FALL 2019

INNOVATION UPDATE

Contents

Message from the President and CEO

The work that's shaping the ICT industry's future takes place at ATIS. *Innovation Update* highlights of some of our latest contributions that are advancing industry transformation. ATIS initiatives are:

SPEEDING THE PUSH TO 5G

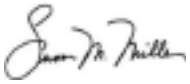
- ATIS is driving creation of normative standards for non-terrestrial networks, including satellite segments, a part of 5G connectivity infrastructure.
- We are extending the development of 5G best practices and guidelines to create supply chain standards that can be operationalized in the public and private sectors.
- We have developed an overview of neutral host solutions highlighting their potential to make 5G deployments more ubiquitous and cost effective, boost rural connectivity and more.

ADVANCING THE IOT

- Our work is delivering an industry consensus on IoT security worldwide. Developed in our work as a part of the Council to Secure the Digital Economy, a new document delivers baseline security capabilities for new IoT devices.
- Also, our new IoT Categorization report maps the varied landscape of IoT devices and applications to identify any additional network slice types that may be defined to ensure consistent service quality across operators.

Keep up to date on all of ATIS' recent contributions at www.atis.org.

Sincerely,



Susan M. Miller
President and CEO

Strategic Initiatives

Advancing ICT Industry Transformation

While all ATIS' work has a strategic focus built in, many of the initiatives covered here evolve from our Innovation Agenda. Driven by ATIS' board of directors, made up of C-level executives from the top ICT companies, the Agenda helps our industry look ahead and align to address top industry challenges on the long-term horizon. This work is geared toward envisioning what it takes to turn challenges into new business opportunities, create solutions that catalyze innovation, fast-track industry transformation and create platforms for collaboration with vertical industries.

The strategic work covered here also comes out of our Technology and Operations (TOPS) Council. TOPS initiatives look at a more near-term time frame of 12-to-18-months. The work has a technical and operational emphasis and a stronger focus on implementation. It is mainly designed to promote the readiness of new technology.

5G

5G SUPPLY CHAIN

Solutions for assured commercial 5G networks.

In October, ATIS started work on a new initiative to extend the development of 5G best practices and guidelines to create supply chain standards that can be operationalized in the public and private sectors. 5G services and solutions will be deeply integrated into the next generation of networks and services and ATIS has developed many of the standards that are setting the 5G network into action. Our organization is uniquely positioned to lead this initiative to develop supply chain standards for trusted 5G networks and services. We look forward to working with the Department of Defense, other government agencies and leading industry partners to achieve this goal.

Among other things, the 5G Supply Chain Initiative will work to establish "assured" commercial 5G networks; develop or identify standards to be applied to 5G systems; and evaluate audit/certification options for ICT solution providers, infrastructure and endpoint device original equipment manufacturers. These objectives are intended to address end-to-end ICT supply chain visibility, coordination of existing supply chain management best practices, industry alignment with federal guidelines, improved threat monitoring tools and a method to influence national/international standards development.

NEUTRAL HOST

Innovation to advance 5G deployments.

ATIS has been putting innovation into action to lower the costs of providing enhanced cellular capacity and coverage in shared spaces and also advance the economic deployment of dense 5G.

These solutions are set forth in a new report, *Neutral Host Solutions for Multi-Operator Wireless Capacity and Coverage in Managed Spaces.* This resource can help service providers avoid the high cost and complex arrangements of delivering 5G capacity in places as varied as metropolitan areas, enterprises, campuses, shopping malls, entertainment venues, outdoor festivals and more.

Typically, within a managed space today, different wireless providers must each deploy small cells dedicated to their own customers. Small cells supporting each operator are needed, creating complex and costly parallel infrastructures.

ATIS has presented a neutral host solution in which one common infrastructure system is deployed and shared by all. In this case, a third-party provider, such as an independent access provider, landlord or delegate, becomes a "neutral host" (in terms of not being aligned with any specific providers) for small cell deployments.

