ATIS: 2013 in Review
Advancing ICT Industry Transformation
Welcome to ATIS: 2013 in Review. This report highlights ATIS’ 2013 accomplishments across a broad spectrum of our industry’s priorities. It also presents our 2014 priorities and the initiatives underway to advance them. This work is achieved by ATIS’ Technology and Operations and CIO Councils in collaboration with ATIS’ 15 technical and operational committees. This approach – which brings together executive leadership, technical expertise, and a policy interface – is part of ATIS’ unique formula and is instrumental in advancing a dynamic industry transformation, now fully underway.

Among the ATIS priorities covered in this report are:

• The complex transition to an all-IP network, and what is being done to ensure that it proceeds at the desired pace of the industry
• How to harness the potential of big data analytics
• The development of open source solutions in the context of a standards environment
• The creation of ORCA – a vendor-neutral, developer-friendly API for easily accessing the network services and the value of the network
• Approaches to cybersecurity’s complexities
• Advances in next-generation emergency communications
• And much more.

ATIS is at work and focused where its members, the leading ICT companies, seek an aligned industry direction and solutions that advance their priorities during this pivotal time of change.

Our industry is in the midst of one of its most exciting periods, one ripe with opportunity. We hope you enjoy discovering more about ATIS’ work and how it is advancing the ICT industry’s transformation.

Sincerely,

Susan M. Miller
ATIS President & CEO
Representing the leading ICT companies, ATIS’ TOPS Council identifies a set of priorities on an annual basis. Once identified, the Council then conducts fast-track studies to determine how to best address these priorities. Such studies recommend everything from open source solutions to standards specifications to the development of industry frameworks on how to best align on a common approach. In 2013, the TOPS Council focused on some of the market’s most disruptive influences with the goal of turning them into opportunities for the ATIS membership. The Council advanced industry transformation in several key areas:

**Big Data Analytics: Helping operators increase the return on their big data assets.** Service providers have access to a wealth of new data, which is growing exponentially. However, because each provider has a subset of the information, there is a need to advance information infrastructure to better manage and share these resources to develop a comprehensive view across the industry. To gain this perspective, ATIS studied how analytics are being applied in the industry and summarized its findings in a report entitled *BDA Data Value Chain Reference Model & Use Cases*. This product identifies common themes across operators and delivers a much-needed metadata framework to support multiple types of secure information exchange. It presents high-level use cases, addresses privacy and security concerns, and makes recommendations to advance maturity of the “data value chain” in ICT big data analytics.
Device Solutions Initiative. Where open source meets standards. 2013 marked the launch of ATIS’ Device Solutions Initiative, which operates under a model that is a first for a standards organization anywhere on the globe in that it integrates open source solutions with the ICT standardization process. The DSI is open to projects where the open source/developer community is an integral part of success. It is delivering the tools that will enable software developers to easily integrate service provider capabilities into their applications.

ORCA. Making it easy for developers to tap into network innovations. The first project taking place under the DSI is ORCA, or the Open Real-time Communications API project, which marks ATIS’ entry into open source software development. Already, ORCA has successfully developed initial client-side software called orca.js, with the “.js” denoting creation of a JavaScript library. This tool masks the complexity of WebRTC signaling for real-time communication, allowing developers to focus on creating innovative new applications that incorporate high-quality voice and/or video calls instead of spending their time adapting to inconsistent APIs. The client-side binding is network- and protocol-independent, linking developers to supporting implementation libraries that allow consistent access to the robust services IMS networks provide. ORCA is being taken to the market through major service providers’ applications innovation programs and via GitHub. ORCA marks another first for ATIS: the organization’s entry into open source software development for broad use by applications developers.

Software-Defined Networking. Understanding the service-provider impact of this disruptive transformation. By separating the control plane and the data plane, software-defined networking (SDN) opens the door to network virtualization as well as the potential for greater flexibility and lower costs for deploying and managing networks. ATIS is assessing new software-driven capabilities for dynamically managing traffic while enhancing network performance and reducing capital/operational expenses, and is using knowledge gained to define carrier-grade SDN best practices. A top-down analysis of this issue is presented in the TOPS Council white paper, Operational Opportunities and Challenges of SDN/NFV Programmable Infrastructure. This resource specifically identifies standards needs and issues, describes the opportunities SDN brings service providers, and outlines the work required to fully realize the potential value in these opportunities. It is the industry’s first resource to view SDN and network function virtualization in terms of service provider impacts.

