

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 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. 07-114
)	
E911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196
)	

**COMMENTS OF CENTURYLINK
TO THE SECOND FURTHER NOTICE OF PROPOSED RULEMAKING**

**I. INTRODUCTION: AUTOMATIC LOCATION FUNCTIONALITY
REMAINS UNDEFINED WITH RESPECT TO VOIP TECHNOLOGY.**

CenturyLink supports the Commission's public safety objectives to provide consumers and Public Safety Answering Points (PSAP) with the most accurate address location information (or ALI) technologically and economically possible. Within a VoIP environment, industry and regulators agree that – currently – the technology does not support dynamic delivery of ALI.¹ The challenge of achieving such delivery is formidable in that it requires the involvement and participation of multiple service providers, various equipment and software manufacturers, and almost unlimited access points where 911 calling might be initiated. Meeting this challenge successfully requires subject matter expertise and personal collaboration.

¹ See *In the Matter of Amending the Definition of Interconnected VoIP Service in Section 9.3 of the Commission's Rules; Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers*, FCC 11-107, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196 ¶¶ 64, 70 (*Second Further Notice*, or where applicable, *Third Report and Order*).

Accordingly, CenturyLink continues to believe that the best way to achieve the Commission's objectives is through the convening of a cross-sectional group of subject matter experts to assess the current state of technology, with a goal of plotting a reasonable, achievable course to a more robust delivery of automatic location information to PSAPs. That group, in turn, should collaborate with a larger coalition of experts that include regulators, consumer advocates, and public safety professionals.

In line with this proposal, CenturyLink was pleased that the Commission has charged the Communications Security, Reliability, and Interoperability Council ("a Federal Advisory Committee . . . tasked with providing guidance and expertise on the nation's communications infrastructure and public safety communications")² with a more robust and important role in addressing and driving to resolution difficult issues associated with the dynamic delivery of ALI in a VoIP and broadband environment. CenturyLink encourages the Commission to pursue the earlier recommendations made by CSRIC's Working Group 4C, including

that the FCC should: establish an E9-1-1 Technical Advisory Group to address specific location technology issues for 911, such as how to improve location accuracy in challenging environments, including indoor settings; actively engage in discussion on how to implement 911 auto-location for nomadic VoIP services; and consider extending E911 and location obligations to providers of over-the-top VoIP applications that are not subject to the FCC's interconnected VoIP regulations.³

² *Id.* ¶ 12 (footnote omitted). CenturyLink's Chief Executive Officer Glen Post proudly assumed the Chairmanship of this Council in August of this year. Mr. Post was also recently named by the President to serve on the National Security Telecommunications Advisory Committee, which includes up to 30 top executives from major U.S. telecom, aerospace, and IT companies. The Committee provides advice on the reliability and availability of U.S. communications systems, including cybersecurity and emergency communications.

³ *Id.* The CSRIC Working Group 4C has been "responsible for examining E911 and public safety location technologies currently in use, identifying current performance and limitations for use in next generation public safety applications, examining emerging E911 public safety location technologies, and recommending options to CSRIC for the improvement of E911 location accuracy timelines." *Id.* (footnote omitted).

Below, CenturyLink focuses on the issues raised in Section IV.B of the *Second Further Notice* dealing with the delivery of ALI information in a VoIP context. With respect to Item IV.A, *i.e.*, the need to apply E911 rules to outbound-only interconnected VoIP service providers, CenturyLink's position remains that the Commission should be guided by customer expectations in addressing this issue.⁴ Others share that position.⁵ In those circumstances where a product or technology resembles that of existing market offerings that incorporate 911 calling, a customer's expectation is most likely that 911 calling would be an inherent aspect of the offering. On the other hand, in those situations where a reasonable consumer would not expect the product/service they are using to have a 911-call capability, there should not be an obligation to incorporate such functionality regardless of the market expectation.

II. INDUSTRY EXPERTISE, IN COLLABORATION WITH REGULATORS AND CONSUMER REPRESENTATIVES, IS A CRITICAL PREDICATE TO DEFINING DYNAMIC ALI DELIVERY IN A VOIP ENVIRONMENT AND ASSURING A SOUND COST/BENEFIT ANALYSIS.

A. Currently There Is No Known Technical Mechanism For Dynamic ALI Delivery In A VoIP Context.

With respect to the second issue raised in the *Second Further Notice*, Section IV.B., "Automatic Location Requirements for Interconnected VoIP Services," industry members as well as the Commission acknowledge that there currently is no technology that can dynamically provide ALI in a mobile VoIP environment.⁶ Given the existing marriage of wireline

⁴ See Comments of Qwest Communications Corporation (QCC), WC Docket Nos. 04-36 and 05-196, filed Aug. 15, 2005 at 2-4. (QCC is now indirectly wholly-owned by CenturyLink.)

