Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102
	)	
Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling	)	
	)	
911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196

REPLY COMMENTS OF
THE WIRELESS COMMUNICATIONS ASSOCIATION INTERNATIONAL, INC.

The Wireless Communications Association International, Inc. ("WCA"), pursuant to Section 1.415 of the Commission's Rules, hereby submits its reply comments in connection with Section III.B of the Commission's *Notice of Proposed Rulemaking* in the above-captioned proceeding ("*Location Accuracy NPRM*").[1] The initial comments filed in response to Section III.B reaffirm WCA's position: the Commission should not impose E911 location accuracy requirements on providers of interconnected Voice over Internet Protocol ("VoIP") service until it has convened a joint advisory committee or other open forum to identify and evaluate appropriate automatic location identification ("ALI") solutions and recommend final Commission rules, including a reasonable timetable for compliance with those rules.[2]

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[1] *See Wireless E911 Location Accuracy Requirements et al.*, Notice of Proposed Rulemaking, PS Docket No. 07-114 *et al.*, FCC 07-108, ¶¶ 8-19 (rel. June 1, 2007) ["*Location Accuracy NPRM*"].

[2] *See* Comments of Wireless Communications Ass'n Int'l, PS Docket No. 07-114 *et al.*, at 14-15 (filed Aug. 20, 2007) ["WCA Comments"].

Certainly, the Commission already is aware that establishing rules governing deployment of effective E911 solutions (VoIP-related or otherwise) requires a thorough record and a careful, cooperative effort by all interested parties. Any doubt about this was put to rest in the separate statements made by certain of the Commissioners at the Commission's September 11, 2007 open meeting, at which the Commission adopted its new PSAP-level location accuracy requirement for CMRS providers (per the proposals made in Section III.A of the *Location Accuracy NPRM*). For example, as noted by Commissioner Adelstein:

> [T]he record reflects both overwhelming concern regarding technical feasibility and compliance deadlines and overwhelming support for a joint FCC, industry and public safety forum on new requirements. . . . Offering no opportunity for deliberation or participation by so many stakeholders does not befit an expert agency.[3]

And, in a similar vein, Commissioner McDowell made clear that he has "every expectation that the Commission will be part of a meaningful partnership among the commercial wireless industry, technology providers, and public safety entities . . . . I continue to believe that harnessing the expertise of all interested stakeholders in this manner will serve the public interest and move all of us ahead to quickly solve these technology challenges in a straightforward, comprehensive and transparent manner."[4] Likewise, Commissioner Copps emphasized that "the FCC – in full partnership with public safety and industry – needs to test and really understand the capabilities and the limitations of our existing E911 system, and we need to assess developing and future technologies that can improve these capabilities."[5]

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[3] Separate Statement of Commissioner Jonathan S. Adelstein at 2, *Wireless E911 Location Accuracy Requirements et al.*, Report and Order, PS Docket No. 07-114 *et al.*, FCC 07-166 (Sept. 11, 2007) (footnote omitted).

[4] Separate Statement of Commissioner Robert M. McDowell, *Wireless E911 Location Accuracy Requirements et al.*, Report and Order, PS Docket No. 07-114 *et al.*, FCC 07-166 (Sept. 11, 2007).

[5] Separate Statement of Commissioner Michael J. Copps at 2, *Wireless E911 Location Accuracy Requirements et al.*, Report and Order, PS Docket No. 07-114 *et al.*, FCC 07-166 (Sept. 11, 2007).