Trust & Identity. Better understanding our industry’s common trust and identity issues — essential in defending against cybersecurity threats. The current state of trust and identity is a juxtaposition of architectures designed for different purposes. Two main types of trust and identity ecosystems exist today. In one, there are rich capabilities within a single platform, but many of these capabilities rely on poorly validated identities. The other features a limited set of mature communications capabilities that use robust, interoperable, and portable identities. The Trust and Identity Focus Group White Paper recommends five ways to bridge the gap between the two ecosystems. It recommends specific actions to link existing identity systems and leverage service provider assets to address foundational weaknesses with web identity solutions.

“The TOPS Council is a valuable forum to discuss strategic technical initiatives that impact the larger industry in a constructive and collaborative fashion.”

-- 2013 ATIS Member Survey
The Technology and Operations Council—2014 Transformation Priorities

The shift to software-driven and highly programmable networks is a catalyst for change in our industry. ATIS’ Technology and Operations (TOPS) Council is advancing a robust plan of action under a coordinated framework based on APIs and virtualized infrastructure — one that leverages the synergies between the activities of the different TOPS Council focus groups:

• The 2014 focus groups on APIs and Virtualized Infrastructure: Open Real-Time Communications APIs, Software-Defined Networking, Network Functions Virtualization, and IP Services Interconnection are distinct but interrelated activities that study, define, and implement components of the emerging software-driven network.

• Complementing this work are efforts to address a big data information infrastructure that aggregates, analyzes, and acts upon an increasingly sophisticated view of customers and networks. The Leveraging Network Intelligence Focus Group is identifying how to apply big data techniques to the rich data in programmable networks to extract additional value for service providers. The PSTN Databases Focus Group is evaluating the optimum database strategy to support existing and emerging services in the future network.

ATIS is seizing the opportunities and speed that this innovative new programmatic alignment brings. Specifically, we are applying it to advancing the transition to the all-IP network — one of the greatest challenges in our industry’s history.

Software Defined Networking (SDN) / Network Functions Virtualization (NFV). The TOPS Council’s SDN and NFV initiatives are distinct but complementary. SDN enables flexible service models by centralizing network control, while NFV defines a common infrastructure framework that allows centralized control of virtual network functions. Combining SDN and NFV will allow network providers to configure, and reconfigure, virtual network functions in real-time to support a more flexible service model. This TOPS Council Focus Group will provide a proof of concept for SDN/NFV by demonstrating the chaining together of network services (e.g. load balancer + firewall + CDN) using SDN concepts. Application APIs will be developed to control the service, and OAM APIs will be developed to monitor the service. These northbound APIs (control + management) will be developed in existing open source frameworks (e.g., OpenStack and OpenDaylight). As this proof of concept develops, it will also be considered as a project in ATIS’ Device Solutions Initiative.

Although NFV is a critical enabler for the capabilities being demonstrated in this Focus Group, the long-term strategy for NFV is still being developed. Therefore, this initiative will assess the broad NFV landscape from a business perspective, including the commercial and technical requirements to support NFV. It will take into consideration areas where there is a need for standards or if open source solutions are appropriate.

IP Services Interconnect. The TOPS Council is defining a strategy to develop IP services interconnect specifications suitable for all service provider types (wireless, wireline, and cable), encompassing basic, advanced, and future services. This initiative complements an ATIS collaboration with the SIP Forum (the ATIS-SIP Forum Joint Task Force) to develop a fully specified IP-NNI for voice services. The new Task Force will develop a detailed, protocol-level IP-NNI specification for voice service. The IP Services Interconnect Focus Group will develop a plan to extend that base specification to include additional services for all service provider types (wireless, wireline, and cable). This work also will include requirements (stage 1) and architecture (stage 2). Any protocol (stage 3) specifications would be developed by ATIS’ Packet Technologies and Systems Committee.