The potential of these solutions becomes especially exciting when we consider how they can make 5G deployments more ubiquitous and cost effective as well as help providers gain access into real estate they might not otherwise have access to. Learn how it works by accessing *Neutral Host Solutions for Multi-Operator Wireless Capacity and Coverage in Managed Spaces.*

3GPP RELEASE 17 AND BEYOND

Taking a long-term view of important 3GPP standards with an eye toward 5G.

With the industry push to 5G progressing rapidly, recent ATIS work is concerned with how 3GPP standards in Release 16 and beyond can expand 5G capabilities and enhance the mobile system's technical performance. Release 16 has been defined by 3GPP, and ATIS is playing an important role by helping the industry to consider what happens next, particularly in relation to the evolution of 5G.

A key priority is to assess ongoing technology evolution and research to help evaluate/predict impact to future standards. This focus on the landscape of 3GPP post Release 16 is identifying key technologies and priorities relevant to the North American market and how the transformational impacts of these technologies will drive future requirements. This effort will provide the opportunity to impact 3GPP Release 17 — and beyond — work during the critical requirements phase. Learn more.

5G INTEGRATION IN NON-TERRESTRIAL NETWORKS

Better integrating a recognized part of 5G connectivity..

Satellites maximize the inherent value of 5G networks by solving coverage problems and difficult use cases that ground-based infrastructure alone cannot address. 5G standards make non-terrestrial networks (NTN), including satellite segments, a recognized part of 5G connectivity infrastructure. However, there is more work to be done to ensure that satellite systems are integrated as an intrinsic part of the 5G ecosystem.

That's why ATIS launched a new NTN 5G Integration Working Group (WG) in September. The group is chaired by Intelsat, a leading provider of satellite communication services. Its goal is to drive the creation of normative standards for satellite NTNs in 5G by bringing together satellite operators and other organizations to develop and coordinate technical positions and create aligned contributions to advance support of NTNs in 3GPP.

Priorities and use cases will be driven by satellite operators' needs while working with the terrestrial providers to ensure that mobile network operators and others can seamlessly and cost-effectively integrate with satellite systems.

Technical recommendations for integration should consider the unique characteristics of satellite systems. The WG will generate aligned technical proposals between the satellite community and major terrestrial 3GPP ecosystem contributors. The ultimate goal is to ensure an end-to-end standard in the Release 17 timeframe (Architecture freeze: Q3 2020).

The ATIS NTN 5G Integration WG invites participation from satellite operators, satellite suppliers, major RAN suppliers active in 3GPP, chipset vendors, and terrestrial operators (e.g. for 3GPP priority-setting). Learn more.

Blockchain/Distributed Ledger Technology

Understanding DLT's value in the ICT industry.

The use of distributed ledger and blockchain technologies is growing and has implications far beyond digital currencies such as Bitcoin, whose peaks and lows we hear a lot about lately. ATIS is conducting groundbreaking work to map the opportunities distributed ledger technology (DLT) presents for the telecommunications industry.

While blockchains are one form of DLT, the term refers more broadly to shared databases, which are spread across several nodes or computing devices. Data relating to identity, transactions, contracts, etc. are replicated across this network of nodes. Since the network can exist without a centralized authority or

server managing it, data quality is maintained through database replication and computational trust that facilitates transparent, verifiable, and secure digital asset transactions with both proof of rights and ownership.

So how will this technology be applied in telecommunications? The ATIS DLT project was initiated to find out — specifically to validate key aspects of distributed ledger technology as it applies to real-world challenges facing today's communications industry.

From a number of potential use cases, one was selected for a more in-depth analysis and proof of concept. This specific use case, defined as "Enterprise Know your Customer (KYC)," looks at how we can combine data about outgoing calls (origination, end customer, call purpose, etc.) leveraging a distributed ledger so that the terminating service provider (and their analytics/call-blocking service) can provide a better mechanism to differentiate between good and bad calls.

This is especially difficult – and valuable – in complex calling scenarios where, for example, a call center may be originating calls on behalf of an enterprise, using third-party calling platforms, across multiple originating service providers, for a short-term calling campaign such as a product recall.

