Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Facilitating Implementation of Next Generation 911 Services (NG911)	)	PS Docket No. 21-479
	)	

Comments of the Alliance for Telecommunications Industry Solutions

The Alliance for Telecommunications Industry Solutions (ATIS) hereby submits these comments in response to the *Notice of Proposed Rulemaking* (*NPRM*), released June 9, 2023, in the above-referenced docket. In the *NPRM*, the Federal Communications Commission (Commission) proposes to advance the nationwide transition to Next Generation 911 (NG911) by adopting certain requirements that would apply to wireline, Commercial Mobile Radio Service (CMRS), interconnected Voice over Internet Protocol (VoIP), and Internet-based Telecommunications Relay Service (TRS) providers as state and local 911 authorities transition to supporting NG911 compatible IP-based 911 communications. In these comments, ATIS urges the Commission to:

- establish a reasonable limit on the number of interconnection points but not dictate the location of interconnection points;
- allow the establishment of reasonable business agreements between 911 authorities and service providers to facilitate the selection of the points of interconnection;
- allow for flexibility in the use and deployment of Legacy Network Gateways (LNGs);
- acknowledge the use of Legacy PSAP Gateways and consider PSAPs that are connected to ESInets via Legacy PSAP Gateways or Legacy Selective Router Gateways as "NG911 ready" for the purposes of requesting NG911 call delivery services in IP-based format;
- require 911 authorities, when certifying that they are technically ready, to demonstrate that the PSAP call handling equipment in their jurisdictions are capable of accepting and processing 911 calls;
- clarify the signaling content and format associated with 911 call delivery in the context of NG911;
- define, for the purposes of the *NPRM*, the term "IP-based" to mean the use of NG911

compatible signaling and protocols as defined in commonly accepted industry standards;
- adopt a timeline of eighteen months for providers to deliver 911 calls in IP format when implementation of new Legacy Network Gateways and support of associated location data is required, and
- allow service providers that are unable to complete implementation within six months due to supply chain issues to receive a waiver of the six-month deadline.

I. Background

ATIS is a global standards development and technical planning organization that develops and promotes worldwide technical and operations standards for information and communications technologies (ICT). ATIS' diverse membership includes key ICT stakeholders– wireless, wireline, and VoIP service providers, equipment manufacturers, broadband providers, software developers, consumer electronics companies, public safety agencies, and internet service providers. ATIS is also a founding partner and the North American Organizational Partner of the Third Generation Partnership Project (3GPP), the global collaborative effort that has developed the 4G Long-Term Evolution (LTE) and 5G New Radio (NR) wireless specifications. Nearly 600 industry subject matter experts work collaboratively in ATIS' open industry committees and incubator solutions programs. ATIS submits these comments on behalf of its Emergency Services Interconnection Forum (ESIF) and Network Reliability Steering Committee (NRSC).

ATIS' ESIF develops NG911 and location accuracy requirements and solutions. ESIF works with industry, governmental, standards, and public safety organizations to apprise them of its deliberations and decision and ensure the proper coordination of activities. ESIF identifies and resolves technical and operational issues to facilitate interconnection of emergency services networks with other networks (e.g., wireline, cable, satellite, Internet, etc.).

ATIS NRSC improves network reliability by providing timely consensus-based technical and operational expert guidance to all segments of the public communications industry. As a

trusted expert, the NRSC addresses network reliability improvement opportunities in an open, noncompetitive environment. The NRSC advises the communications industry through developing and issuing standards, technical requirements, technical reports, bulletins, Best Practices, and annual reports.

II. Comments

A. Delivery Points for NG911 Traffic

The Commission proposes to require wireline, CMRS, and interconnected VoIP providers to transmit all 911 calls to the point(s) designated by the 911 authority and asks if it should establish criteria for the points of interconnection (e.g., the points of interconnection are located within the state to which 911 service is being provided, there are a specific number of points of interconnection per LATA, or the points of interconnection are able to receive traffic in specific formats (such as TDM or IP).[1] ATIS urges the Commission to establish a reasonable limit on the number of interconnection points but not to dictate the location of interconnection points. ATIS also urges the Commission to allow the establishment of reasonable business agreements between 911 authorities and service providers to facilitate the selection of the points of interconnection. ATIS recommends that the Commission allow for flexibility in the use and deployment of Legacy Network Gateways (LNGs). ATIS strongly opposes any requirement that would force non IP-capable networks already connected to LNGs to interconnect with new gateways and notes that there is no benefit to such a requirement. The Commission's rules should acknowledge that service providers may obtain their own LNGs, use the LNG of a Next Generation 911 network provider, or use an aggregator to satisfy this requirement.