“The TOPS Council is a valuable forum to discuss strategic technical initiatives that impact the larger industry in a constructive and collaborative fashion.”

— 2013 ATIS Member Survey
Leveraging Network Intelligence. While our networks’ data collection potential is advancing rapidly, innovation is needed to help us transform a newly acquired abundance of information into improved services. ATIS is exploring the opportunities to take advantage of emerging technologies, such as NFV to increase and improve the quality and quantity of information available from the network. This work will provide a major contribution in terms of identifying, characterizing, and cataloging useful network metrics. The ATIS Reference Architecture, which provides a consistent functional view of the evolving communications network, will be used as the foundation to analyze information that can be extracted from network functions. After identifying the appropriate data elements, the value of the available metrics will be assessed, and consideration given to areas where the information can be combined to drive operational performance. This work is taking place in collaboration with the ATIS’ Network Reliability Steering Committee (NRSC) to ensure that new information gained is considered in the context of proven industry best practices.

PSTN Databases. This work is investigating long-term (i.e., target) requirements for PSTN databases. ATIS’ Packet Technologies and Systems Committee (PTSC) is already studying the evolution of PSTN databases in the context of what exists in the network. This new TOPS Council analysis will take a “clean slate” perspective, and consider what the optimum architecture would be for PSTN databases if we did not consider the existing legacy infrastructure. Using this “target” architecture, the team will then consider practical evolution alternatives, taking into account what already exists. This TOPS Council work will be chartered under PTSC. Its recommendations will be rationalized against a perspective that takes our networks’ evolution, and its proven service record, into consideration.

Distributed Data Center Power Management. This initiative is investigating mechanisms supporting data center load balancing that can optimize total power consumption. The first step in this analysis is assessing the potential savings. Based on the findings, ATIS will identify the instrumentation that would be required in servers to support data center power management as well as the requirements for standardization.

The CIO Council—2014 Transformation Priorities

ATIS provides a forum for service provider CIOs to collaborate on shared priorities and challenges. ATIS’ CIO Council is the only industry forum where this IT collaboration across the providers takes place. The Council’s most recent efforts will help to:

- Implement a big data prototype to exercise exchange of customer records within a defined security framework.
- Identify a candidate list of APIs for consistent implementation. Conduct prototype to exercise interoperability.
- Develop inter-provider Ethernet ordering prototype based on ATIS and Metro Ethernet Forum collaboration.
- Design and integrate end-to-end service flows for aggregate services such as Unified Visual Communications.

Because of the convergence that is occurring with the transition to an all-IP network, and with the move from hardware to software-based solutions, the CIO Council and TOPS Council topics are increasingly complementary. The perspectives and challenges of the CIO and CTO are different, but the basic building blocks of architecture and information infrastructure are similar. ATIS solutions benefit from the alignment of both perspectives.
ATIS Committee Accomplishments

ATIS’ technical and operations committees focus on issues of most current relevance to the ICT industry. More than two-hundred ATIS standards were produced in 2013. ATIS sees its success not just in this volume of output, but in the high-impact solutions that this work delivers to the ICT industry. Committee focus is largely within the following framework of core ATIS competencies: Architecture and Services, Information Infrastructure, and Operational Excellence. With this framework and collaboration in critical areas, ATIS committees develop the standards that are needed to deliver and enhance key communications services.

ARCHITECTURE & SERVICES

Cloud Services. Building service provider solutions with cloud technology. Marking a major step in connecting the industry’s leading telepresence offerings, ATIS conducted testing in 2013 to demonstrate successful interconnection and interoperability of video and telepresence solutions in the cloud. Testing occurred between AT&T and Verizon using solutions from Cisco, Polycom, Lifesize, and Microsoft. Demonstrating the technical viability of heterogeneous telepresence and desktop endpoint types across multiple service providers represents a critical accomplishment moving the industry closer to adoption and commercial availability of a solution to enable multi-provider, multi-vendor interconnection and interoperability. In 2013, ATIS also developed a Cloud Services Lifecycle Checklist offering service providers comprehensive guidance for integrating cloud functions in a framework that promotes reusability between service enabler implementations and vertical applications.