The "Enterprise KYC" service using DLT enables secure Telephone Number (TN) allocations to be assigned to KYC verified enterprises that enables the enterprise to place trusted VoIP calls to the end user. Using DLT improves the efficiencies and effectiveness of the service:

- Increasing effective validation and call management, specifically for multi-homing across originating carriers;
- Improving fraud-detection capabilities, for both the Originating and Terminating carriers;
- Increasing visibility for the TN owner to control quality of the supply chain and increase value oftrusted TN's;
- Mitigating business risk from inaccurate records or latency on external systems; and
- Improving level of trust across the ecosystem, from a single source of fact.

Learn more.

DNS Privacy, Security and Services

Addressing the challenges and opportunities in DNS encryption.

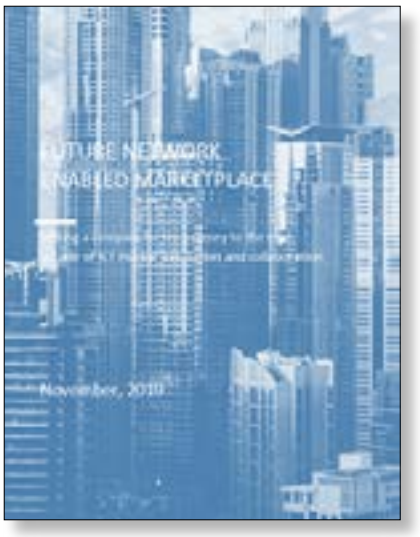
ATIS is pleased to announce its new ATIS DNS Privacy, Security and Services Initiative (DNS-PSS). The Domain Name System (DNS) is a critical Internet service that resolves human readable domain names to IP addresses. Almost all

web traffic and other Internet applications rely on DNS to allow the client to find the required server. Currently, approximately 80% of DNS queries are handled by the user's Internet Service Provider (ISP). This allows ISPs to use DNS to fulfill operational needs and offer services.

This new working group was established to address the technical challenges and the opportunities that could be created from the recent IETF standardization of the use of encrypted DNS: DNS over HTTPS (DoH) and DNS over TLS (DoT). These technologies can enhance the security of DNS protocol but may be implemented by browsers and mobile operating systems in a way that could dramatically change the Internet architecture and have marked impacts on important DNS-based features.

The DNS-PSS Working Group is analyzing the possible impacts of changes to DNS and is starting to develop talking points to help ISPs, and other relevant parties, communicate about the changes to end customers, enterprise network administrators and internal stakeholders. The group is also developing a report titled *Comparative Technical Report on Approaches to Improving the Security and Privacy of Carrier DNS*. The aim is to document different options for DNS deployment and to understand their advantages and disadvantages.

The working group is chaired by Jason Livingood, Comcast. Iain Sharp, ATIS Principal Technologist, is ATIS' Technical Lead. If your company is interested in joining, please contact Nicole Butler, Manager - Strategic Initiatives, ATIS.



Future Network-Enabled Marketplace

Setting a compass for the next decade of ICT market innovation and collaboration.

An initiative now in progress will deliver an analysis that ICT organizations can use as they take a broad view of the future for strategic planning purposes. The forthcoming report, *The Future Network-Enabled Marketplace (FNEM): Setting a compass for the journey to the next decade of ICT market innovation and collaboration*, lays out the relevant societal trends, technology innovations as well as new business models and network structures forward-focused organizations need to know about.

Understanding the FNEM increasingly requires being aware of factors beyond technology developments alone. This is because services and applications are increasingly intersecting with many vertical industries. Further, consumers increasingly expect services that are customized to meet their unique needs.

Considering these factors, the challenge for the industry is to lay the groundwork for a future set of services and business models that can be enabled through advanced network capabilities and collaboration. The forthcoming ATIS report provides insight. Look for it later in November 2019.

Internet of Things

IOT DEVICE SECURITY

A new report delivering an industry consensus on IoT security worldwide.

Along with the tremendous benefits that the rapid growth of the Internet of Things (IoT) brings to consumers, businesses, governments and the global digital economy, the IoT also brings increased threats. ATIS, as part of the Council to Secure the Digital Economy – also composed of USTelecom, the Consumer Technology Association (CTA), and a total of 13 global ICT companies – has played a lead role in developing and advancing industry consensus on baseline security capabilities for new devices.

