

**TESTIMONY OF CHRIS PUTALA ON BEHALF OF THE VON COALITION AND EARTHLINK  
Before the  
SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET of the  
COMMITTEE ON ENERGY & COMMERCE  
U.S. HOUSE OF REPRESENTATIVES**

**HEARING ON H.R. 3403, THE 911 MODERNIZATION AND PUBLIC SAFETY ACT OF 2007  
September 19, 2007**

Thank you, Chairman Markey, Ranking Member Upton, and members of the Subcommittee. My name is Chris Putala. I am Executive Vice President of Public Policy at EarthLink and thank you for inviting me to join you today. I am also representing the Voice on The Net or VON Coalition<sup>1</sup> – a voice for the VoIP industry and the policy framework that enables it. On behalf of the VON Coalition, I thank the Committee for the opportunity to testify on H.R. 3403, the 911 Modernization and Public Safety Act of 2007.

We want to especially thank Congressman Gordon and his staff for their tireless efforts to help craft legislation to accelerate both current and next-generation VoIP 911 solutions – protecting both public safety and innovation. We also recognize and appreciate the important contributions of the co-sponsors of H.R. 3403, Congressmen Pickering, Shimkus and Eshoo.

Dialing 9-1-1 can be the most important call a person ever makes. That is why VoIP providers have made providing 9-1-1 emergency service in an Internet world a paramount priority. We have gone to extraordinary lengths to make astonishing progress under a very ambitious timetable. We are proud to tell you that Interconnected VoIP services now provide E911 to more than 97 percent of their subscribers -- the fastest and broadest onetime implementation of E-911 in the history of public safety. And America is safer for it. As a result of this unprecedented effort, Americans who dial 911 using interconnected VoIP services can now rest assured they can reach help in an emergency. It is a particularly remarkable achievement considering that no underlying

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<sup>1</sup> The VON Coalition is the voice for the VoIP industry and the policy framework that enables it. The Coalition includes: Yahoo, Cisco, Covad, EarthLink, Intel, Microsoft, Skype, USA Datanet, T-Mobile, iBasis, PointOne, New Global Telecom, CallSmart, Google, Openwave, AT&T, Intrado, Pulver.com, BT, BMX and Switch

network connectivity provider can yet offer VoIP providers like EarthLink the ability to connect to all selective routers nationwide.

Make no mistake about it – this is critical public safety legislation, but it is also allows consumers to take advantage of innovative new technology that puts the consumer in control of their communication. EarthLink’s flagship service package, for example, offers consumers both ultrafast broadband service and VoIP, with unlimited calling within the U.S., Puerto Rico and Canada, and the call management and unified messaging capabilities that VoIP allows. These offerings improve the *value to consumers* of making the switch to broadband. Around the world, broadband take up is often inextricably linked to VoIP take-up.

Thus, we are here today to encourage this Committee to take necessary steps to further accelerate current generation 911 solutions in areas where it can’t be offered and – just as importantly – to chart a path to next generation 911 services. It’s no secret that America’s 911 network is still providing 911 and E911 today using 1960s-era technology, and that is part of the difficulty in delivering E911 services for IP based interconnected VoIP everywhere. We need to get the whole country to a twenty-first century, IP-based 911 systems.

H.R. 3403 does both, and as a result will help unleash the full promise of Internet voice communications. With the right legal and regulatory framework, the potential for VoIP-led innovation is immense.

As this Committee is well aware, consumers and businesses are flocking to VoIP because VoIP it enables them to do much, much more than yesterday’s analog POTS phones. By transforming voice communications from a network function into a software service, VoIP can integrate communications and data in entirely new ways. Families are gaining unprecedented independence as well as new flexibility and features not possible in yesterday’s telephone network. With VoIP, a consumer can choose to direct work calls to their office or mobile phone, and personal calls to their home or mobile number, depending on the time of day. A VoIP consumer can specify

in what order his or her several phones should be rung and can integrate voice services in new ways -- bringing the power of the Internet to voice communications. At the same time, connectivity, quality and reliability have improved to equal if not surpass that of the legacy phone network<sup>2</sup>. And to top it off, VoIP is cutting consumers' phone bills by as much as 40 percent.