Cybersecurity. Delivering security in the multi-party ecosystem. Cybersecurity is a defining issue in the success of evolving packet-based networks, and ATIS is establishing standards that will facilitate, to the maximum degree possible, the expected levels of security in the multi-party ecosystem. This work addresses emerging areas that will require network-based security capabilities, including cloud computing, content delivery, programmability, software-defined networking, self-configured networks, context-aware services, social media, peer-to-peer services, and machine-to-machine communications.
Emergency Communications. Advancing next-generation emergency services.
Delivering solutions to prepare our emergency communications system for the future is a key ATIS strength. Our work in this area is broad and encompasses developing standards to enable text to 9-1-1, defining North American emergency call-handling procedures in IMS-based origination networks, creating solutions to test for wireless indoor location accuracy, and more:

- ATIS spearheaded the nation’s first specification providing short message service (SMS) subscribers the ability to send an SMS text message to 9-1-1. When a voice call to 9-1-1 is not possible, the main goal was to ensure that texting to 9-1-1 services maintain the reliability and consistency that customers have come to expect from nationwide voice calling to 9-1-1.

- ATIS completed Implementation Guidelines that put the SMS text-to-9-1-1 standard into action. The Guidelines allow a text-to-9-1-1 solution to be broadly implemented across the United States by supporting the new standard’s deployment by Commercial Mobile Service Providers, Text Control Centers, and others in the emergency communications system. ATIS serves on a national ad hoc coordinating group, which includes the major wireless providers, the National Emergency Numbering Association, the Association of Public-Safety Communications Officials, and the FCC to help ensure an end-to-end implementation of the text-to-9-1-1 solution from the service providers to the public safety answering points. AT&T, Sprint, T-Mobile, and Verizon have voluntarily committed to provide text-to-9-1-1 service by May 15, 2014 (based upon the ATIS standard), in all areas served by their networks where a 9-1-1 call center is prepared to receive texts.

IP Services Interconnection. Delivering next-generation services that are as reliable, globally interoperable, and easy to use as the PSTN. ATIS has been a key stakeholder in interoperability testing to validate the next generation network-to-network Interfaces (NNI) designed to provide a direct, IP-only connection between carriers. An NNI interoperability test event, based in part on interface specifications and test plans developed by ATIS, verified the North American Emergency Telecommunications Service (ETS) configurations of the NNI. The event took place in the U.S. Government’s Office of Emergency Communications laboratory, operated by Applied Communication Sciences. It tested interconnections between service providers using a number of scenarios, including those in which both interconnected service providers were compliant with industry standards and other scenarios in which only one of the providers was compliant. The event successfully demonstrated that, based on ATIS specifications, the ETS requirements for providing end-to-end ETS communications services utilizing an IMS infrastructure across the NNI were both mature and interoperable.

Robocall/Autodialer Issues. Mitigating robocalls’ impact on consumers. ATIS is developing solutions to address both the technical and operational aspects of the robocall challenge. This involves evaluating existing solutions in this area—specifically, documenting the problem statement related to originating party ID spoofing, documenting industry standards and ad hoc solutions, and then analyzing these solutions in terms of their technical criteria and deployability. ATIS also is working on industry best practices that address the autodialer aspects of the issue.

INFORMATION INFRASTRUCTURE

Numbering. The numbering experts in the transition to an all-IP network. Among its many far-reaching impacts, the transition to an all-IP network affects the North American Numbering Plan. ATIS is home to the industry’s only open forum for addressing numbering issues, and is where steps to address numbering issues associated with this transition are being identified.

- ATIS work has identified that the many existing processes, systems, and numbering databases used in the PSTN today will need to evolve to support an all-IP environment. It is essential that a dual mode (TDM and IP) telephone routing environment be developed so that telephone numbers can route successfully until a full transition occurs. ATIS is discussing suggested trials from the industry and preparing guidelines for use in future trials.
• It is also evaluating the IP transition impacts on numbering resources and administration. The goal is to determine possible interim changes to the network architecture. These include evaluating impacts to guidelines on Just-In-Time and Hundred Block Pooling proposals.

Other critical numbering-related work coming out of ATIS includes:

• Identifying and evaluating the potential changes to the numbering system architecture and the effect on the toll-free industry as the transition to an all-IP environment progresses.