The top industry conveners developing this resource – the "C2" – are some of the lead trade associations, standards development organizations, industry alliances and coalitions working on securing the IoT. Together, we have developed the C2 Consensus Baseline, the broadest and most technically deep industry consensus on IoT security worldwide. This effort is based on the principle that the best way to achieve IoT security is for technical experts to develop and advance security specifications that will spread throughout the global market.

The document provides expert guidance to industry and government on securing new IoT devices in order to raise the market's expectations for security and advance global policy harmonization. It is expected that this global approach will prove more effective than disparate local initiatives that would fragment security requirements and cause inefficiencies in the market that result in weaker security. Access the *C2 Consensus on IoT Device Security Baseline Capabilities*.

IOT CATEGORIZATION

Better understanding the IoT from a network perspective.

The burgeoning growth in the IoT ecosystem — in terms of the number of connected devices globally and total spending on end-point devices and services — is driving a wide range of new uses and requirements on the network infrastructure. Network slicing is a way to structure a network to support diverse classes of services in a guaranteed way on the same network. A recently released ATIS report *IoT Categorization: Exploring the Need for Additional Standardized Network Slices* considers the network requirements across the multidimensional landscape of IoT devices and applications to identify any additional network slice types that may be defined to ensure consistent service quality across operators.

The work is timely in light of findings such as the report from Strategy Analytics that predicts that 38.6 billion devices will be connected by 2025, and 50 billion by 2030[1]. To support this upsurge, networks will need to handle a diverse set of use cases across different industry verticals – from smart cities and automotive

to healthcare, transportation, and industrial automation, to name a few.

These vertical applications will require the underlying network infrastructure to meet a variety of different requirements on functionality (e.g., priority, security) and performance requirements (e.g., latency, availability, mobility, data rates, connection density). Some applications, for example, such as ultra-high definition video and augmented reality require high-speed, high-capacity communications yet are generally capable of handling medium to high latencies. Other applications, such as autonomous vehicles, absolutely require ultra-low latency, ultra-reliable services to guarantee road safety.

Through network slicing, operators can allocate their network resources based on a precise set of performance requirements. ATIS' new report provides a comprehensive analysis of the multidimensional landscape of IoT across devices and applications to ensure a broad set of standardized slice types to address the most commonly used services and associated performance characteristics. Access the report.

1 STRATEGY ANALYTICS. [Online] 2019. Cited: May 19, 2019.] https://news.strategyanalytics.com/press-release/iot-ecosystem/strategy-analytics-internetthings-now-numbers-22-billion-devices-where.

Smart Cities

Creating a comprehensive Smart Cities Data Exchange Framework — with implications for promoting economic development.

Our Smart City Data Exchange (SCDE) initiatives take place through a joint effort with U.S. Ignite. Most recently, this partnership is now in the software-design phase of building a new economic development tool for smart communities. The aim is to provide communities with the ability to see development potential in their neighborhoods on a property-by-property basis. The goal is to attract commercial investment and foster economic growth.

This data visualization resource is being developed on a Geographic Information System (GIS)-based demographic map and will use numerous datasets obtained both from open data portals and through our partnerships with cities and other private stakeholders. It will have the ability to extract information from data sources via API, and then translate that data for further processing, analytics and visual presentation. Users will be able to enter the characteristics of a particular business into the application, and the software will suggest optimal locations for investment based on business type and specified attributes of interest. The tool can help municipal leaders by enabling them to:

- Illustrate and calculate the economic and social impacts of different development scenarios on a property
- Explore snapshots of development potential based on zoning,

development standards, infrastructure requirements and funding options
- Analyze land-use scenarios in the context of building healthier neighborhoods that feature multimodal transportation, walkability and ease of access to community services

The SCDE initiative is also currently developing a smart city data catalog specification that will allow cities to register and make available datasets, as well as approved third-party data, in a common catalog.

Applying a common approach to discovering and searching for data across municipalities can help cities then explore and request data through the use of open APIs. Every community wants to understand what drives the local economy and how to maximize assets to attract commercial interest and sustain growth. In this project, we're working with select pilot cities and targeted datasets to help communities do just that. Learn more.

