

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules	)	GN Docket No. 11-117
	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-144
	)	
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196
	)	

**COMMENTS OF THE VOICE ON THE NET COALITION**

VOICE ON THE NET COALITION  
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## **SUMMARY**

The VON Coalition has taken a longstanding and active role in the development of 911 policies and capabilities for interconnected VoIP technologies. It applauds the Commission's recent efforts to expedite transition to an IP-compatible Next Generation 911. Extending the current E911 requirements to one-way VoIP or other IP-enabled products and services, however, is both unadvisable and unfeasible.

The Commission's current threshold for requiring interconnected VoIP services to be 911 capable – that those services are functional replacements for traditional telephone service – has proved to be a workable standard on which consumers, providers, and other industry actors reasonably rely. The Commission should not alter this standard, and certainly should not use this proceeding as a forum to amend the definition of Interconnected VoIP contained in Section 9.3.

Nor should the Commission adopt any automatic location information or location accuracy principles at this time. Instead, the Commission should continue to encourage innovation in the development of IP-enabled voice communications and in the provision of emergency services.

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**COMMENTS OF THE VOICE ON THE NET COALITION**

The Voice on the Net Coalition (VON)<sup>1</sup> hereby submits these comments in response to the Second Further Notice of Proposed Rulemaking (NPRM) in the above-referenced proceeding.<sup>2</sup> The VON Coalition and its members are proud to be leaders in providing IP-enabled services and applications to consumers. VON recognizes that emergency services are of vital importance to consumers, and that the successful, continued build-out of Internet Protocol (IP) networks must include emergency capabilities. With this spirit, the VON Coalition and its members worked to provide E911 functionality to subscribers, both before and after adoption of the E911 requirements for interconnected VoIP providers.<sup>3</sup>

The VON Coalition believes it is important to integrate VoIP applications and emergency services, and thus supports efforts toward building an IP-compatible Next Generation 911 system

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<sup>1</sup> The VON Coalition works to advance regulatory policies that enable Americans to take advantage of the promise and potential of IP enabled communications. Its members – including AT&T, Broadvox, BT, Google, iBasis, Microsoft, Nextiva, Skype, T-Mobile, Vonage, and Yahoo – are developing and delivering voice and other communications applications that may be used over the internet.

<sup>2</sup> In the Matter of Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission’s Rules, *et al.*, *Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking*, 26 FCC Rcd 10074 (Jul. 31, 2011) (“NPRM”); Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers, 76 Fed. Reg. 47114 (Aug. 4, 2011).

<sup>3</sup> See In the Matters of IP-Enabled Services, *et al.*, *First Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 10245, ¶ 23 (2005) (*2005 Order*).

(NG911).<sup>4</sup> However, extending the current E911 requirements to what the Commission refers to as “one-way interconnected” VoIP or other IP enabled services as proposed in the NPRM is contrary to reasonable user expectations and the goal of expediting a transition to NG911.

The Commission’s current rules have resulted in a successful construct for the delivery of emergency services by Interconnected VoIP providers that offer a replacement for traditional phone service. Extension of the E911 obligations to one-way VoIP providers where there is no reasonable consumer expectation of 911 capability, or reliable technology to establish consumer trust in the capability, creates an unworkable regulatory construct. The Commission should not depart from the tried and true standard for subjecting a communications service to 911 requirements – whether that service effectively replaces traditional telephone service – and impose obligations on one-way VoIP providers that they may not be capable of meeting.

If, after a careful consideration of the record, the Commission determines that it must subject non-interconnected VoIP services to E911 requirements, the Commission should not attempt to capture the expansion by amending Section 9.3 of the Commission’s rules. The Commission could better reach its objectives by instead modifying the 911 rules themselves. Any modification to Section 9.3 would have far-reaching implications. As such, the Commission is obligated to thoroughly address these implications in a separate proceeding considering each and every regulatory obligation that relies on the definition of Interconnected VoIP.

