BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amending the Definition of	)	GN Docket No. 11-117
Interconnected VoIP Service in Section	)	
9.3 of the Commission's Rules	)	
	)	
Wireless E911 Location Accuracy	)	PS Docket No. 07-114
Requirements	)	
	)	
E911 Requirements for IP-Enabled	)	WC Docket No. 05-196
Service Providers	)	

To: The Commission

REPLY COMMENTS OF SOUTHERNLINC WIRELESS

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REPLY COMMENTS OF SOUTHERNLINC WIRELESS

Southern Communications Services, Inc. d/b/a SouthernLINC Wireless ("SouthernLINC Wireless") hereby submits its reply comments in response to the Commission's *Second Further Notice of Proposed Rulemaking* ("*Second FNPRM*") in the above-captioned proceeding.[1]

I. INTRODUCTION AND SUMMARY

SouthernLINC Wireless agrees that the issues identified by the Commission in this *Second FNPRM* – such as automatic location information for interconnected Voice over Internet Protocol ("VoIP") services and testing for location accuracy in indoor environments – warrant further consideration and study by the Communications Security, Reliability, and Interoperability

[1] / *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*, GN Docket No. 11-117, PS Docket No. 07-114, WC Docket No. 05-196, Notice of Proposed Rulemaking, Third Report and Order, and Second Further Notice of Proposed Rulemaking, FCC 11-107 (rel. July 13, 2011) ("*Second FNPRM*").

Council ("CSRIC") and other industry forums. SouthernLINC Wireless submits, however, that it would be premature for the Commission to adopt governing principles or other regulatory requirements regarding location accuracy until these issues are better understood. SouthernLINC Wireless also strongly urges the Commission to consider the potential burden on smaller regional and rural service providers before adopting any new location accuracy requirements.

Nevertheless, one measure that the Commission could take immediately to promote the enhanced and expanded availability of E911 location services would be to affirm that the liability provisions of the Net 911 Act apply to broadband service providers. By reducing the risk of exposure to potential liability, the Commission will facilitate further innovation in the development and implementation of suitable location accuracy solutions for VoIP services.

The potential leveraging of commercial location-based services and WiFi positioning to enhance location accuracy also merit consideration by CSRIC and other industry working groups. SouthernLINC Wireless cautions, however, that the incorporation of either of these technologies into 911 calls involves a number of complex issues as well as practical hurdles to implementation.

Finally, the Commission should refrain from establishing or requiring public disclosure of operational benchmarks for location accuracy. Implementing such benchmarks would be complex and ultimately counterproductive, as they would likely lead only to "information overload" and greater confusion for consumers regarding wireless location accuracy.

II. AUTOMATIC LOCATION INFORMATION FOR INTERCONNECTED VOIP SERVICES SHOULD BE ADDRESSED THROUGH CSRIC AND INDUSTRY WORKING GROUPS

In the *Second FNPRM*, the Commission requests comment on whether it should adopt "general location accuracy governing principles" for interconnected VoIP services.[2] Although the Commission describes these principles as applicable "to interconnected VoIP service providers and over-the-top VoIP service providers," in practice these would require involvement or participation by the underlying broadband service provider as well.[3] SouthernLINC Wireless agrees with other commenters that the Commission instead can most effectively achieve its policy goal of enhancing and expanding the availability of E911 location services by continuing to monitor and encourage the industry standards processes already underway and by continuing its support of the valuable work that CSRIC is conducting in this area.[4]

A. The Commission Should Support Stakeholder Efforts to Address VoIP Location Accuracy

The provision of location information for consumers using "over-the-top" interconnected VoIP services in particular presents numerous technical and logistical challenges that must be worked out among the various participants. As MetroPCS noted, a consumer's use of an over-the-top VoIP application (such as Skype or Google Voice) often occurs without the knowledge of the underlying broadband service provider.[5] A wireless service provider will be aware that data is being carried over its network, but it generally will not know the nature of this data

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[2] / *Second FNPRM* at ¶ 72.

[3] / *Id*.

[4] / *See* Comments of CTIA at 5 – 6; Comments of the Alliance for Telecommunications Industry Solutions ("ATIS") at 5; Comments of AT&T at 4 – 5; Comments of Sprint Nextel at 4 – 5; Comments of T-Mobile at 5; Comments of Verizon at 7 – 8; Comments of the Information Technology Industry Council ("ITTC") at 16.