Unmanned Aerial Vehicles

Helping the industry better support the integration of UAV and cellular systems.

Published in 2017, the ATIS report *Unmanned Aerial Vehicle (UAV) Utilization of Cellular Services: Enabling Scalable and Safe Operation* discussed the advantages of using cellular network technology to meet the communication requirements of low-altitude UAVs. Since this pivotal report came out, the industry and regulators have continued to work on a variety of solutions to address the communication needs of UAV and to ensure their safe operation. A new ATIS report reviews this work in light of its potential to help define 3GPP Release 17 standards and requirements for UAV use of cellular networks.

Published in August, *Use of Cellular Communications to Support Unmanned Aerial Vehicle (UAV) Flight Operations* addresses four technical areas in which communications technology can assist in addressing flight operations of UAVs:

- The Command and Control (C2) interface
- UAV Traffic Management (UTM)
- Remote UAV Identification (ID)
- Detect and Avoid (DAA)

This new ATIS report considers requirements in these areas that may apply to the North American region. Access *Use of Cellular Communications to Support Unmanned Aerial Vehicle (UAV) Flight Operations*.

Regulatory Initiatives

Illegal Robocalling Mitigation

SHAKEN protocol on track for year-end implementation.

With ATIS serving as the Secure Telephone Identity Governance Authority (STI-GA), the industry remains on track to meet the FCC Chairman's December deadline for having the SHAKEN protocol in place. Work continues to ensure both the technical and legal structures are in place so that service providers (SPs) may soon begin signing calls with SHAKEN digital certificates to validate Caller ID.

On the legal front, ATIS named iconectiv as the Secure Telephone Identity Policy Administrator (STI-PA) in May and, on behalf of the STI-GA Board and iconectiv, engaged in contract negotiations over the summer. The STI-GA Board approved a final contract in August. The next step was developing the Service Provider Agreement, the agreement each SP must sign as it seeks to join the SHAKEN ecosystem. This agreement was finalized in October. The STI Certificate Authority Agreement is now in development. The STI Certificate Authorities are the entities that, following approval by the STI-PA, will assign the SHAKEN digital certificates to SPs. This agreement is a key part of that process.

In the meantime, technical work moves forward to get the STI-PA systems up and running and ensure the rules within the SHAKEN ecosystem are mapped out. Through the STI-GA Technical Committee (TC), the first draft of the Certificate Policy (CP) was developed and reviewed by both SPs and a number of prospective STI-CAs. The Policy lays out the rules each CA must follow as it assigns, tracks and even revokes the SHAKEN digital certificates. The finalized CP was presented to the STI-GA Board and approved in October.

Preparations for the STI-PA Acceptance Test are also advancing. While the initial test plan was approved in July, the TC has been working with iconectiv to refine that plan and determine how, when, and by which SPs the test will be run. The TC plans to initiate and complete the test within the month of November. Completion of the test in that timeframe would put the industry well within the window to implement the SHAKEN framework in December.

In Canada, ATIS continues to work with the Canadian industry to establish the Canadian Secure Token Governance Authority (CSTGA). The CSTGA has been incorporated as the Canadian "STI-GA," or "governance authority," with support from the major Canadian carriers. The basic governance structure is in place and the Canadian Radio-television and Telecommunications Commission

(CRTC) has been asked to clarify/confirm the proposed direction for SHAKEN governance.

The CRTC has acknowledged the request and indicated that clarification/confirmation is forthcoming.

In Washington, temperatures turn cooler in fall. The race against the clock to successfully implement SHAKEN by year's end, however, is heating up as we move toward year-end. With ATIS in the lead, the industry is confident in its ability to have SHAKEN in place, thus delivering SPs the means to fight against illegal robocalling. Learn more at the STI-GA homepage.

Committees and Forums

Emergency Services

ATIS is where the industry comes together in a voluntary, open forum to identify and resolve technical and operational issues to facilitate interconnection of emergency services networks with other networks (e.g., wireline, cable, satellite, Internet etc.). The ATIS members doing this work come from across the ecosystem, including industry, government, standards and public safety organizations.