Moreover, the VON Coalition agrees with the Commission’s observation that an automatic location information requirement for interconnected VoIP services is also inappropriate at this time, due to technical difficulties with obtaining accurate location

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<sup>4</sup> In the Matter of Framework for Next Generation 911 Deployment, *Notice of Proposed Rulemaking*, FCC 11-134 (Sep. 22, 2011).

information for one-way VoIP users. There are still many technical impediments to leveraging Wi-Fi positioning and commercial locations services for emergency purposes. For these reasons, the Commission should not seek to utilize these applications in the 911 context, and should not adopt governing principles for automatic location information or location accuracy until the industry makes further progress in developing solutions for location identification.

The Commission should, however, continue to promote the public safety by engaging in, and encouraging service providers to engage in, public education about limitations on 911 services. It should also continue supporting efforts to develop NG911,<sup>5</sup> from which subscribers to both legacy and IP-enabled telecommunications services will benefit greatly.

**I. The Commission Should Not Subject One-way VoIP Services to E911 Rules Because Those Services Are Not Replacements for “Regular” Telephone Services And Cannot Feasibly Comply With E911 Requirements.**

A. The Commission should not impose E911 requirements on VoIP services that do not replace traditional telephone services because it would cloud a clear and relied upon regulatory framework and deter innovation.

A key factor on which the Commission has relied in determining if it should apply 911 requirements to a particular service is whether that service is a functional replacement for traditional telephone service.<sup>6</sup> This principle has served as a workable and reliable standard for extending 911 requirements, and should not be abandoned in this proceeding. In its initial order

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<sup>5</sup> See PS Docket No. 10-255; see also Comments of the Voice on the Net Coalition (Feb. 28, 2011) in response to Framework for Next Generation 911 Deployment, *Notice of Inquiry*, FCC 10-200 (Dec. 21, 2010).

<sup>6</sup> See In the Matters of IP-Enabled Services, *et al.*, *First Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd 10245, ¶ 23 (2005) (“2005 Order”) (“The record clearly indicates, however, that consumers expect that VoIP services that are interconnected with the PSTN will function in some ways like a ‘regular telephone’ service. As least regarding the ability to provide access to emergency services by dialing 911, we find these expectations to be reasonable.”) See In the Matter of Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, *et al.*, *Report and Order and Second Further Notice of Proposed Rulemaking*, 18 FCC Rcd 25340, ¶ 18 (2003) (analyzing whether services should be subject to the E911 rules primarily based on “whether: 1) it offers real-time, two-way voice service that is interconnected to the public switched network on either a stand-alone basis or packaged with other telecommunications services; 2) the customers using the service or device have a reasonable expectation of access to 911 and E911 services; 3) the service competes with traditional CMRS or wireline local exchange service; and 4) it is technically and operationally feasible for the service or device to support E911.”)

regarding VoIP E911 regulation, the Commission reasoned that where a service acts as a substitute for traditional telephone service, consumers may reasonably expect that they can call for emergency assistance.<sup>7</sup> Using this principle, in the 2005 proceeding the Commission wisely established clear definitional boundaries that have themselves created explicit, and now well settled, consumer expectations about what types of products and services are replacements for traditional telephone service, while also facilitating investment and innovation in complementary and incidental VoIP services.

In this current NPRM, the Commission notes that the number of VoIP subscribers has flourished since 2005, when it used this “regular telephone” criterion to determine that interconnected VoIP services, as defined in Section 9.3, must meet E911 requirements.<sup>8</sup> But growing *demand* for one-way VoIP service is different than changing *characteristics* or reasonable consumer expectations of those services and does not mean that consumers perceive those services as a replacement for their telephone service. Consumers can have expectations for one-way VoIP offerings that are different from their expectations for existing telephone service. Today consumers are more likely to purchase and use one-way VoIP services for purposes such as lowering their international calling costs or for click to call from websites, than to replace their wireline and mobile telephones. In fact, the rapid adoption of one-way VoIP products suggests *not* that consumers expect these products to act like a phone service, but rather that non-PSTN features such as video calling, presence, instant messaging and screen sharing provide a compelling reason to use these innovative services as a complement or incidental to, rather than as a replacement for, traditional phone service.

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<sup>7</sup> See 2005 Order at ¶ 23.