[5] / Comments of MetroPCS at 9.

traffic. In addition, under the "Open Internet" rules that will go into effect on November 21, 2011, carriers will no longer be able to manage (to the extent they may have been doing so) consumers' use of the over-the-top VoIP service or application of their choice,[6] thus increasing the likelihood that there will not be an established business relationship between the consumer's chosen VoIP service provider and the underlying broadband service provider that – absent clear industry standards and protocols – would facilitate the exchange of location information.[7] A consumer's use of an over-the-top VoIP application may also involve a VoIP service provider, a separate broadband ISP, and a separate underlying access provider,[8] thus bringing to three the number of entities that may be involved at one time in exchanging information to try to determine a caller's location – and this count does not include any participation by or exchange of information with a PSAP or other public safety agency. The need for extensive coordination between multiple independent entities thus raises significant issues that must be addressed before any "governing principles" or regulatory requirements are established.[9]

In addition to the number of independent entities involved, VoIP communications encompasses a wide array of different types of VoIP service providers (fixed, nomadic, mobile,

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[6] / As MetroPCS noted, the "no blocking" provisions of the Commission's "Open Internet" rules may significantly complicate efforts by wireless providers to verify that VoIP applications being used over their networks are sufficiently capable of providing, receiving, and processing location information. Comments of MetroPCS at 9; *See also* Comments of Motorola at 5 – 6.

[7] / *See* Comments of Sprint Nextel at 6 ("The standards for delivering emergency location information between separate access and VoIP service providers that do not have an established business relationship have not been developed.").

[8] / For example, T-Mobile stated that such a scenario exists when a 4G customer roams off of his or her home carrier's network onto a third-party WiFi access point or another mobile service provider's network. Comments of T-Mobile at 5.

[9] / *See* Comments of Sprint Nextel at 6. Among other things, Sprint Nextel pointed to the need for the underlying broadband service provider to validate location information requests received from over-the-top VoIP providers for network security and consumer privacy reasons, as well as the need for VoIP providers to be able to verify that the location information they receive is an authenticated location. *Id*.

and "over-the-top"), different types of broadband network platforms (wireline, fixed wireless, and mobile wireless), and different types of technologies and end-user devices (the capabilities of which can vary widely). This already-complex environment is further complicated by a lack of fully-developed or uniform standards and protocols, especially with respect to matters such as interconnection and the exchange of information.

SouthernLINC Wireless submits that the adoption at this early stage of principles such as those proposed in the *Second FNPRM* could have the effect of limiting the flexibility needed by stakeholders – including service providers, network providers, device manufacturers, application developers, and public safety – to develop the necessary technical solutions, standards, and protocols, thus inadvertently stifling or inhibiting the enhancement and availability of E911 location services.[10] SouthernLINC Wireless also shares the concern expressed by T-Mobile that, as drafted, the proposed "principles" effectively are "mandatory requirements, not merely non-binding objectives," [11] and notes that valid questions have been raised regarding the Commission's legal authority to adopt such requirements.[12]

Accordingly, SouthernLINC Wireless urges the Commission to refrain at this time from adopting its proposed governing principles on location accuracy and to focus instead on encouraging and facilitating cooperative efforts among stakeholders to develop feasible and effective standards, protocols, and solutions for making emergency location information available for a broader range of VoIP services and applications.

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[10] / *See* Comments of ITTC at 16; Comments of the National Cable and Telecommunications Association ("NCTA") at 2; Comments of the Voice on the Net Coalition at 11.

[11] / Comments of T-Mobile at 3.

[12] / *See* Comments of Verizon at 10 – 16 and 30 – 31; Comments of AT&T at 8 – 9; Comments of CTIA at 6.

B. The Commission Should Affirm Liability Protections for Broadband Service Providers

One measure that the Commission could take immediately to encourage and facilitate the development and implementation of VoIP location accuracy solutions would be to expressly affirm that the liability protections of Section 615a of the Net 911 Act apply to broadband service providers as "other emergency communications providers."[13] SouthernLINC Wireless agrees with other commenters that such action by the Commission would be consistent with Congress' intent that the liability protections of the Net 911 Act and the Wireless 911 Act be applied broadly.[14] SouthernLINC Wireless further submits that confirmation by the Commission of the liability protections available to broadband service providers is essential for enabling the level of cooperation and coordination necessary for location information to be exchanged among multiple independent entities.[15] Moreover, by reducing the risk of exposure to potential liability, the Commission will facilitate further innovation and industry cooperation in the development and implementation of suitable location accuracy solutions for VoIP services.