EMERGENCY SERVICES AND NATIONAL SECURITY EMERGENCY PREPAREDNESS

Better understanding contention issues between different services during network degradation conditions.

Both Emergency Services and National Security/Emergency Preparedness (NS/EP) Next Generation Network Priority Services (NGN-PS) will have to coexist in commercial Long-Term Evolution (LTE) network service deployments. The two are expected to be served along with commercial priority services, and nonpriority commercial services under network degradation conditions (e.g., congestion and overload conditions). There are 3GPP-defined mechanisms for admission and congestion controls such as the Access Class Barring (ACB) mechanism, and scheduler-imposed restrictions on throughput. However, it is not clear how and when these capabilities may be invoked in an optimal manner. For example, it might be possible for a flood of Emergency Services sessions and normal sessions (e.g., voice, video and messaging sessions), initiated as a result of a disaster or emergency event, to monopolize LTE access resources.

A new ATIS technical report provides a study analyzing contention issues between different services such as Emergency Services and NS/EP NGN-PS communications during network degradation conditions (e.g., network congestion during certain disaster events). Access the report *Services and National Security Emergency Preparedness Next Generation Network Priority Service (NS/ EP NGN-PS) Coexistence on LTE Access Networks* (ATIS- 0700044) to learn more about the study.

Advancing the support of NS/ EP priority services in NGN.

During periods of network congestion, National Security/Emergency Preparedness (NS/EP) Priority Services require priority treatment. This treatment is required end-to-end and from invocation to release in the IP-based Next Generation Network (NGN).

Several parameters have been defined within Long-Term Evolution (LTE), IP Multimedia System (IMS) and supporting protocol standards applicable for providing network priority to NS/EP communications in the NGN environment. These include the LTE Allocation and Retention Priority (ARP), Access Class (AC), Multimedia Priority Service Identifier (MPS-Identifier), and Resource Priority Header (RPH). However, national specific values and/or the rules for their use need to be identified and reserved in order to effectively support NS/EP NGN Priority Service. At a minimum, operational rules need to be specified such that the values reserved for NS/EP priority communications are unique, where possible, and provide priority treatment over all other services.

A new ATIS standard provides operational guidance on protocol parameters and values (e.g., QoS/Priority Values) relevant to NS/EP Priority Services support in NGN. It provides guidance on the national specific values and/or the rules for their use, such that NS/EP priority communications receive the probability of delivery over other service traffic. Access *LTE and IMS Parameters for Supporting NS/EP Priority Services in NGN* (ATIS-1000086).

Cell-Sector-Based Routing.

Also released recently, a new ATIS technical report explores specific characteristics of sub-optimally routed wireless emergency calls, such as where they occurred as well as the distribution of their distances from the boundaries of the Public Safety Answering Points (PSAPs) to which they routed. The report also includes recommendations derived from these findings for cell sector-based routing and Location Based Routing (LBR) solutions based upon the findings of this study.

The document is intended to offer insight into the routing behavior of wireless emergency calls, specifically those delivered to a PSAP, other than that which would be considered as being optimal based upon the caller's actual location. By focusing on sub-optimally routed calls, it explores the location characteristics of calls using cell-sector-based routing which are most susceptible to this condition. It also identifies some potential benefits of LBR solutions in mitigating these behaviors and lists recommendations for the implementations of both routing approaches. Access *Analysis of Predetermined Cell Sector Routing Outcomes Compared to Caller's Device Location* (ATIS-0500039).

Enhanced Location-Based Routing of Emergency Calls

Also, recently ATIS has developed a technical report presenting a feasibility study analyzing the location-based (LBR) methods for Commercial Mobile Radio Service (CMRS) wireless emergency calls.

The report addresses issues as described in a recent CSRIC V LBR Report and any other methods to enhance LBR that have been identified since the publication of that report. It includes analysis of whether existing standards support a particular LBR method, and if not, what standards gaps may exist. Access the ATIS study, *Enhancing Location-Based Routing of Emergency Calls* (ATIS-0700042).