<sup>8</sup> See NPRM at ¶¶ 45-47 (noting that the number of subscribers to “one-way” interconnected VoIP services today is larger than the number of subscribers to two-way interconnected VoIP subscribers in 2005).

The distinction is important because both service providers and the public benefit from clearly established standards for determining the scope of E911 requirements. Service providers can build better and more precise mechanisms for 911 compliance when the criteria for regulatory decision-making are clear and consistent.

Equally, if not more important, consumers who elect to utilize any IP-enabled services other than two-way interconnected VoIP services are not left speculating which of those services are 911 capable, and which are not. When there are multiple communications options, consumers must not have any confusion about which of their communications options is the best means of reaching emergency assistance. In the six years since the FCC established the clear definition of Interconnected VoIP services and mandated these services be 911 capable, consumers have come to rely on that definition and boundary to help them make their purchasing decisions. The Commission should not underestimate the extent of consumer confusion that will occur if it blurs the line between those products and services offer emergency calling capabilities and those that do not.

The VON Coalition urges the Commission to promote consumer education instead of straying from the useful standard of whether a service acts as a replacement for traditional telephone service and expanding its E911 requirements. Consumer awareness and understanding of emergency capabilities is of utmost importance in promoting the safety of life and property. The VON Coalition commends the Commission on its decision in 2005 to require all interconnected VoIP providers to clearly inform their customers about power and back up battery limitations associated with their service. Moreover, as a result of the Commission's notification requirements of interconnected VoIP providers, non-interconnected VoIP providers have developed self-governance practices for providing clear and conspicuous notice that the services

are not a replacement for telephone service and cannot be used to dial 911. Following the success of these notice provisions, which empower consumers to make informed choices about their communications service, the FCC should work with service providers to inform consumers about limitations of E911 capabilities in VoIP services,<sup>9</sup> and instruct consumers which voice services may be used to access emergency assistance.<sup>10</sup>

Finally, the Commission should recognize that the market for IP communications continues to develop and that the decisions it makes in this proceeding should promote, not stifle, investment, innovation and development. Proscriptive rules capturing innovative one-way VoIP products ultimately could cause more harm than good for all consumers and create precedent for actions by other countries.<sup>11</sup>

There is a real risk to innovation if the Commission concludes that mere inclusion of an incidental voice communications capability or consumer adoption of VoIP applications to complement their traditional voice services triggers 911 obligations on these innovative applications, products and services. New, burdensome regulations on one-way VoIP providers would create a disincentive for manufacturers, software developers, and application providers – many of whom are not otherwise subject to Commission jurisdiction – to add voice capability to emerging services and applications that were designed for purposes and market segments other

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<sup>9</sup> Members of the VON Coalition strive to make consumers aware of 911 limitations to their services and encourage them to have alternative means for accessing 911. For example, Skype reminds its Skype-out consumers, in bold font: “**No emergency calls with Skype**[.] Skype is not a replacement for your telephone and can’t be used for emergency calling”. See <http://www.skype.com/intl/en-us/features/allfeatures/call-phones-and-mobiles/> (last visited Oct. 1, 2011). AT&T’s U-verse service has a separate web page to address 911 services, which contains both narrative explaining the difference between 911 service for U-verse customers and traditional telephone customers, limitations on emergency capabilities, and a brief chart comparing 911 Service for AT&T U-verse with traditional wireline telephone service. See <http://www.att.com/u-verse/explore/911.jsp> (last visited Oct. 1, 2011).

<sup>10</sup> Preferably a wireline or mobile telephone service, if one is available.

<sup>11</sup> See, e.g., Report for Ofcom: Assessment of VoIP location capabilities to support emergency services, Analysys Mason, Jun. 28, 2011 (looking to the actions of NENA and the FCC for guidance about whether and how best to make VoIP services emergency capable in the United Kingdom).

than serving as a functional substitute for telephone services. As a result, the Commission should not encourage consumers to rely on their portable VoIP service or application for 911 calls, confusing consumers' expectations. Rather, the Commission should reinforce consumers' expectations by maintaining the clear definitions associated with providers who currently deliver emergency service connectivity: wireline, wireless and interconnected VoIP providers.