• Seeking to find an industry-wide solution to the issue of incorrect originating information being provided on calls, which can have significant impact on toll-free calls and tariffs.

• Working closely with SMS/800, Inc. to identify and address solutions to the day-to-day use and evolution of 8XX numbers and the processes for obtaining, transferring, and acquiring information on toll-free numbers. This also includes the use of 8XX numbers for new applications such as text messaging.

**Ordering and Billing. Ensuring accurate billing for emerging services.** ATIS resolves national issues that affect ordering, billing, provisioning, and the exchange of information about access services, as well as other connectivity between telecommunications customers and providers. It is responsible for the specifications, instructions, and forms required to provide local, access, and wireless service ordering as well as access billing guidelines and record layouts for message exchange. In 2013, ATIS:

• Established a collaborative effort with the Metro Ethernet Forum to jointly develop an international Ethernet ordering standard. This effort will benefit both organizations and advance the industry in the development of complementary standards for the next generation network.

• Launched an initiative identifying and developing billing record formats that can be used for cloud-based services in the areas of content delivery network, telepresence, virtual desktop, and virtual private network.

**PSTN Transition. Comprehensively addressing one of our industry’s greatest historical transitions.** ATIS is providing critical guidance in our industry’s transition to an all-IP network. New work with this specific focus launched in mid-2013. It includes the following:

• Development of implementable standards to enable the migration from regulation-mandated and transitional circuit-switched to packet-switched services.

• Outlining models that accommodate for IP interconnection, including stage 1 service requirements and stage 2 architecture definitions.

• Analysis of the impact of emerging technologies and services (e.g., OTT, cloud, WebRTC) on evolution of interconnection models.

**Sustainability in Telecom. Reducing ICT’s environmental impact and operators’ energy costs.** In 2013, ATIS continued its leadership in the development of standards for telecommunications equipment and environments in the areas of energy efficiency, environmental impacts, power, and protection. This work enabled vendors, operators, and their customers to deploy and operate reliable, environmentally sustainable, and energy-efficient communications technologies. Specifically, this activity is:

• Addressing distributed refrigerant cooling infrastructure.

• Developing airborne contamination (mixed flowing gas and hygroscopic dust) requirements for network telecommunications equipment utilized in central office and outside plant environments. This work will provide evaluation criteria to industry to ensure airborne contamination effects on network telecommunications equipment are minimized.

“ATIS plays a key and unique role in representing the industry with objectivity and credibility at the FCC and other agencies.”

— Quote from 2013 ATIS Member Survey
• Exploring Telecommunications Energy Efficiency Ratio (TEER) metrics for other types of wireless-specific equipment.

• Creating a new supplemental TEER standard for wireline access asymmetric broadband equipment energy efficiency. This standard provides a set of definitions, measurement methods, configuration requirements, and guidelines for calculating the TEER of the associated access equipment.

• Developing a supplemental standard for optical access network equipment energy efficiency.

• Creating a suite of standards addressing broadband protection considerations for xDSL and other broadband systems.

• Revising a standard addressing the protection of telecommunications links from physical stress and radiation effects and associated requirements for DC power systems.

• Revising the standards on router and Ethernet switch products based on real-time testing experience.

OPERATIONAL EXCELLENCE

GPS. North America’s only timing and sync standards body addressing GPS vulnerability and methods of GPS backup for time and frequency synchronization. Innovative new applications are driving growth in the reliance on the Global Navigation Satellite System (GNSS) and the Global Positioning System (GPS). Yet, while this is occurring, these systems are also growing more vulnerable. ATIS is developing a Technical Report on this issue with the National Institute of Standards and Technology (NIST) and is communicating with the Department of Homeland Security about telecom vulnerability, potentially resulting from loss of GPS signals.

Improving Call Completion Rates. Evolving best practices to create a voluntary, industry-generated solution. This ATIS activity is identifying concerns and solutions associated with new technologies such as VoIP as well as troubleshooting industry challenges to help improve call completion rates.