Network Reliability

ATIS' Network Reliability Steering Committee (NRSC) is home to a set of industry advisors on the health of the nation's communications networks. It provides timely consensus-based technical and operational expert guidance and best practices to many segments of the public communications industry. It proactively holds quarterly public meetings with the FCC and provides information to help minimize the number of agency rule-makings and mandates. Among its recent accomplishments:

A NEW BEST PRACTICES WEBSITE

Best practices on network reliability.

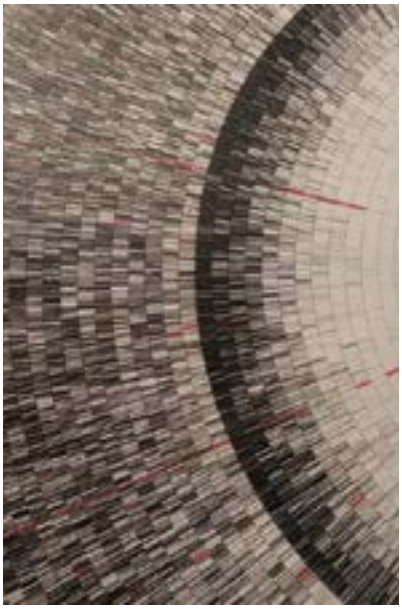
ATIS has recently launched a new Best Practices (BPs) website. It features an easy-to-use search functionality as well as a portal for Communications, Security, Reliability, and Interoperability Council (CSRIC) members to directly propose Best Practices. The User Guides and Best Practices Tutorial have also been updated with the launch of this new site.

The majority of the BPs were created and modified by a series of FCC chartered Network Reliability and Interoperability Councils (NRIC), federal advisory committees that preceded the CSRIC. They continue the theme stated by the first NRIC: "The Best Practices, while not industry requirements or standards, are highly recommended. The First Council stated, 'Not every recommendation will be appropriate for every company in every circumstance, but taken as a whole, the Council expects that these findings and recommendations [when implemented] will sustain and continuously improve network reliability.'"

ATIS believes that mandating compliance with particular BPs would impact the ability of organizations, their customers, and other constituents to manage the value proposition, the pricing that defines their business models, and participation in the industry.

Compliance with them should be voluntary in order to allow for co-existence of new and old technologies. Access the ATIS Best Practices website at bp.atis.org.

The ATIS Best Practices Website provides assembled industry expertise and experience vital to the reliability of the nation's public communications networks and services.



A COMPREHENSIVE OVERVIEW ON RECENT RELIABILITY ISSUES

Network Reliability Steering Committee Operational Report.

A recently released report provides a snapshot of the issues addressed by the NRSC over the last two years and shows how they impact our priorities in 2019 and beyond. As you will see, the efforts of the NRSC, guided by input from member company subject matter experts as well as the FCC, are primarily directed toward ensuring that meaningful data is being collected and analyzed to better understand the cause and mitigation of outages.

Ultimately, the NRSC utilizes this information to develop industry guidance that directly impacts and improves the nation's networks. These efforts build upon previous NRSC work and form a strong foundation for ensuring that communication networks continue to be reliable and resilient. This foundation is especially useful in light of ongoing momentous changes to the communications network, including the significant growth of wireless networks and the evolution to an All-IP network. The nation depends on these networks to provide emergency communications, enable commerce, and support individual communications.

As these changes to the network occur, the NRSC remains committed to, and will continue working toward, maintaining network reliability and resiliency. Throughout the 2017 to 2018 timeframe, the NRSC has been active in researching and providing guidance on many network reliability issues and responding to various FCC issues and concerns regarding network events. It continues to work closely with the FCC to improve outage reporting procedures, refine Best Practices, and provide a forum for collaborative industry and government work efforts.

The continued efforts of NRSC member companies have directly and positively impacted the resiliency and reliability of the nation's networks, which ultimately benefits all users. Access the *Network Reliability Steering Committee 2017-2018 Operational Report*.

A STANDARD OPERATING PROCEDURE FOR PSAP OUTAGE CONTACT INFORMATION

Strengthening situational awareness during 9-1-1 outages.