⁵ See, *e.g.*, *Second Further Notice* ¶¶ 42-43, 48 (seeking additional comment on customer expectations), ¶ 61 (referencing various commentors' references to meeting customer expectations regarding outbound calling and 911 dialing).

⁶ *Id.* ¶ 64 ("commenters generally agree that at this time there is no technological or cost-effective means to provide ALI for interconnected VoIP service providers"), ¶ 70 (noting the "lack of presently available solutions" to dynamic ALI delivery in a VoIP environment).

architecture with VoIP broadband technology in the provisioning of 911, crafting a dynamic, automatic-address-location functionality is extraordinarily complex.⁷ Serious issues surrounding service provider/technology “contention,” for example, cannot be resolved absent agreement across industry sectors and providers.

Without establishing certain fundamental predicates such as standards (that require industry consensus) and defining interconnection and information-exchange functionalities, regulatory mandates imposing obligations on VoIP providers to dynamically provide ALI information to PSAPs is not reasonable or calculated to achieve the Commission’s long-term address-information accuracy objectives. And given the variety of service providers, customer devices, and access points, **multiple** industry standards likely will be necessary to achieve a seamless, successful 911-calling environment in mobile VoIP contexts.⁸ As AT&T has accurately stated:

the services encompassed within the Commission’s definition of interconnected VoIP service ‘operate over a myriad of portable devices and technologies that permit portability, including commercial mobile smartphones running VoIP applications, Wi-Fi enabled VoIP handsets, portable terminal adapters, USB dongles, PC-based softphones [and] VoIP users might access the Internet through traditional wired broadband connections, public or private wireless access points, or commercial mobile broadband networks [such that] each permutation of device and network access may have unique technical and logistical challenges, which makes it infeasible today to rely on a single standard or technology for determining and relaying accurate ALI to PSAPs.’⁹

⁷ *Id.* ¶ 64.

⁸ While the following comment was made in the context of the *Third Report and Order* and CMRS calling, it is equally relevant to the issue of automatic ALI delivery in a VoIP context: “TIA ‘encourages the Commission not to impose a single uniform standard for location accuracy rules[,]’ because ‘[m]andating a single standard for both network and device location accuracy will drive technological innovation and investment towards meeting such a standard, rather than developing location accuracy enhancements that go beyond any new requirements.’” *Third Report and Order* ¶ 15.

⁹ *Second Further Notice* ¶ 64.

While VoIP services can be mobile, it is not correct to argue (as some do) that VoIP providers can simply adopt the 911-ALI delivery functionalities employed today by CMRS providers.¹⁰ It remains to be seen whether creating a location-accuracy environment for all the new devices, with their myriad of VoIP calling possibilities, can be closely tracked to CMRS technology and its 911-calling regime. There are differences of opinion on the matter, particularly because such technology may share the same infirmities as CMRS location-tracking technology in certain circumstances (e.g., indoors or urban environments)¹¹ and may implicate regulation of broadband access points not generally considered subject to regulation.¹²

But the argument does reflect the idea that part of the solution to the dynamic delivery of ALI in a VoIP context is the critical role of “the device.” Incorporated into such calling device

¹⁰ See *id.* ¶ 67. It has long been conceivable that VoIP provided over CMRS technology might use the same location-tracking information as CMRS providers. See that suggestion in the *VoIP Location Accuracy NOI* ¶ 29. In the *Matter of Wireless E911 Location Accuracy Requirements; E911 Requirements for IP-Enabled Service Providers, Further Notice of Proposed Rulemaking and Notice of Inquiry*, 25 FCC Rcd 18957 (2010). But that circumstance might not apply to any other VoIP application or platform. And, as the Commission has observed, the propriety of “CMRS-like” treatment of nomadic VoIP is open to dispute. In earlier proceedings, the Commission noted that some filing parties supported the Commission’s notion that VoIP providers should be held to the same location-accuracy requirements as CMRS providers, at least when they were interconnecting through wireless technologies. *Id.* ¶ 28. But others, such as Nokia, argued that interconnected VoIP services “should not be subject to the Commission’s CMRS E911 location requirements without ensuring that time is taken to study location technologies that can be used when a wireless 911 call is made using VoIP, standards are developed for delivering location technology over the Internet when a wireless VoIP 911 call is made, and technologies to be utilized for location are tested and finally deployed.” *Id.*

¹¹ *Second Further Notice* ¶ 67 (referencing an AT&T argument).

