

ATIS:

Planning the Next Generation Network (NGN)

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John Bernhards
Director, Marketing & Public Relations
ATIS

1200 G Street NW
Washington, DC 20005
202/434-8850

Email: jbernhards@atis.org

www.atis.org



Overview of ATIS

Mission Statement

- ATIS is a United States based body that is committed to rapidly developing and promoting technical and operations standards for the communications and related information technologies industry worldwide using a pragmatic, flexible and open approach.

Definition of a Standard

- An ATIS standard defines frameworks for service and performance requirements, interfaces and physical characteristics for technologies, systems, and business processes, and ensures interoperability.



Overview of ATIS

- ATIS is committed to global standards and plays a key role in their development with other SDOs:
 - North American Organizational Partner in the Third Generation Partnership Program (3GPP).
 - Global Standards Collaboration (GSC).
 - Single largest contributor to the ITU Process (via the State Department).
- Collaborates with industry's standards developers to achieve interoperable, implementable, end-to-end standards and solutions.
- Educate, engage, and influence regulators decisions on technical and operations issues (FCC, State Dept., FBI, Congress, Dept. of Justice).



Overview of ATIS

- A technical planning and standards development organization for the communications industry with a diverse membership:
 - 300+ member companies.
 - Over 1,100 professionals participating in 22 industry standards committees and forums.
- Senior level Board of Directors dedicated to “directing” industry’s efforts to address its most urgent technical and operations priorities:
 - 63 Members from leading industry organizations: carriers, service providers, content providers, hardware vendors, and software developers.

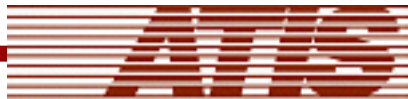


Overview of ATIS

ATIS Offers a Pragmatic, Market-driven Approach to Standards Development.

- Identifies Technical, Operational Priorities
- Streamlines Processes
- Objective: End Redundant Efforts, Use Resources Wisely
- Coordinates and Executes on Priorities

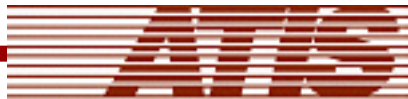
**Produce End-to-End Implementable,
Interoperable Standards and Solutions!**



Technology and Operations Council (TOPS)

ATIS Board Established the TOPS Council

- The cornerstone of ATIS' commitment to the rapid development and promotion of technical and operations standards.
- Identifies the industry's most urgent technical and operational priorities.
- In 2003, TOPS identified five critical industry priorities: VoIP, Security, Data Interchange, Wide Area Ethernet (WAE), and Mobile Wireless Services (MWS).
- Launched activities in July 2004 to specify industry's set of requirements and high-level architecture for the NGN.



Technology and Operations Council (TOPS)

Focus Groups and Work Plan Process

- TOPS-commissioned Focus Groups, chaired by a Board member, consist of mid-to-high level managers to analyze each Priority, identify standards gaps and overlaps, and develop an industry Work Plan with specific actions and timelines leading to the development of end-to-end, implementable standards.
- Coordinates priority work in ATIS and among appropriate industry standards development organizations.
- Provides industry road-map for the successful development of standards in support of the Work Plan and the creation of end-to-end solutions.



Building from ATIS' Priority Work: ATIS NGN Focus Group

- **TOPS Council commissioned the formation of the Next Generation Network Focus Group (NGN-FG) to:**
 - a) develop a North American set of requirements for NGN that includes multi-service architectures and an evolution path from currently deployed architectures.
 - b) review and analyze other international activities underway to define NGN functional and structural architectures, and compare those architectures to the desired ATIS-requirements for NGN.



Building from ATIS' Priority Work: ATIS NGN Focus Group

- **NGN-FG objectives (cont.):**
 - c) coordinate with other standards bodies to arrive, to the extent possible, at a consistent global view of the NGN.
 - d) guide the development of NGN standards from a business perspective.
 - The NGN-FG does not develop standards.
 - Technical & operational standards will be developed by appropriate standards developers to include ATIS' internal committees and other external developers; e.g., ITU-T, ETSI/TISPAN, 3GPP, etc.



80 Representatives from the Following ATIS Member Companies Serve on ATIS NGN-FG

- Acterna
- ADC
- ADTRAN
- Agilent
- Alcatel
- AT&T
- BellSouth
- BT
- CenturyTel
- Ciena Corporation
- Cisco
- Ericsson, Inc.
- Harris Corporation
- HP
- Intrado
- Leapstone Systems, Inc.
- Lucent Technologies, Inc.
- Net.com
- Nokia
- Nortel Networks
- Qwest
- Samsung
- SBC
- Siemens Communications
- Sprint
- Telcordia Technologies
- T-Mobile
- Verisign
- Verizon



Building from ATIS' Priority Work -- ATIS NGN: Framework For the Future

In 4Q 2004, ATIS released the *ATIS Next Generation Network (NGN) Framework, Part I: NGN Definitions Requirements and Architecture*:

- First comprehensive set of NGN requirements delivered internationally from a U.S.-based standards organization.
- Defines high-level architecture for NGN that meets business and wide-scale deployment needs of ATIS member companies.
- A Business-driven action plan for achieving implementable, interoperable, converged network standards.



