
Title: Submission of a high-level architecture and definition for Next Generation Network (NGN) from the perspective of the industry as represented by ATIS, entitled: “*ATIS Next Generation Network (NGN) Framework, Part I: NGN Definitions, Requirement and Architecture, Issue 1.0, November 2004.*”

Response to:

Source: **Alliance for Telecommunications Industry Solutions (ATIS)**

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To: **3GPP SA (SA1 and SA2)**
3GPP CN

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Attachments: *ATIS Next Generation Network (NGN) Framework, Part I: NGN Definitions, Requirement and Architecture, Issue 1.0, November 2004*

The *Alliance for Telecommunications Industry Solutions (ATIS)* submits the attached document for review and input into 3GPP’s work-programs relevant to Next Generation Networks; namely the 3GPP Technical Specifications Groups (TSG) Core Network (CN) and Services & System Aspects (SA) Working Group #1 (Services) and Working Group #2 (Architecture). The attached, referred to as the ATIS NGN Framework, represents the North American market’s requirements for NGN as approved by the ATIS Board of Directors and ATIS’ 270+ member companies.

Background:

For the past several months, ATIS, through the efforts of its Next Generation Network Focus Group (NGN-FG) -- a group of mid-to-senior management level member company representatives commissioned by the ATIS Board of Directors, has worked towards defining a high-level architecture and set of requirements for NGN from the **business perspective** of the industry as represented by ATIS members.

To ensure the North American market’s requirements for NGN are fully represented in global discussions, as well as to support the development of globally acceptable standards for NGN, these requirements are being submitted/transmitted to help guide relevant national and international standards organizations NGN work programs to address these requirements – including, 3GPP, ITU-T FGNGN, and ETSI TISPAN.

The premise of ATIS' efforts with respect to the overarching NGN is to develop a broadband system that enables easy integration of network resources, services, and operations across the business units of service providers while decoupling services from underlying network transport technologies. An equally important premise is the potential for (CAPEX and OPEX) cost reductions; *e.g.*, by leveraging commercially available intelligent Consumer Premise Equipment (CPE) and IP-based IT infrastructure and middleware. The ATIS NGN Framework outlines ATIS' NGN Definition, Requirements and Architecture towards this end.

Highlights of the ATIS NGN Framework, Part I:

Many efforts towards defining NGN within global standards developers are ongoing and rapidly progressing. And the attached ATIS NGN Framework represents these efforts by either directly utilizing the findings from certain work-programs or by making references to them. Areas where the ATIS NGN Framework differs from these efforts, however, are in the following highlighted areas:

- The scope of the document goes beyond other NGN-related work-programs;
- Provides the unique North American user and regulatory perspective;
- Expands the scope of current NGN-related efforts by scoping out NGN from an “inter-carrier” perspective;
- Optimizes the NGN for future NGN-type services while providing continued support of vital legacy-based services, and;
- Sets in place explicit criteria for access networks in order to interconnect and interwork with the core NGN.

Of interest, while not unique to the attached, is that the NGN architecture specified builds on the ETSI TISPAN Extended IP Multimedia System (IMS) session-based architecture to consistently support new value-added services. However, ATIS also acknowledges that the NGN architecture may be further enhanced or modified to support other services provided by NGN service providers (*e.g.*, broadband services, L2VPN, L3VPN).

Also of interest is that the Public Switched Telephone Network (PSTN) Emulation subsystem is identified as a mechanism to facilitate migration from legacy PSTN services to NGN. The document identifies key IP access network requirements for compatibility with the core NGN. These include providing IP connectivity, QoS, and policy enforcement.

The NGN also should support mobile network evolution as defined by 3GPP and 3GPP2. As wireless service provider networks may be at any stage in the evolution process, the requirements to achieve convergence will differ depending on which stage is deployed.

Areas of Focus for the 3GPP (CN & SA):

From the document – which members of the 3GPP CN & SA and its Working Groups are encouraged to read – several areas or sections of the document are considered important to the North American interest; these are:

- Wireline/Wireless Integration
- Network/CPE Integration

- Parlay/OSA based Service Architecture and Open APIs
- Embedded access architecture, DSL and FTTx
- End-to-end QoS
- ENUM
- Presence
- Security

It is important to note that the ATIS NGN Framework document contains a snapshot of NGN target objectives and features, for which phased implementation requirements will be developed. The ATIS NGN-FG will continue to clarify the priorities (*i.e.*, short-term, medium-term, long-term) for these standards initiatives. In addition, ATIS will continue to work with groups (*e.g.*, TISPAN, 3GPP, ITU-T) to develop a consistent set of NGN specifications that meet the needs of ATIS members. To comply with unique North American requirements/standards, ATIS plans to share this document with its internal technical committees and other external groups where and when appropriate.

ATIS welcomes comments on this document. The contacts provided can provide further details on the ATIS NGN Framework, as well as the next steps of the ATIS NGN-FG. They also will ensure comments or requests for clarification are presented to the ATIS NGN-FG for resolution and/or feedback.