The initial comments on Section III.B of the *Location Accuracy NPRM* explain why WCA's recommended approach is essential where interconnected VoIP is concerned. Like WCA, a substantial number of commenting parties reaffirmed the point made by the Commission just two years ago in the *IP-Enabled Services First R&O and NPRM* in WC Docket 05-196: there is no reliable, properly tested and commercially available ALI solution that will permit providers of interconnected VoIP service to comply with CMRS-like E911 location accuracy requirements at this time.[6] Indeed, service providers and equipment vendors are in nearly unanimous agreement on this issue.[7] It does not matter which solution a provider of interconnected VoIP service chooses – each option presents serious technical, operational and economic challenges that will preclude compliance with even today's CMRS location accuracy requirements anytime soon.[8] Commenting parties have recognized that these technical

[6] *See IP-Enabled Services*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 10245, 10259 n. 81 (2005) ("The record demonstrates that there currently are no solutions that allow a provider of portable VoIP services to determine the location of an end user absent the end user affirmatively telling the service provider where he or she is.") ["*IP-Enabled Services First R&O and NPRM*"]; WCA Comments at 7 n.18 (citing comments filed in WC 05-196 confirming that no viable ALI solutions exist for providers of portable or mobile interconnected VoIP service).

[7] *See, e.g.*, Comments of WiMAX Forum, PS Docket No. 07-114 *et al.*, at 2 (filed Aug. 20, 2007) ("It will be many years before a solution is ready to be deployed on a system wide basis because location capabilities for wireless devices are extraordinarily difficult to establish and maintain.") (footnote omitted); Comments of Voice on the Net Coalition, PS Docket No. 07-114 *et al.*, at 2, 7-9 (filed Aug. 20, 2007) ["VON Comments"]; Comments of Vonage America, Inc., PS Docket No. 07-114 *et al.*, at 2 (filed Aug. 20, 2007) ["Vonage Comments"]; Comments of AT&T Inc., PS Docket No. 07-114 *et al.*, at 14-15 (filed Aug. 20, 2007); Comments of Clearwire Corporation, PS Docket No. 07-114 *et al.*, at 2 (filed Aug. 20, 2007); Comments of CTIA, PS Docket No. 07-114 *et al.*, at 9 (filed Aug. 20, 2007); Comments of Motorola, Inc., PS Docket No. 07-114 *et al.*, at 2 n. 2 (filed Aug. 20, 2007) ["Motorola Comments"]; Comments of Nokia Inc. and Nokia Siemens Networks, PS Docket No. 07-114 *et al.*, at 4-6 (filed Aug. 20, 2007) ["Nokia Comments"]; Comments of Qwest Communications International, Inc. PS Docket No. 07-114 *et al.*, at 2-5 (filed Aug. 20, 2007); Sprint Nextel Comments, PS Docket No. 07-114 *et al.*, at 19-20 (filed Aug. 20, 2007) ["Sprint Nextel Comments"]; Comments of Telecommunications Systems, Inc., PS Docket No. 07-114 *et al.*, at 4-5 (filed Aug. 20, 2007) ["TSI Comments"]; Comments of Verizon, PS Docket No. 07-114 *et al.*, at 1-2 (filed Aug. 20, 2007).

[8] *See, e.g.*, WCA Comments at 9-12; Comments of Clearwire Corporation, PS Docket No. 07-114 *et al.*, at 2-3 (filed Aug. 20, 2007) ("Clearwire understands that advances in location-based technologies, such as hybrid technologies employing both handset and network-based solutions, are being evaluated but are not yet commercially available. . . The fact that such hybrid solutions are not yet commercially available should play an important role in both the Commission's analysis and adoption of VoIP automatic location capability compliance deadlines."); Nokia Comments at 4-5 ("Even with the deployment of hybrid technologies by both CDMA and GSM providers, however, carriers will still face significant challenges meeting a single [location accuracy] standard under all conditions . . . .

challenges only become more difficult when applied to services offered to subscribers who roam from one market to another.[9] Moreover, public interest groups have recognized that given the state of today's technology, imposing ALI-based requirements on interconnected VoIP service providers "would be a serious mistake, one that would have harmful consequences in terms of both market competition and technological development."[10]

Conversely, the relatively small number of parties who appear to advocate immediate imposition of location accuracy requirements on interconnected VoIP providers do not address any of the technical challenges discussed in the record, much less explain how compliance with those requirements is possible when those technical challenges remain unresolved.[11] While a few commenting parties have asserted that they have developed or are in the process of developing ALI solutions that may be viable for interconnected VoIP service,[12] these encouraging efforts only reinforce the need for further study of the problem. S5 Wireless, for instance, claims it has developed a viable chip-based solution that utilizes the unlicensed 900