• Working collaboratively with the National Exchange Carrier Association, ATIS is conducting the Joint National Call Testing Project (JNCTP) to offer interexchange carriers, wireless carriers, and VoIP providers the opportunity to troubleshoot problems with calls destined to areas served by rural local exchange carriers. This work allows providers to capture network and routing data relative to call failures and to enhance internal network performance and/or underlying carrier performance as needed.

• ATIS developed the Intercarrier Call Completion/Call Termination Handbook which offers best practices for addressing call termination problems, especially related to managing intermediate or underlying carriers. This document was relied upon by the FCC in its call completion rules.

Network Reliability. Advisors on the health of the nation’s communications networks. ATIS provides the telecommunications industry with a collaborative environment to focus on maintaining and improving network reliability. Working closely with the FCC, ATIS addresses critical network trends by providing timely consensus-based technical and operational expert guidance to the agency and all segments of the public communications industry.

• The FCC relies on ATIS to deliver information built from collective industry feedback to a variety of its high-profile dockets. In 2013, ATIS filed comments in the following dockets released by the Public Safety and Homeland Security Bureau (PSHSB):
  • Improving 9-1-1 Reliability
  • Reliability and Continuity of Communications Networks, Including Broadband Technologies NPRM (a.k.a., Derecho NPRM) and Improving the Resiliency of Mobile Wireless Communications Networks
  • Reliability and Continuity of Communications Networks, Including Broadband Technologies

• ATIS collaborates with the FCC’s Communications Security, Reliability, and Interoperability Council (CSRIC) to ensure optimal security and reliability of the nation’s communications systems. The FCC looks to ATIS to provide recommendations to improve and ensure applicability of new and existing Best Practices.
• As a leader in network outage reporting and outage analysis, ATIS provides user-based feedback for the FCC’s Disaster Information Reporting Systems (DIRS) and Network Outage Reporting System (NORS). This work ensures the DIRS and NORS User Manuals and associated documentation are kept consistent with their respective online reporting systems. This is especially important as Internet service providers (including VoIP providers) are now being required to provide the FCC with network outage information. These new industry providers look to the FCC’s User Manual Guides for accurate reporting instruction.

Preventing Copper Theft. Solutions for a growing threat to infrastructure. ATIS introduced a set of best practices to address the theft of copper cables. Among other topics, these best practices cover installation, procedures, and solutions to reduce copper theft in telecommunications grounding, bonding, and power systems. A recommended test regime for alternative material components and cables also may be addressed.

Network Performance, Reliability, and Quality of Service. Leaders for the standardization of performance, reliability, and security of our nation’s communications networks.
• In modern systems for voice and data transmission as well as mobility and wireline communications networks with hierarchical design, the impact of failures increases progressively with each hierarchical level. Current metrics have limitations that prohibit reliability assessments in the design phase of such systems. Therefore, ATIS developed a new standardized metric allowing service providers and equipment manufacturers to agree on system reliability by comparing different redundancy architectures in a variety of networks and network elements. This tool shows the failure’s impact and quantifies how manufacturers’ products may contribute to failure events.

Regulatory/Policy Accomplishments
ATIS actively participates in regulatory and policy proceedings as an important dimension of leadership in the development of standards and solutions, and as a driver of strategic initiatives. At the intersection of technology and policy, ATIS’ participation provides valuable insight on issues, allowing regulators to gain a better understanding of technical, operational, and strategic factors that affect existing and new regulations. As a result, regulators are able to minimize the burden of their rules, avoid duplication with industry efforts, and address potential technical challenges before they become obstacles to the effective implementation of new regulations.

In 2013, ATIS submitted approximately thirty formal filings with the FCC and other regulatory agencies. These filings address:

The Transition of the PSTN. ATIS developed a comprehensive response to an FCC Public Notice seeking comment on trials relating to ongoing transitions from copper to fiber, wireline to wireless, and time-division multiplexing (TDM) to Internet Protocol (IP) technologies. ATIS’ response highlighted the significant number of ATIS standards related to the transition of wireline and wireless networks to new and evolving technologies. ATIS also recommended that trial participants use appropriate industry standards to promote the seamless interconnection between new and existing services.