In mid-November, ATIS will deliver a *Standard Operating Procedures (SOP) for Updating Public Safety Answering Point (PSAP) Outage Contact Information* (ATIS-0100068). This document provides information on how Public Safety Answering Point (PSAP) contact information is to be collected and documented. This new process addresses the challenges associated with identifying PSAP and 9-1-1 authority recipients of outage notifications and the mechanisms for collecting and standardizing contact information.

One of the industry challenges in the delivery of outage notifications is knowing whom to notify, by telephone and electronic means, in the event of a potentially impacting 9-1-1 outage. Even when the industry knows whom to contact at a PSAP, there may be challenges doing so in a timely manner. This leads to PSAPs having to resort to social media and ad hoc communications with their peers to discern what might be happening in carrier networks.

Today, requirements to notify PSAPs make it necessary to obtain accurate outage contact information for each PSAP. There is no centralized repository for PSAP outage contact information; therefore, companies have developed independent notification databases. This new ATIS resource will present a much-needed industry consensus on improvements in collecting PSAP information.

Ordering and Billing

ASOG UPDATE

Advancing new ordering scenarios.

LSOG Version 2Q19, published in May 2019, includes several updates, one of which includes a new Data Unified (DU) form which consolidates administrative, bill detail and service details necessary for the provisioning of requests for local data services such as high-speed internet. New shipping address fields were added to this new form as well as the End User Form (Practice 072) which are specific for shipping high-speed internet equipment to an end user on the LSR. Access LSOG 2Q19.

Among other updates, the forthcoming *Access Service Ordering Guidelines (ASOG) Version 60* will include an update to the *Access Service Request Ordering Overview* (Practice 000a) to address new ordering scenarios for dark fiber.

News, Webinars and Events

Nominate Your Colleagues for an ATIS Award Today

ATIS Achievement Awards are one way in which the members of ATIS are recognized for their valued accomplishments in ATIS' initiatives — and the results they deliver our industry.

Innovation is a hallmark of ATIS solutions. That's why we modified our nomination and award process. We have moved to recognizing award recipients in meetings throughout the year. Here's how this year's ATIS Awards have been enhanced:

- Online nominations will be accepted anytime throughout the year as recognition is merited.
- Awards will be presented in the group's meetings as appropriate rather than at the Annual Meeting of the Committees (AMOC).
- Award winners will be recognized via ATIS press and social media promotion. As is customary, a letter will be sent to the recipient's company/supervisor(s) announcing the award.

View the criteria for Award nominees, learn about the selection process, and access a nomination form at https://awards.atis.org/.

ATIS Webinars

WIRELESS EMERGENCY ALERTS INNOVATION

ATIS innovation is helping to set version 3.0 of the Wireless Emergency Alerts (WEA) system into action. WEA 3.0 will deliver potentially lifesaving messages in a more precise geographic range. The goal is to target at-risk populations while minimizing disruption to others. Access the ATIS webinar Delivering Targeted Alerts – Advancing the Wireless Emergency Alerts 3.0 System on demand.

5G STANDARDS DEVELOPMENTS IN RELEASE 15 AND BEYOND: AN ATIS/3GPP WEBINAR

3GPP delivered the first complete set of 3GPP standards for 5G in Release 15 and is further enhancing 5G in Release 16. Plans for Release 17 are also underway. This ATIS/3GPP webinar recaps the Release 15 content and provides an up-to-date view of 3GPP's work with a particular focus on how it is expanding 5G capabilities and enhancing the mobile system's technical performance. Available for on demand viewing/listening.

ATIS Events


atis
TIME AND MONEY 2020:
THE ATIS WORKSHOP ON SYNC REQUIREMENTS AND DISTRIBUTED LEDGER TECHNOLOGIES IN THE FINANCIAL SECTOR
JANUARY 28, 2020 | NEW YORK STOCK EXCHANGE


PEG
PROTECTION ENGINEERS GROUP
Electrical Protection of Communications Networks
2020 CONFERENCE
March 17 - 19, 2020
Raleigh, North Carolina


ANNUAL MEETING
of the COMMITTEES
APRIL 27-30, 2020 • SAN ANTONIO, TX

Industry Events

Internet of Things World

IWCE
Connecting Critical Communications