- B. The Commission should not impose E911 requirements on one-way VoIP services because compliance is unfeasible and diverts resources away from development of and efficient transition to NG911.

Even if the Commission were to determine that market changes and reasonable consumer expectations required an expansion of its E911 requirements beyond two-way, interconnected VoIP, technological challenges hinder that goal. As the VON Coalition details below, gathering location data and ensuring location accuracy is a particular impediment to enabling E911 capabilities. But imprecise location technologies are not the only challenge to enabling emergency capabilities in VoIP services.

The Commission asks about the “feasibility of extending the Commission’s existing 911 requirements to outbound-only interconnected VoIP service providers” and the ability of those providers to “support callback capability,” citing Skype’s caller ID feature as an example of such mechanisms.<sup>12</sup> It is unreasonable to assume that call-back solutions that work for interconnected VoIP providers will work equally well for one-way VoIP providers. And existence of caller ID features, offered to consumers as a feature to improve their communications experience do not provide a compelling reason for the Commission to require one-way VoIP providers to offer E911 capabilities.

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<sup>12</sup> See NPRM at ¶ 52, note 138.

The Commission's citation to Skype's caller ID feature is misleading and offers no compelling justification for the imposition of E911 obligations on one-way VoIP providers. Because outbound-only VoIP products, i.e. VoIP calls that originate on the Internet rather than the PSTN, do not require e.164 numbers for call routing purposes, they do not have a traditional caller ID number associated with them. If the Commission required one-way VoIP providers to assign a phone number for emergency purposes, the assigned number would be artificial and have no real relationship to the location of the user.

For example, in the United States, users of Skype's caller ID feature can choose to associate their mobile phone with their outgoing Skype calls. The purpose of the caller ID features is to enable the caller to identify him or herself to the called party, not to identify the location of the party. As a product that is used primarily for international calling, a Skype user is just as likely to be initiating a call from somewhere in the United States to a landline or mobile in London as he is to be calling from India back home to the United States. The caller ID merely notifies the called party who is calling. A call back from an emergency service provider to the mobile phone number provided as caller ID would simply go to the mobile phone – which already offers emergency calling capabilities. It would be difficult for the FCC to justify layering additional regulation on the one-way VoIP provider just because the VoIP provider offers its users the caller ID feature.

Additionally, extending current E911 requirements will divert investment away from innovation in communications services and from forward-thinking adaptations of the 911 system. The VON Coalition supports the Commission's objective of expediting a transition to NG911 infrastructure. By requiring one-way VoIP providers to retrofit their software and core technology to be compatible with the current emergency services infrastructure, VoIP providers,

911 solutions providers, as well as emergency services providers, will be diverting resources from, thereby delaying transition to, NG911. The Commission should refrain from expanding VoIP 911 regulation and instead promote the use of available resources to further those innovations.

**II. If The Commission Chooses to Expand E911 Requirements For VoIP Providers, It Should Not Do So By Amending Section 9.3.**

If the Commission chooses to broaden the scope of its E911 requirements notwithstanding the lack of reasonable consumer expectations and the possible harm resulting from confusion in the marketplace, the VON Coalition recommends that the Commission not change the definition of interconnected VoIP in Section 9.3. As referenced in the NPRM, amending Section 9.3 would not affect this proceeding alone.<sup>13</sup> It would implicate other FCC rules, as well as potentially state regulations, that reference Section 9.3, thereby changing the scope of numerous regulations that have relied on the existing definition in Section 9.3, without consideration of the significant negative impact such a change would have on VoIP providers and consumers.

Changing Section 9.3 to broaden the scope of the Commission's E911 requirements also lumps all of the services newly subject to the E911 requirements into the category of "interconnected VoIP," even where that label may not be appropriate. If the Commission chooses to subject a new class or classes of VoIP services to its E911 requirements, it should do so by specifying the types of services that are covered by this proceeding. Amending Section 9.3 is a decision that extends well beyond the Commission's E911 requirements and touches upon many of the Commission's constituents. It should not be executed as a tangent to this proceeding.