The Development of a Nationwide Public Safety Network. ATIS responded to requests for information issued by the First Responder Network Authority (FirstNet) to provide information on key standards that would be relevant to parties involved in the design and buildout of FirstNet. ATIS highlighted important work from its committees that FirstNet and its prospective vendors should be aware of.
Call Termination Issues. ATIS filed comments with the FCC that, among other things, helped to minimize the burden of new FCC rules aimed at ensuring reliable communications to customers of rural carriers. ATIS’ input aimed at preventing the adoption of unnecessary requirements and promoting the adoption of a safe harbor, based on ATIS committee work, that allows carriers to minimize new reporting and record retention burdens.

Network Reliability and Resiliency. ATIS was very active in addressing network reliability and resiliency issues, including a submission in response to an FCC Public Notice related to the impacts of the 2012 Derecho storm on network reliability. This filing noted the effectiveness of the industry’s existing collaborative voluntary and consensus-based efforts in promoting network reliability and resiliency. It also advocated that the FCC-recommended new industry practices be reviewed by industry subject matter experts to ensure they are broadly implementable, technically feasible, and practical. Related to the issue of network reliability, ATIS submitted recommendations for possible changes to the FCC’s outage reporting rules to minimize unnecessary burdens associated with these rules.

Also, in 2013, ATIS analysis concluded that the rise in outage reports coded as Large DS3, Wireless and Procedural-Service Provider outages were driven by network growth, consumer demand, and misappropriated coding. Scheduled maintenance or planned outages that crossed the FCC outage threshold for reporting were found to inaccurately reflect the impact on the customer impact or outage cause. Network expansion had created the need to change the outage reporting system by including additional codes to accurately reflect why outages were occurring. ATIS provided the FCC with these findings. After considering ATIS’ recommendations, the FCC proposed new cause codes for planned maintenance to provide a more accurate picture of the outages taking place in our industry today.

The Development of a Federal Cybersecurity Framework. In response to a request for information from the National Institute of Standards and Technology, ATIS provided information on the work of its TOPS Council in developing an end-to-end network topology and security zones for comprehensively addressing cyber-related design and implementation vulnerabilities in devices, networks, and computing infrastructures. ATIS also provided a list of existing industry Best Practices, maintained by ATIS and its Network Reliability Steering Committee related to cybersecurity.

Privacy and Data Security. ATIS submitted information in response to an FCC Public Notice on issues related to the privacy and data-security practices of mobile wireless service providers. ATIS noted that there has been, and continues to be, significant industry-led work in the area of privacy and security. ATIS believes that these industry efforts are the most effective method to address the complex issues that arise from the continued evolution of communications networks and equipment, and urged the Commission to not disrupt this work.

In 2014, ATIS expects even more activity on the policy front, with additional work related to the PSTN transition, IP to IP interconnection, cybersecurity, call completion, emergency services, and network reliability. For more information on ATIS’ policy efforts, see http://www.atis.org/legal/publicpolicy.asp.
Global Leadership and Coordination

3GPP (3rd Generation Partnership Project). ATIS is a founding organizational partner of 3GPP, which celebrated its 15th anniversary in November 2013. Since inception, 3GPP has worked at a dynamic pace to provide members with a stable environment to produce the highly successful Reports and Specifications that define 3GPP technologies. These technologies are constantly evolving through what have become known as generations of commercial cellular/mobile systems. In its 3GPP work, ATIS is:

- Globalizing its Commercial Mobile Alert System (CMAS) standards (in terms of the Public Warning System) to make sure handsets are able to roam in different countries and can receive CMAS alerts in multiple languages.

- Developing Proximity Services (ProSe) that allow users in close proximity to communicate without being on a network, which is a main focus of LTE for Release 12. Such device-to-device communication enables users to communicate with or without a supporting core network, continuing to support FirstNet.

- Continuing to develop and transpose 3GPP LTE and LTE-Advanced specifications in support of the industry’s pressing needs and in support of the ITU.

oneM2M. Representing the North American marketplace in M2M globally. Along with other global standards development organizations, from China, Japan, Europe, and North America, ATIS is a Founding Member of oneM2M, which celebrated its first year of operation in 2013. ATIS represents North America in this global initiative, addressing the need for a common M2M Service Layer that can be relied upon to connect the myriad of devices in the field with M2M application servers worldwide.