III. COMMERCIAL LOCATION-BASED SERVICES WARRANT CONSIDERATION, BUT THE COMMISSION SHOULD NOT ADOPT "OPERATIONAL BENCHMARKS" FOR LOCATION ACCURACY

A. Commercial Location-Based Services Warrant Consideration But Require Further Development

The Commission notes in the *Second FNPRM* the introduction of a wide range of commercial location-based services and requests comment on leveraging these services for emergency purposes.[16] Given the prevalence and variety of commercial location-based services

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[13] / 47 U.S.C. §§ 615a and 615b(9).

[14] / *See, e.g.*, Comments of Verizon at 24 – 26.

[15] / *See* Comments of CTIA at 9 – 12; Comments of MetroPCS at 12 – 14. .

[16] / *Second FNPRM* at ¶¶ 78 – 80.

available to consumers, SouthernLINC Wireless agrees that the possibility of leveraging these services to enhance location accuracy merits further consideration by CSRIC and other industry groups.[17]

Nevertheless, SouthernLINC Wireless cautions that commercial location-based services currently utilize a wide variety of technologies and approaches for determining a consumer's location. Not only are there no unified technological standards or protocols for these services, but there are also no standards regarding how accurate a commercial location-based service must be. While the accuracy levels and "time-to-fix" performance of commercial location-based services may be sufficient for purposes of guiding a consumer to a coffee shop, it is far from clear whether they are sufficient for emergency situations where minutes – even seconds – count. As Verizon stated, "in today's open access environment, mobile broadband providers do not always play a service provider role or intermediary role in the LBS products available to their customers, and broadband providers have no control over the quality of the location information provided by those third parties."[18] Verizon also noted that not all customers subscribe to commercial location-based services, and even those who do subscribe may not have it turned on, while T-Mobile pointed out that leaving an autolocation solution "on" at all times would create battery-life issues and raise privacy concerns.[19]

In addition, any leveraging of commercial location-based services will necessarily require steps to be taken by PSAPs as well in order to receive and use this information, such as

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[17] / *See* Comments of AT&T at 6 – 7; Comments of Verizon at 19 – 20; Comments of T-Mobile at 6 – 7.

[18] / Comments of Verizon at 20.

[19] / Comments of Verizon at 20; Comments of T-Mobile at 5.

implementing the capability for PSAPs to send "re-bids" to the caller's device in order to determine the caller's location with a sufficient degree of accuracy.

B. Operational Benchmarks for Consumer Use Are Impractical and Would Result Instead in Substantial Consumer Confusion

In connection with its consideration of commercial location-based services, the Commission also requests comment on the development of operational benchmarks to assist consumers in evaluating the ability of service providers to provide precise location information.[20] SouthernLINC Wireless agrees with CTIA and other commenters that any effort to establish such operational benchmarks would be complex, counterproductive, and if anything would only create greater confusion among consumers regarding wireless location accuracy.[21]

As CTIA stated in its comments, "[T]he wireless ecosystem is a dynamic, mobile environment that is not well-suited to regulatory 'benchmarks' where operational data must be standardized and provided in a way that is understandable to the public."[22] CTIA explained that the wireless environment experienced by a consumer at any given time is constantly changing due to variables such as network capacity, traffic levels, signal quality, and environmental factors.[23] The consumer's wireless experience is further affected by the specific device the consumer is using, and even by such variables within the device such as battery level or the specific applications installed or running.

While these variables may be well-understood among industry insiders and public safety professionals, SouthernLINC Wireless believes that any effort to convey this information to consumers will only lead to "information overload" and even greater confusion for consumers.

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[20] / *Second FNPRM* at ¶ 79.

[21] / Comments of CTIA at 12 – 14.

[22] / Comments of CTIA at 12.

[23] / *Id*.

Moreover, as Sprint Nextel correctly noted, "Suggesting that certain carriers meet particular benchmarks would leave a false impression with consumers that a particular level of service can be expected on a specific call, regardless of circumstances."[24] In the context of benchmarking the speed of broadband services, such false impressions at worst result in consumer frustration and disappointment. In the context of E911 calls for emergency assistance, however, a false impression can have far more severe consequences.

For these reasons, while location accuracy benchmarks may be useful to CSRIC as a strictly analytical tool, the Commission should refrain from establishing or requiring public disclosure of location accuracy benchmarks in order to avoid unnecessary – and perhaps dangerous – consumer confusion.