For example, A-GPS performs well in rural areas but does not perform as well in urban areas and other areas where satellites may be blocked from view. In contrast, network technologies provide high levels of accuracy in urban and suburban areas where there are multiple cell cites within close proximity but do not perform as well in rural areas where there are fewer cell sites. Neither technology performs as well deep inside buildings, homes, tunnels, subways, and other structures."); Motorola Comments at 3 ("Currently available location technologies have significant limitations that inhibit their ability to provide more accurate location information in certain environments"); TSI Comments at 5 ("Measurement techniques optimized for outdoor position determination do not fit the primary residential or business enterprise deployment model into which most nomadic VoIP devices are found. Solutions which produce coordinate location results will have a very difficult time [achieving] the accuracy required to identify a unique address, since the width of a wall could determine the difference between opening the correct apartment door."); Comments of TruePosition, Inc., PS Docket No. 07-114 *et al.*, at 15-16 (filed Aug. 20, 2007)

[9] *See* Sprint Nextel Comments at 17-18; Motorola Comments at 13; WCA Comments at 13.

[10] Comments of Center for Democracy and Technology *et al.*, PS Docket No. 07-114 *et al.*, at 6 (filed Aug. 20, 2007) ["CDT Comments"].

[11] *See* Joint Initial Comments of the Texas 9-1-1 Alliance *et al.*, PS Docket 07-114 *et al.*, at 12-14 (filed Aug. 20, 2007); Comments of APCO, PS Docket No. 07-114 *et al.*, at 5-6 (filed Aug. 20, 2007); Comments of Nsighttel Wireless LLC, PS Docket No. 07-114 *et al.*, at 11 (filed Aug. 20, 2007).

[12] *See, e.g.*, Comments of Andrew Corporation, PS Docket No. 07-114 *et al.*, at 6 (filed Aug. 20, 2007) (stating that Andrew Corporation has designed a Location Information Service ("LIS") to "provide location information for both: (1) new or converted 'location-aware' VoIP devices (handsets, etc.) that are compatible with the functionality defined by the NENA i2 architecture, and (2) legacy VoIP devices, based on IP addresses.").

MHz band to assist in locating where an E911 call is coming from.[13] However, S5 Wireless candidly acknowledges that its solution is not yet commercially available and, apparently, has not been tested by any network operator.[14] Similarly, YMAX Corporation ("YMAX") claims to have developed, but not yet commercially deployed, proprietary technology that it believes is "an effective ALI solution that would enable the FCC to adopt an ALI requirement for all interconnected VoIP providers."[15] Yet, once again, the efficacy of YMAX's technology is largely unknown.[16]

It may well be that one or both of these solutions (in addition to many others) will prove to be viable for wireless broadband network operators that offer interconnected VoIP service. Nonetheless, the Commission cannot merely assume that this will be the case, particularly not where the record makes it crystal clear that there presently is no solution or group of solutions that could form a sensible basis for imposing across-the-board CMRS-like location accuracy requirements on wireless broadband network operators that offer interconnected VoIP service. Rather, all proposed solutions should be evaluated in the context of a more comprehensive review of all the relevant issues by all stakeholders in the E911 debate, so that any final interconnected VoIP location accuracy rules adopted in this proceeding are properly calibrated to what is actually achievable under the diverse conditions in which service providers will operate.

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[13] *See* Comments of S5 Wireless, Inc., PS Docket No. 07-114 *et al.*, at 1-2 (filed Aug. 20, 2007).

[14] *Id.* at 2. While further study may validate S5 Wireless's proposal, its proposed use of the unlicensed 900 MHz band to assist in locating E911 calls necessarily raises interference issues that bear directly on the reliability of its solution.

[15] *See* Comments of YMAX Corporation, PS Docket No. 07-114 *et al.*, at 4 (filed Aug. 20, 2007).