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<sup>13</sup> See NPRM at ¶ 101; see also 47 C.F.R. §§ 1.47, 6.1, 6.3(e), 12.3, 43.11, 52.12, 52.13, 52.17, 52.21(h), 52.32, 52.33, 52.34, 52.35(e)(1), 52.36(d), 54.5, 54.706, 54.708, 63.60, 64.2003, 64.2005.

### **III. Adoption of Automatic Location Information Standards, Including Governing Principles for Location Accuracy, Is Still Premature.**

- A. The Commission acts wisely in declining to impose automatic location requirements on interconnected VoIP services at this time, and should be wary of leveraging Wi-Fi positioning or commercial location services, because of ongoing technical challenges.

As the VON Coalition has detailed in previous filings,<sup>14</sup> one of the ongoing challenges to making VoIP services 911-capable is that there are many technological and systemic impediments to enabling automatic location information (“ALI”) in portable, interconnected VoIP applications. Most of these VoIP applications have no built-in ability to provide location information. Moreover outside methods for determining a VoIP user’s location have significant barriers to the fluid provision of emergency services.

The Commission seeks comment on whether Wi-Fi positioning or commercial location services can be leveraged to provide location data to emergency responders.<sup>15</sup> Unfortunately, neither can guarantee accurate location data. Both methods are vulnerable to imprecision for several reasons. In the case of Wi-Fi positioning, for example, a user may remain connected to a Wi-Fi “hot spot” even though he has left the civic address associated with the “hot spot.” Or if a user is indoors, interference to signal propagation caused by internal architecture may make pinpointing a person’s indoor location impossible. Similarly, a user may be connected to a WLAN or other network with multiple access points spanning a large facility, and decoding the exact location of the access point to which the user is connected is impracticable.

Even when location data obtained from Wi-Fi positioning or commercial location services is accurate, the data cannot always be provided in a form that PSAPs are capable of deciphering for the purposes of speedy emergency response. A commercial location service used

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<sup>14</sup> See Comments of the Voice on the Net Coalition, PS Docket No. 07-114, WC Docket No. 05-196 (Jan. 19, 2011) (detailing technical and operational obstacles to providing automatic location information on portable VoIP 911 calls).

<sup>15</sup> See NPRM at ¶¶ 78-80, 89-93.

to locate a 911-caller may not be equipped to provide a civic address that cross-checks the Master Street Address Guide (“MSAG”) in use by the PSAP. Or the application may not be capable of providing a civic address at all. These are all common problems that caution against relying on Wi-Fi positioning or commercial location services to gather location data and further public safety.

Having a 911 system that can accurately identify the locations of callers using both legacy and IP networks, and that can swiftly validate callers’ locations with the PSAP, is becoming increasingly important to facilitating emergency responses and promoting safety. But trying to manipulate Wi-Fi positioning and commercial location applications into the current E911 framework – a mold in which they do not fit – will not provide benefits to the public commensurate with the costs of adapting these technologies. The Commission can better promote the protection of life, health, and property by encouraging investment in and development of NG911 capabilities.

- B. The Commission should not adopt location accuracy “governing principles” because freedom from such guidelines will best allow the industry to create new and effective location mechanisms.

Adoption of governing principles for location accuracy is premature because industry actors are still working to develop new location technologies and to build out a NG911 system that can better ensure location accuracy. Creating governing principles today may inhibit these future innovations by forcing the development of location capabilities in a direction that is not necessarily the most beneficial to consumers or the most efficient for VoIP and emergency service providers. Instead of hastening to adopt governing principles, the Commission should encourage industry innovation with respect to location technologies and promote the cooperative development of industry standards.

#### **IV. Conclusion**

The VON Coalition looks forward to the implementation of an IP-compatible, next-generation 911 system. The Commission should continue to promote progress toward this end rather than diverting resources toward requiring one-way VoIP providers to become backward compatible with the current emergency services infrastructure. In the meantime, the Commission should focus its efforts on enforcement of the current 911 obligations and education of consumers about 911 capabilities and limitations, and act in accordance with the recommendations herein.

Respectfully submitted,

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