In the workplace, businesses, small and large, are tapping into VoIP for breakthrough new features that enable businesses to function more efficiently and respond more effectively to the needs of consumers. More Americans can now work from home, allowing businesses to home-source rather than outsource jobs. Importantly, the mobility features of VoIP empower businesses to maintain continuity in an outage or disaster where offices could be inaccessible but employees will still need to communicate.

**Economists now estimate that ensuring continued VoIP competition can save consumers an astounding \$100 billion over the next 5 years – putting real money back into consumers' pockets through the power of competition.** You don't even have to be a VoIP subscriber to benefit – the resultant competition that VoIP engenders can help drive down phone bills by hundreds of dollars a year for nearly every American.

To accelerate these vast benefits, I wish to highlight today six 911 related barriers that must be removed – five of which are addressed by H.R. 3403, and one which I hope can be addressed as the legislation moves forward.

- **First, make sure interconnected VoIP providers have the full toolkit available to provide current generation E911 to consumers throughout the country wherever**

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<sup>2</sup> In a recent survey, nearly 90 percent of Interconnected VoIP early adopter households claim the same or better voice quality and service reliability than traditional landline service (March 2006 survey by Telephia.) Another study found 85% of VoIP calls exceed PSTN quality, and that VoIP calls connect quicker than PSTN calls (Minacom's, August, 2006 Standards-Based, North American & Global VoIP Testing Study.)

**possible.** VoIP providers have made tremendous progress delivering E911 services. But they have had to do so without any assurances that they can get the tools necessary to do so. For example today, the FCC limits the distribution of critical p-ANI telephone numbers necessary to route VoIP 911 calls to certified telecommunications carriers. When the FCC issued its VoIP 911 rules, it also remarkably found that it lacked the authority to require other entities to provide VoIP providers direct access to the 911 network components. These limitations lead to unnecessary delays and gaps in the ability deliver full E911 service throughout the country. This legislation provides VoIP providers with the same access to the 911 network as cell phone (CMRS) providers enjoy today in order to mimic the current 9-1-1 infrastructure. By including reasonable access provisions in the legislation, the 9-1-1 system remains a public trust, not a tool to slow competition. By providing direct access to the 911 network, and increasing the number of selective routers that can be accessed, Congress can remove a critical barrier for consumer adoption of VoIP in new regions of the country, and help narrow the current “digital voice divide” between those who can enjoy the benefits of VoIP and those who cannot. To really close this divide altogether, however, the country needs to move PSAPs, especially those in the hard-to-reach rural areas, to a twenty-first century, IP-based 911 system.

- **Second, providing liability parity.** 911 calltakers are doing one of the most important jobs in the country, but lack the same liability safeguards when receiving a 911 call from a VoIP consumer as from a wireline and wireless consumer. Thus 911 calltakers and PSAPs are potentially exposed to liability and in some cases have refused to accept VoIP 911 calls -- potentially putting lives on the line and VoIP consumers at risk. Unfortunately, numerous jurisdictions across the country have indicated an unwillingness to receive VoIP emergency E911 calls because of the absence of this liability protection. We need your help in removing this ambiguity immediately. Throughout the life of a VoIP 911 call multiple parties (including carriers, VoIP service providers and their partners, and PSAPs and their network partners) touch the call to transfer it throughout the system. Because there are no liability protections

for this call, VoIP providers must often shoulder 100% of the liability with each and every carrier relationship in order to complete the call. This is not the case for any other carrier (wireline or wireless) that is obligated to complete emergency 911 calls. Providing liability parity has broad support among public safety and industry groups alike. We think it's a win win – and one of the most important aspects of this legislation.

- **Third, balancing the need to protect both public safety and innovation.** The VON Coalition commends Congressman Gordon for basing the definition of VoIP used in the bill upon the FCC's definition of interconnected VoIP. It helps to draw a bright definitional line allowing progress, without broadly expanding the FCC's current authority. The FCC's definition of Interconnected VoIP tracks VoIP services that serve as a telephone replacement services. Such clarity is needed to spur further investment and innovation in the next wave of communications technologies. However, the VON Coalition would strongly oppose any effort to expand the existing definition beyond telephone replacement services because it would effectively eliminate these services in their infancy and deprive consumers of new ways to communicate over the Internet without advancing access to emergency services. There are many emerging innovative VoIP services that are not replacements for traditional home phone telephone service, have PSTN connectivity, do not create a 911 expectation, yet provide immeasurable new opportunities for businesses and consumers. We look forward to working with the committee in report language to bring additional clarity to the definition provided.
- **Fourth, preventing specific technology mandates.** This legislation, like the 911 language passed by this committee last year, and the companion bill previously passed by the Senate, includes important language preventing the application of a specific technology mandate – thus helping protect innovation in addition to public safety.