[16] For example, the availability of this untested proprietary technology on reasonable licensing terms and conditions is unknown. Further, even in the best case, the viability of this technology depends on the extent to which a CMRS network is available and accessible for delivery of E911 information originated by the interconnected VoIP subscriber. This reliance on CMRS networks raises serious business and technical questions regarding the efficacy of YMAX's proposed approach that requires further analysis based on the information YMAX has placed in the record.

As they did in WC Docket 05-196, commenting parties have expressed overwhelming support for this approach.[17]

WCA therefore once again urges the Commission to form a joint advisory committee or other open forum that includes Commission staff, representatives from the VoIP industry (including WCA), equipment vendors, state and local public safety officials, consumer groups and other interested parties who could study all the relevant issues raised by Section III.B of the *Location Accuracy NPRM* in depth and make recommendations on final Commission rules, including an appropriate timetable for compliance by providers of interconnected VoIP services. An inclusive industry forum is essential to ensure that the strengths and weaknesses of all ALI technologies are fully vetted before the Commission draws any conclusions about the feasibility of extending CMRS-like location accuracy requirements to wireless broadband network operators that offer interconnected VoIP service. Absent that review, any such requirements will rest on speculation and little else.[18]

Finally, it should be noted that VoIP providers have already demonstrated a strong commitment to E911 and have been actively attempting to identify and evaluate ALI solutions that may work in a portable or mobile environment.[19] Those efforts will continue to reap

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[17] *See, e.g.*, Comments of Alliance for Telecommunications Industry Solutions' Emergency Services Interconnection Forum, PS Docket No. 07-114 *et al.*, at 9-10 (filed Aug. 20, 2007); Nokia Comments at 2-3; Clearwire Comments at 5-6; Sprint Nextel Comments at 19-20; Andrew Comments at 3; AT&T Comments at 13; CDT Comments at 7; Comments of NENA, PS Docket No. 07-114 *et al.*, at 3 (filed Aug. 20, 2007); Comments of Qualcomm Incorporated, PS Docket No. 07-114 *et al.*, at 3 (filed Aug. 20, 2007); Comments of Rural Cellular Ass'n, PS Docket No. 07-114 *et al.*, at 7 (filed Aug. 20, 2007); Comments of Telecommunications Industry Ass'n, PS Docket No. 07-114 *et al.*, at 2 (filed Aug. 20, 2007). *See also* WCA Comments at 14 n. 33 (citing comments in WC Docket No. 05-196 advocating industry forum approach).

[18] *See Bunker Hill Co. v. EPA*, 572 F.2d 1286, 1301 (9th Cir. 1977) ("The record must establish that the required technology is feasible, not merely *possibly* feasible.") (emphasis added).

[19] *See, e.g.*, Clearwire Comments at 4 ("Since launching its VoIP service in April 2006, Clearwire has expended substantial capital and human resources in developing and employing a dynamic capability that enables its VoIP customers' locations to be available to public safety answering points (PSAPs) that are capable of receiving such information as customers move their VoIP service throughout Clearwire's network."; *id.* at 6 ("Even before the instant Commission proposal to mandate an automatic location capability for portable VoIP in this proceeding,

benefits for consumers if they are allowed to proceed within an open and inclusive fact-finding process, without premature or unnecessary government mandates as to how interconnected VoIP providers should satisfy the E911 needs of their customers. As previously noted by Cisco, "the appropriate universe and mix of advanced 911 technologies will undoubtedly change as VoIP and broadband service offerings continue to evolve."[20] Hence, whichever path the Commission chooses to take in this matter, it should at all times employ a technologically-neutral approach that permits wireless broadband network operators and other interconnected VoIP providers the flexibility to choose the E911 solutions that will be most effective for their individual circumstances and modify those solutions where appropriate as new technologies become available over time. WCA looks forward to working with the Commission and other parties in this proceeding to achieve that result.

Respectfully submitted,

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Clearwire has been evaluating such capabilities for its portable VoIP service, to find and implement the right solution for its evolving network technology."); VON Comments at 1-2; Vonage Comments at 4-6; WCA Comments at 3.

[20] Comments of Cisco Systems, Inc., WC Docket No. 05-196, at 3 (filed Aug. 15, 2005).