NGN Framework Outline

General Requirements

- **Interconnection**

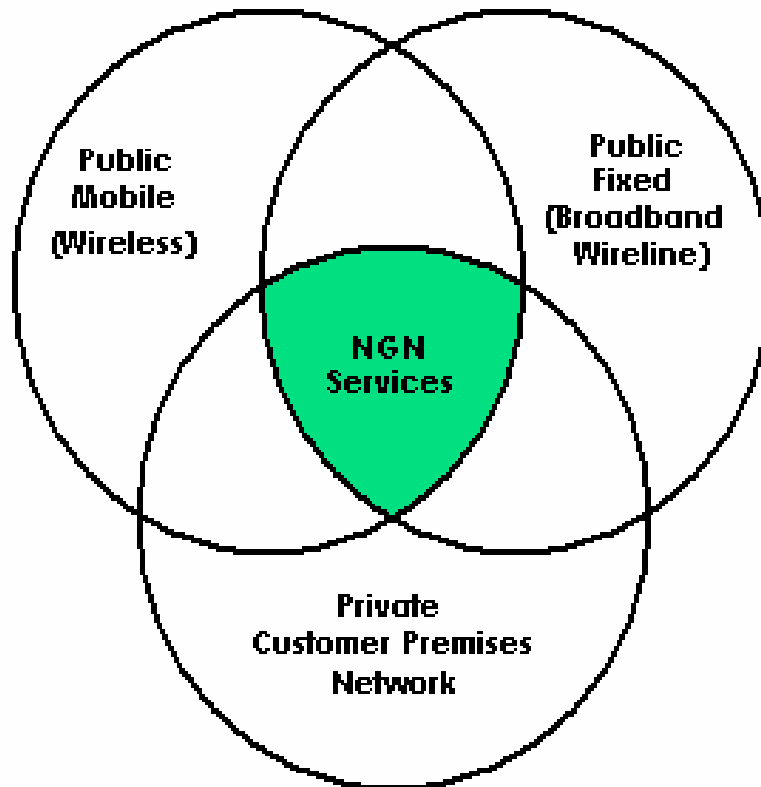
- Specify a packet-based interconnection, suitable for carrier interconnect
- Supports Security, QoS, Reliability, Billing, Service transparency, performance measurements and monitoring.
- Supports interconnection between different classes of service providers (NSPs and ASPs)



NGN Framework Outline

General Requirements

•Convergence



Convergence of wireless, wireline (broadband) and enterprise networks



NGN Framework Outline

General Requirements

- **Access Network Criteria**
 - Access Independent
 - ATIS doesn't specify NGN must support all access technologies; identifies conditions for support of an IPCAN
- **Infrastructure Evolution from Legacy**
 - Primary NGN objective: SIP (IMS) Services and Architecture
 - Second Objective: Full PSTN Feature Transparency
 - NGN evolution will require simulation of PSTN in the IMS/SIP Services environment.



Infrastructure

Users

Starting Point

PSTN

Legacy

NGN Overlay

PSTN

Legacy

NGN
Expansion

IMS

PSTN

NGN

Legacy

Replacement

IMS

Emulation

NGN

Legacy

IMS

NGN

**Legacy
Simulation**

Evolution/Time



NGN Framework Outline

General Requirements

- **End-to-end transparency**
 - Backward compatibility for “best effort Internet”
 - NGN network services may be incompatible with end-to-end transparency
- **Service environment**
 - Service development independent of network & application protocols
 - SIP as core signaling protocol
 - Also support service APIs



ATIS NGN: End User Applications

- Selected representative end user services as “use cases” to test and validate NGN requirements. Identified the network service enablers that would be required for application.
 - Interactive voice
 - Content-based services / video
 - Multi-media conferencing
 - Content sharing
 - Interactive gaming
 - Sensor and control networking
 - Mobility management (wireless / wireline)



ATIS NGN: Network Service Enablers

Network service enablers were defined as network-based communications services that bring value to consumer applications.

- QoS
- Policy
- Presence
- Personal Profiles
- Multicast
- Location
- ENUM
- Communication Context
- Media Resource Functions
- Media Gateway Functions
- Session Management
- Nomadism & roaming
- Personal Information Mgmt
- Content & service discovery
- Digital Rights Management



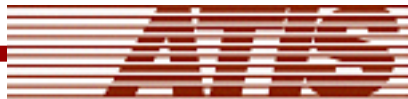
ATIS NGN: Business Model Requirements

- Significant revenue generation and cost savings opportunities must justify the substantial investment required to build the NGN.
- The NGN must facilitate running a business with the efficiency of WalmartTM and the brand differentiation of Coca-ColaTM.
- What are the Business Drivers?
 - New Retail Revenue
 - New Wholesale Revenue
 - Cost Reduction for Existing Services
 - Regulatory Requirements



ATIS NGN: US Regulatory Requirements

- National Security & Critical Infrastructure
 - LAES
 - ETS
- Consumer Requirements
 - E9-1-1
- Operations Requirements
 - Number Portability
 - Number Pooling
 - Accounting
 - FCC Rules



ATIS NGN Release 1: Next Work Phase

- **Next phase of work is underway -- identify a rollout plan or release schedule for NGN whereby each release achieves implementable standards!**
- **Identify areas where coordination is needed between ATIS, TISPAN and 3GPP.**
- **Placed on fast-track for completion – 2Q2005**
- **Objectives for NGN Releases:**
 - an “implementable standard”
 - ‘end-to-end’ capability to deliver service
 - multi-service, multi-media in capability
 - inter-carrier in scope
 - creating value in communications
 - articulated as network interworked functionality



For More Information

- Visit the ATIS Web site at www.atis.org
- ATIS NGN Framework Document is available at <http://www.atis.org/topscouncil.shtml>

