Network Evolution
- Transparent, end-to-end communication
- Synchronization and timing issues

The NGN Roadmap

The *NGN Roadmap*, released in August 2005, documents the phasing and prioritization of network capabilities enablers to ensure the deployment of the NGN and its services in a coherent manner. It focuses on the underlying service enablers that will allow many potential new services to be introduced on the NGN.

These prioritized enablers include: unified user profile, which would enable service capabilities to be accessed from a range of locations and devices; security; presence; admission control based on service requirements and capacity, which enables the reliable delivery of real-time services; service transparency; QoS; accounting settlement; Ordering, Administration, and Management (OAM); multicast; address resolution; digital rights management; user control of profile/services; media resource functions; and group management.

In 2005 the NGN Focus Group launched an initiative to identify gaps around the service enablers identified in the NGN Roadmap. From this assessment ATIS will take steps to ensure standards are readily available to meet industry needs. The Gap Analysis is in review and will be released in 2Q 2006.

Additionally, the ATIS NGN Framework pays particular attention to the technical requirements necessary to meet U.S. regulations, including Lawfully Authorized Electronic Surveillance (LAES), Number Portability, Number Pooling, E 9-1-1, Emergency Telecommunications Service (ETS), FCC Rules and Regulations, and other mandated capabilities.

Framework Status

ATIS committees have reviewed the Framework and responded to the Focus Group with recommendations in their areas of expertise. The NGN requirements outlined in the Framework document serve as a guide as the committees look ahead for upcoming standards work.

In addition, ATIS has shared its NGN Framework with several international standards bodies. Collaboration with the International Telecommunication Union (ITU) NGN Focus Group has resulted in the ITU adopting ATIS requirements for inclusion in its draft NGN recommendations.

Representatives from ATIS' NGN Focus Group have also met with ETSI TISPAN participants to discuss the two groups' approaches to NGN. As a result of the discussions, ATIS and ETSI TISPAN agreed to pursue four areas of common interest: NGN interconnect; emergency communications, including emergency identification and routing; user identification, number portability, ENUM and directory services; and security requirements and access agnostic solutions.

In March 2006 ATIS hosted members of the ITU-T for a two-day workshop on NGN standards efforts.

ATIS will continue to work with international groups (e.g. ETSI, 3GPP, ITU) to develop a consistent set of NGN specifications that meet the needs of ATIS members and the global communications industry.

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