IV. INDOOR LOCATION ACCURACY TESTING REQUIRES FURTHER EXAMINATION BY CSRIC

In the *Second FNPRM*, the Commission again raises the question of whether indoor location accuracy testing should be required and, if so, using what standards.[25] The Commission also referred the indoor testing issue to CSRIC for further development of technical recommendations.[26]

SouthernLINC Wireless applauds the Commissions' decision to refer the indoor location accuracy issue to CSRIC and joins with other commenters – including public safety commenters – in urging the Commission to refrain from considering the adoption of any indoor location accuracy testing requirements or standards at least until CSRIC has had the opportunity to

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[24] / Comments of Sprint Nextel at 9.

[25] / *Second FNPRM* at ¶ 87.

[26] / *Id*. at ¶ 88.

examine the issue and present its recommendations.[27] As several commenters have stated – and as the Commission itself acknowledged in the *Second FNPRM* – there are numerous and significant challenges involved in testing location accuracy in indoor environments,[28] thus necessitating the development of new testing methodologies and standards specifically tailored for indoor environments.[29] Until these challenges are better understood, it makes no sense for the Commission to adopt any indoor location accuracy requirements as certain location technology vendors urge.

SouthernLINC Wireless also joins APCO and other commenters in urging the Commission to take into consideration the work already done by the industry and public safety on this issue through the development of the ATIS Standard *Approaches to Wireless E9-1-1 Indoor Location Performance Testing* (ATIS-0500013), published in February 2010.[30] Among other things, this ATIS Standard takes into account structural elements, such as the size and type of the structure and the type of building materials used.

SouthernLINC Wireless agrees with Verizon that, absent a better understanding of the challenges and issues involved, "the principal impact of mandatory indoor testing at regular intervals would be to drain carriers' resources with little countervailing prospect of accuracy

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[27] / Comments of APCO at 8 ("[T]here are significant technical and practical issues related to indoor testing that precludes new rules at this time …"); Comments of ATIS at 5 – 6; Comments of CTIA at 2 – 4; Comments of AT&T at 7; Comments of Motorola at 9; Comments of Qualcomm at 10 – 12; Comments of Sprint Nextel at 8 – 9; Comments of T-Mobile at 8.

[28] / *Second FNPRM* at ¶¶ 84 – 85; *See also* Comments of APCO at 8; Comments of ATIS at 5 – 6; Comments of CTIA at 2 – 4; Comments of Sprint Nextel at 8 – 9; Comments of Verizon at 28 – 29.

[29] / *Second FNPRM* at ¶ 87; Comments of Sprint Nextel at 8.

[30] / Comments of APCO at 8; Comments of CTIA at 3; Comments of AT&T at 7; Comments of Sprint Nextel at 8; Comments of T-Mobile at 8; Comments of Qualcomm at 11.

improvement."[31] SouthernLINC Wireless is especially concerned about the impact that an indoor testing requirement – particularly a requirement for which there is as yet no guidance – could have on its resources and the resources of other regional and rural wireless carriers, many of whom are the sole source of wireless E-911 service for hundreds of thousands of rural or underserved consumers. SouthernLINC Wireless therefore strongly urges the Commission to consider the potential burden on smaller regional and rural wireless carriers before taking any specific action regarding indoor location accuracy requirements.

Finally, SouthernLINC Wireless agrees that the potential use of WiFi positioning to supplement location accuracy determination may warrant further study and consideration.[32] SouthernLINC Wireless emphasizes, however, that there are numerous challenges and obstacles involved in the use of WiFi positioning, and the effectiveness of WiFi positioning in determining location information will therefore always be uncertain at best. For example, in order to make use of WiFi positioning, it would be necessary to develop a reliable and continually-updated database of known WiFi locations, as well as establish means and protocols for service providers and PSAPs to access and utilize this database. In addition, new developments in WiFi technology are enabling WiFi access points to serve increasingly larger areas, thus increasing the size of the area where a caller using a WiFi access point could be located and decreasing the level of accuracy that might be expected.

SouthernLINC Wireless therefore submits that although WiFi positioning may hold potential, it will never be more than a supplementary tool in determining an emergency caller's

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[31] / Comments of Verizon at 28; *See also* Comments of Motorola at 10 (arguing that applying a new indoor testing requirement on service providers would be "unduly burdensome").

[32] / *Second FNPRM* at ¶ 93; Comments of APCO at 9; Comments of ATIS at 7.

location, and the Commission should therefore refrain from adopting any indoor location accuracy requirements that are based even in part on the availability of WiFi access.

WHEREFORE, THE PREMISES CONSIDERED, SouthernLINC Wireless respectfully requests the Commission to take action in this docket consistent with the views expressed herein.

Respectfully submitted,

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