

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems)	PS Docket No. 17-239
)	

COMMENTS OF VERIZON

Verizon supports the Commission’s efforts to address the critical emergency calling needs of users of enterprise communications systems. The *NOI* is the next logical step in solving problems related to direct 911 dialing from hotels, office buildings, and other multi-tenant buildings.¹ As Chairman Pai has championed, public safety demands that people be able to dial 911 without a prefix. We agree, and that’s why Verizon leads in this area and has already taken voluntary measures to ensure that its legacy multi-line telephone system facilities and services support direct 911 dialing and enhanced 911 capabilities. And we already work with customers and business partners to ensure that the IP-enabled enterprise systems for which Verizon provides the underlying telecommunications or interconnected VoIP services do the same.²

¹ See *Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems*, Notice of Inquiry, PS Docket No. 17-239, FCC 17-125 (rel. Sept. 26, 2017) (“*NOI*”); News Release, *Statement of FCC Commissioner Ajit Pai Regarding Direct 911 Dialing* (Sept. 8, 2014) (commending Marriott International’s efforts to implement direct 911 dialing in its U.S. hotels); News Release, *Statement of FCC Commissioner Ajit Pai on the Importance of Connecting Americans to Emergency Personnel Whenever They Dial 911* (Jan. 13, 2014).

² See Verizon News Release, *When dialing 9-1-1 doesn’t work and how Kari’s Law helps fix it*, July 18, 2017, at <http://www.verizon.com/about/news/when-dialing-9-1-1-doesnt-work-and-how-karis-law-helps-fix-it>.

But Verizon and other service providers are only a small and often secondary part of the equation. Communications technologies and players in the marketplace have changed dramatically from the Centrex and PBX systems that were the Commission's early focus,³ and the *NOI* correctly seeks information on the broader ecosystem of vendors, manufacturers, and enterprise customers, as well as service providers. Important policy changes, such as Kari's Law efforts at the state and Federal level,⁴ have helped shape Verizon's efforts, and could help achieve many of the *NOI*'s objectives independent of any regulatory action. By focusing on services and products interconnected to the public switched telephone network ("PSTN"), policymakers can meet the *NOI*'s important public safety objectives while continuing to foster innovation and diversity of IP-enabled service offerings for enterprise customers.

I. ENTERPRISE SYSTEM CONFIGURATIONS THAT PROVIDE END USERS WITH GENERAL CONNECTIVITY TO AND FROM THE PSTN SHOULD ENABLE DIRECT 911 DIALING AND E911 CAPABILITIES.

As a general policy matter, operators and vendors of enterprise communication systems ("ECS") that enable users to widely make and receive calls to and from the PSTN should support direct 911 dialing and E911 capabilities in conjunction with their products. Verizon already has voluntarily and substantially completed measures in its wireline territory to upgrade its systems for the legacy multi-line telephone system customers it supports through its Centrex and Managed IP PBX lines. As a result, calls placed by dialing either "9-9-1-1" or "9-1-1" from a Centrex or Managed IP PBX line will be routed directly to the PSAP.⁵ Verizon also makes 911

³ See *Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Notice of Proposed Rulemaking, 9 FCC Rcd 6170, ¶¶ 11-31 (1994).

⁴ See *NOI* ¶¶ 14-16.

⁵ See *supra* note 2.

and E911 capabilities available to enterprise system operators or vendors, or their customers, as a standard component of its VoIP trunking services. And we work closely with vendors and customers to ensure that 911 connectivity is cared for when providing users with an interconnected configuration.⁶

Consistent with Verizon's practices, as well as the Commission's prior conclusions, general connectivity to and from the PSTN should remain the touchstone for ECS operators' and consumers' 911 expectations.⁷ Flexibility is needed, though, when those expectations reasonably do not exist. Customers' and end users' dialing expectations vary considerably for enterprise IP-based private networks, which reflect a wide variety of service and network configurations. They may include a single building, different buildings of the same company in different geographic areas, a campus environment, multiple home offices, or combinations of any of the above with varying degrees of each. For example, a company with offices in different states could set up a private system to allow employees to communicate with each other with instant messaging and calling and other IP-enabled functions. Such a system could be designed to let employees use a separate VoIP product/service or a stand-alone telecommunications service to communicate with the PSTN to reach outside destinations. In that situation, 911 dialing would be expected when the employees use the latter service, not when they use the internal, private IP-based system.