¹² For example, Telecommunications Industry Association (TIA) earlier argued that ““if the FCC decides to impose similar location accuracy standards on interconnected VoIP providers that are applicable to CMRS services, the Commission would be forced to regulate the entity providing the broadband Internet connection (i.e. restaurants, coffee shops, hotels, municipalities, etc.)”” *VoIP Location Accuracy NOI* ¶ 28 and n. 74. And see *id.* ¶ 38 (asking if it should matter where a Wi-Fi connection is located – “in home, as opposed to a public hotspot, such as at a coffee shop, airport, bookstore, municipal park, etc?”). And compare *NextGen 911 Framework NOI* ¶¶ 50-53 (discussing “NG911 Participants”). See *In the Matter of Framework for Next Generation 911 Deployment, Notice of Inquiry*, 25 FCC Rcd 17869, 17886-88 (2010).

would be some type of location-tracking technology. In the world of mobile communication, devices are multiplying daily, suggesting a significant national investment in location-identification technology in VoIP calling environments (and likely other broadband offerings).

The development and deployment of much of this technology is and will continue to be driven by commercial market forces. And the Commission rightly notes, there is a good possibility that 911-calling accuracy can leverage consumer demands for ever-more sophisticated location-information and provider features.¹³ Accordingly, CenturyLink fully supports the Commission's direction to CSRIC to "explore and make recommendations on methodologies for leveraging commercial location-based services for 911 location determination."¹⁴ We look forward to reviewing and analyzing those recommendations.

B. Privacy Concerns Must Be Addressed In The Design, Development And Deployment Of Dynamic Delivery Of ALI In VoIP And Other Broadband Communications Services.

The Commission notes that the current CPNI statute provides heightened protection with regard to the release of such information by carriers and VoIP providers to third parties. With respect to location information, it is to be released only for purposes restricted to the delivery of emergency and related services.¹⁵ In that vein, the Commission asks whether the statutory provision could be read to allow for the sharing of location information between broadband providers and VoIP providers.

¹³ *Second Further Notice* ¶ 78 (noting that some commentors "argue that an industry advisory group would be able to provide an orderly and standards driven approach to leveraging commercial location-based service for use in providing location information for emergency calls").

¹⁴ *Id.* ¶ 79.

¹⁵ *Id.* ¶ 76.

While CenturyLink believes the Commission could devise a theory to accommodate such sharing, an additional privacy concern arises where ALI delivery is accomplished through a solution incorporated into a physical **device** (such as a GPS functionality). The device will likely capture millions and millions of bits of information about the location of persons moving about the country and abroad. At a minimum, such devices must have the capability to have the location-tracking function turned off, other than in the contexts of 911-calling. This functionality has been achieved in the CMRS world, so it is technologically possible.

But it is quite likely the case that many people do not affirmatively act to turn off their tracking functionality even today. If millions more devices begin capturing more and more and more information about individuals' whereabouts, there are serious privacy policy and legal implications that need sober study and consideration, particularly in the context of law enforcement access and use.

C. Federal Leadership Is Essential To Assure That Service Providers Recover Their Costs And Enjoy Returns On Their Investments, And That PSAPs Have Adequate Resources To Receive Dynamic ALI Delivery Before It Is Mandated.

Before prescribing 911 location-accuracy standards for VoIP, the Commission must be reasonably certain that VoIP providers have the technical ability to achieve such accuracy and that achieving that objective would not involve more costs than benefits.¹⁶ Complicating the matter here is that any Commission action has the potential to insinuate costs throughout the nation with respect to equipment manufacturers, software developers and fabricators, and all manner and sorts of network providers. Consequently, federal leadership and a federal cost-

¹⁶ *Id.* ¶ 68 (noting commentors' concerns over the cost of dynamic ALI delivery in a VoIP environment and the existing lack of cost recovery mechanisms). In the *Notice*, the Commission repeatedly acknowledged the need for any dynamic ALI-delivery mechanism to be "cost effective." *Id.* ¶¶ 3, 73, 75, 80.

recovery model is essential as dynamic address-location 911-calling requirements are considered.

Even if the Commission is able to fashion a rational cost-recovery model, it remains unclear the extent to which PSAPs across the nation will be in a position to accept dynamic ALI from VoIP providers (issues similar to the earlier days of Phases I/II with CMRS). And if the dynamic delivery of ALI in a VoIP context is coincident with other sophisticated NextGen 911 calling capabilities and functionalities, it could be decades before the costs of the delivery regime realize the anticipated national benefits.

The matter of cost recovery must be fairly resolved before any government mandate issues requiring deployment of automatic location tracking and updating. If the matter is not timely resolved, service providers of all types will find themselves with significant regulatory-mandated costs but little or no market mechanisms to recover them. In such case, innovation would be depressed, rather than promoted; competition would be stymied rather than advanced – consequences at odds with the Commission’s balanced regulatory objectives.

In closing, CenturyLink believes that given the current lack of clarity regarding how ALI updating might occur in a mobile VoIP environment, the Commission should not act prematurely or preemptively with respect to such requirements. Education, cooperation and caution should be the abiding principles for the time being; and the Commission should avoid dictating a technical result precipitously, far in advance of the industry's and emergency services community's ability to achieve the technical goal.

Respectfully submitted,

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