[1] *NPRM* at ¶28, ¶30.

In the *NPRM*, the Commission refers to delivery point(s) for 911 calls, as designated by the 911 Authority, to include a Public Safety Answering Point (PSAP), designated statewide default answering point, appropriate local emergency authority, Emergency Services IP Network (ESInet), or other designated point(s) that allow emergency calls to be answered.[2] ATIS notes that North American 911 service architectures and associated standards assume the presence of an Emergency Services Network between the originating network and the PSAP. For example, *ATIS Standard for Implementation of 3GPP Common IMS Emergency Procedures for IMS Origination & ESInet/Legacy Selective Router Termination* (ATIS-0700015), which describes the handling of 911 calls by an IP Multimedia Subsystem (IMS) originating network, does not support direct routing of 911 calls from an IMS originating network to a PSAP. ATIS-0700015 provides that 911 calls targeted for a Next Generation 911 (NG911) PSAP will be routed via an i3 ESInet with associated Next Generation 911 Core Services (NGCS). ATIS-0700015 does support the routing of a 911 call to a default destination in certain failure scenario ; however, such calls may still traverse an i3 ESInet/NGCS.

B. Non IP-Capable (i.e., Legacy) Originating Networks

The Commission seeks comment on 911 calls that originate on non-IP wireline networks and explains that its proposed rule would not require TDM-based carriers to originate 911 calls in IP-based format on their own networks but would require such calls to be converted to IP-based format for delivery to the ESInet or other designated point(s) once a 911 authority has made a valid request to receive IP-formatted calls.[3] ATIS strongly opposes any requirement that would force non IP-capable networks already connected to LNGs to interconnect with new gateways and notes that there is no benefit to such a requirement. ATIS also does not believe that

[2] *NPRM* at ¶28, ¶30.
[3] *NPRM* at ¶25.

the use of IP transport for 911 calls will necessarily introduce any new features and notes that, for legacy originating networks, there are no enhanced features (e.g., text, video) available. It is ATIS' understanding that there will be additional cost, complexity, and time associated with providing and validating associated location information to the LNG for non-IP capable providers. ATIS urges the Commission to adopt the *Kings County* definition of location information "in a usable form to the E911 Network so as to ensure that their customers have access to enhanced 911 services."[4]

C. Scope and Concept of "PSAP Readiness" Require Further Clarification

In the *NPRM*, the Commission describes the transition to NG911 architecture, noting that PSAPs "receive incoming calls by means of ESInets, which are IP-based networks that replace the selective routers and telephone trunk lines used in legacy 911."[5] ATIS believes that the description of the NG911 architecture provided in the *NPRM* fails to acknowledge the use of Legacy PSAP Gateways during transition to NG911.

While the *NPRM* does acknowledge the presence of Legacy Network Gateways in the transition to NG911,[6] it does not acknowledge the use of Legacy PSAP Gateways. Legacy PSAP Gateways reside between an ESInet/NGCS and a legacy PSAP. Legacy PSAP Gateways convert incoming IP-based/SIP signaling to MF signaling to support call delivery to legacy PSAPs. The Legacy PSAP Gateway takes location and other additional information delivered in NG911 format by an ESInet/NGCS and delivers it to legacy PSAPs over a legacy Automatic Location Identification (ALI) interface. A transitional element referred to as a Legacy Selective Router Gateway may also exist between an ESInet/NGCS and a legacy PSAP that is still served by a

[4] NPRM at ¶34.
[5] *NPRM* at ¶16.
[6] *NPRM* at ¶17.

legacy Selective Router. A Legacy Selective Router Gateway supports an IP/SIP interface toward the ESInet, and a Signaling System Number 7 interface toward the Selective Router to support 911 call delivery. The Legacy Selective Router Gateway also supports data delivery to legacy ALI systems in response to location requests using the same type of interface that an ALI system would use to interact with a Mobile Positioning Center/Gateway Mobile Location Center in a legacy wireless network. ATIS believes that the Commission should acknowledge the use of Legacy PSAP Gateways and consider PSAPs that are connected to ESInets via Legacy PSAP Gateways or Legacy Selective Router Gateways as "NG911 ready" for the purposes of requesting NG911 call delivery services in IP-based format. In other words, not all PSAPs connected to an ESInet need be NG911-capable in order for a 911 Authority to request IP/NG911 interconnection.