⁶ There also is potential for ECS technologies to leverage the NEAD or a similar 911 call location method, though in the near term industry will need to focus on the NEAD's principal wireless 911 purpose. *See NOI* ¶ 31.

⁷ *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 25340, ¶ 51 (2003); *see also* 47 C.F.R. §§ 9.5, 20.18(a) (applying basic and enhanced 911 requirements to fully interconnected VoIP and wireless services).

Any new industry practices or government policies should preserve enterprise customers' ability to configure their voice services in a manner that best fits their business needs.

Maintaining the traditional distinction between interconnected and predominantly closed or private systems with only limited or no PSTN connectivity, will help achieve that goal while also meeting users' reasonable expectations for emergency services. The key will be to ensure that voice users have the ability to dial 911 directly from any system that connects to the PSTN, and that system operators inform users of dialing options when, for example, a closed system is offered side-by-side with a fully-interconnected stand-alone service that connects to the PSTN.

II. ENTERPRISE CUSTOMERS AND THEIR VENDORS WILL DRIVE THE ADOPTION OF FULLY 911- AND E911-CAPABLE ECS PRODUCTS.

Today's marketplace is fundamentally different than the legacy multi-line telephone system marketplace, when Centrex and other systems were viewed as associated with regulated common carrier service offerings. Like much of today's communications marketplace, IP-enabled enterprise system products are more software-, equipment- and cloud-based. IP-enabled systems in particular give enterprise system operators and business customers considerable flexibility and options in configuring a system's dialing and routing capabilities. Interconnected VoIP and telecommunications service providers generally play more of a secondary or incidental role in this marketplace, with limited or no input into a system's design or enhanced capabilities. Any Commission or legislators' actions to address 911-related capabilities thus should consider the primary role of new players in the enterprise system ecosystem.

The guiding principle in this new environment should be to focus on the entity or entities designing and controlling 911 call routing and delivery. The business relationships between the service provider and system operator or vendor in these arrangements can vary. In some cases the service provider and the system operator or vendor will each have a direct relationship with

an enterprise customer. In other cases the service provider may be a subcontractor to the system operator, and only provide certain components of the service (such as MPLS circuits for transport or other trunking services), with limited or no say in the design or configuration of the product. Or the reverse may be true – i.e., the enterprise system operator is a subcontractor of the service provider, and the service provider maintains the direct contractual relationship with the customer. But, in any event, new standards, rules or other policy measures would only achieve the *NOI*'s policy objectives if applied to the relevant entity or entities in an arrangement that determine and control 911 routing or call delivery; in many cases now in the enterprise communications space, that will not include regulated service providers.

Finally, 911 connectivity may entail certain costs and duties for enterprise vendors and their customers. Given the important public safety interests involved, players in the ECS ecosystem should account for these costs and duties when designing and implementing these systems. For example, as the Commission noted, IP-enabled networks may be connected to the PSTN via an interconnected VoIP or telecommunications provider's stand-alone service.⁸ Establishing the necessary 911 call routing and E911 ANI and location delivery capabilities can entail vendor- and service-related costs beyond what is needed to maintain a purely private IP network or to merely route non-911 calls to and from the PSTN. In addition, interconnected VoIP and telecommunications service providers often will not have a direct contractual relationship with an enterprise system's end users, so service providers may be dependent on the enterprise customer itself to notify end users of any relevant service limitations.

⁸ See *NOI* ¶ 4 n.6.

III. CONCLUSION.

The Commission should be commended for its continuing focus to ensure that end users are able to directly dial 911 from multi-tenant buildings. Efforts to address end users' reasonable expectations for emergency calling should (1) remain focused on enterprise system products that are fully interconnected to the PSTN to preserve innovation and flexibility, and (2) account for the broad variety of product configurations and business relationships in today's more complex enterprise services ecosystem. In the meantime, the Commission and other stakeholders should continue to support Kari's Law and to encourage the types of measures that Verizon has already undertaken to facilitate direct 911 dialing from Centrex and Managed IP PBX lines.

Respectfully submitted,

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