ATIS believes that, when certifying that it is technically ready, a 911 authority should be required to demonstrate that PSAP call handling equipment in their jurisdiction is capable of accepting and processing 911 calls that are routed via an ESInet. This is consistent with Communications Security, Reliability, and Interoperability (CSRIC) Best Practice13-9-3243, which explains that "Service Providers, Network Operators, and Public Safety should coordinate and perform necessary testing of all new call paths between their network and the emergency services network (e.g., Selective Routers, or the Emergency Services IP Network (ESInet)) that includes a test call using all routing elements." Should the demonstration of readiness be insufficient to show that the 911 authority is prepared, service providers should have no obligation to deliver 911 calls to the 911 authority in IP-based format.

ATIS notes that there is ongoing activity within ATIS to support the NG911 transition. ATIS is working to document processes that address the prerequisites that must be met before a

request for IP/NG911 connectivity services can be made by a PSAP/911 Authority, and the steps involved in making such a request from an Originating Service Provider. The output of this effort is expected to include readiness checklists and guidelines for PSAPs/911 Authorities to request NG911 connectivity from wireline, CMRS, interconnected VoIP, Internet-based TRS providers, and covered text providers.

D. Terminology Needs Further Clarification

The Commission seeks comment in the *NPRM* on key terms, including: "NG911-compatible IP-based communications,"[7] "IP-formatted calls and accompanying call set-up and location information,"[8] and "delivery of 911 calls in IP-based format."[9] The *NPRM* also discusses the use of the terms "IP-capable" vs. "NG911-capable" in the context of readiness determination.[10] ATIS believes that clarification is needed regarding the signaling content and format associated with 911 call delivery in the context of NG911.

ATIS notes that a 911 call may be delivered using IP transport, where legacy location information (e.g., an Emergency Service Routing Key [ESRK]) is delivered using SIP headers. While this can be described as a 911 call delivered in "IP-based format," such a call does not include location information in a form that can be used by standard NG911 mechanisms to route the 911 call (e.g., a civic address or geodetic coordinates), and should therefore not be viewed as an example of "NG911-compatible IP-based communications."

ATIS recommends that the Commission define, for the purposes of this *NPRM*, the term "IP-based" to mean the use of NG911 compatible signaling and protocols as defined in

[7] *NPRM* at ¶21.
[8] *NPRM* at ¶22.
[9] *NPRM* at ¶24.
[10] *NPRM* at ¶43.

commonly accepted industry standards.[11] The use of other variants of SIP-based protocols that do not conform to such standards should not be considered by the Commission to be "IP-based" in this context. ATIS notes that industry standards recognize that some calls will originate in TDM format.

E. Implementation Timeframe

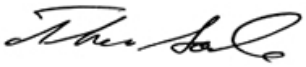
For wireline, CMRS, and interconnected VoIP providers to deliver 911 calls in IP format, the Commission proposes an implementation timeline of six months from the effective date of the IP service delivery requirement, or six months after a valid request for IP-based service by a state or local 911 authority, whichever is later.[12] ATIS believes that six months is an insufficient timeframe to implement functional enhancements (e.g., the introduction of new Legacy Network Gateways in service provider networks) or the proposed circuit changes. Instead, ATIS suggests that, with regard to circuit changes, the Commission require only that circuits be ordered and in the process of being installed, within six months. Where implementation of new Legacy Network Gateways and support of associated location data (replacing legacy ALI systems) is required, an implementation timeline of eighteen months should be allowed. ATIS also urges the Commission to consider that supply chain issues may make it difficult for service providers to deliver 911 calls in an IP format by the proposed six-month deadline. The Commission should allow service providers that are unable to complete implementation within six months due to supply chain issues to receive a waiver of the six month deadline.

[11] ATIS Standard for Implementation of 3GPP Common IMS Emergency Procedures for IMS Origination & ESInet/Legacy Selective Router Termination (ATIS-0700015.v005), ATIS Standard for Implementation of an IMS-based NG9-1-1 Service Architecture (ATIS-0500032v.002), NENA Detailed Functional and Interface Standards for the NENA i3 Solution (NENA-STA-010).
[12] *NPRM* at ¶45.

III. CONCLUSION

ATIS appreciates the opportunity to provide its input to the *NPRM* and urges the Commission to consider the recommendations above.

Respectfully submitted,



Thomas Goode
General Counsel
Alliance for Telecommunications Industry Solutions
1200 G Street, NW
Suite 500
Washington, DC 20005
(202) 628-6380

August 9, 2023