- **Fifth, extending the reach of emergency access by providing flexibility in delivery method.** Unlike other 911 requirements for other types of phones, the FCC's VoIP rules require routing utilizing a specific technology (the selective router), rather than ensuring that all calls get to the correct PSAP regardless of delivery technology. We believe language should be added allowing providers to route 911 calls to the correct PSAPs using the method most likely to achieve accurate and reliable routing. While automated methods are preferable, in limited circumstances providers should be allowed to use human-assisted methods for routing of 911 calls and providing location and callback information when that method is likely more accurate or reliable than automated methods, only when the number of 911 calls routed in this fashion is minimal (e.g., 1% or less of the total 911 calls placed by subscribers to the service.) Like other types of voice service that utilize this technology, we believe it can save lives.
  
- **Sixth – but not least – advancing a next generation IP-based 911 network with VoIP in its core.** Trends in communications mobility and convergence have put our 9-1-1 system at a crossroads. The nation's 9-1-1 system, based on decades-old technology, cannot handle increasingly mobile and increasingly digital communications – let alone withstand disasters like Katrina. It also creates a barrier to delivering E911 service in sparsely-populated rural areas. It is based on a communications technology that most businesses have moved far beyond. There is now a growing consensus on the shortcomings of the present 9-1-1 system and the need for a new, more capable system. When we can harness the power of VoIP to transform the 911 network itself, we can help unleash a host of breakthrough emergency advances never before possible. By migrating to such a VoIP based emergency network, 911 calls might one day include:
  - ***Automatic language preferences.*** By pre-selecting a user's language preference, an emergency call could be automatically routed to a call taker that speaks the caller's native language, potentially saving time and saving lives.
  - ***Pictures and video.*** Getting pictures and video from cell phones at the scene of a crime or

in the midst of an emergency directly into the hands of first responders can further improve emergency response.

- ***Information on a caller's medical status.*** If consumers choose to pre-enter vital medical information (e.g., whether an Alzheimer patient lives at the registered location; the heart medicine a subscriber uses), call takers and emergency responders could access critical information that could make the difference between life and death.
- ***Maps and other location specific information.*** Call takers could access maps of commercial buildings or notes about hazardous on-site chemicals – data that could prove critical to emergency responders.
- ***Ensure that all 911 calls can be answered.*** Katrina underscored the limitations of the current 9-1-1 infrastructure. During Katrina, some 36 PSAPs went down and couldn't answer 911 calls after a single tandem failed. A VoIP enabled emergency network, using a network designed to withstand nuclear attack, allows calls to travel over any available network and for overflow calls to be rerouted just like a modern call center. For massive emergencies, such overflow could be critical. A VoIP network also allows nomadic 911 calltakers to take calls from a remote location in an emergency in the event that a primary site is taken offline. And by converging communications over a single IP network, it means 911 can become another node in broader IP based emergency response network.

I want to close by highlighting the extent to which creating a next-generation, IP-based and VoIP-enabled 911 network needs to be a public safety priority, even surpassing attempts to jury-rig today's antiquated wireline 911 network for tomorrow's technologies and services. The advent of VoIP, including interconnected VoIP services, is ushering in a new era of disaster-proof communications systems. VoIP and other IP-based communications services increasingly serve as the foundation of "survivable" networks that provide reliable and efficient connectivity in emergency situations even when key infrastructure has been disabled or destroyed. Because it operates over decentralized IP networks with redundant paths between any two points,

interconnected VoIP service mitigates the dire consequences that can otherwise result from single points of failure.

VoIP communications have proven their resilience repeatedly in emergency situations. In an assessment issued following the September 11th attacks, the National Academies concluded that the Internet had been far more reliable than other communications networks and that network operators turned to VoIP for communications when traditional networks failed.<sup>3</sup> Likewise, the Katrina Panel, established by the FCC to prepare an independent study of the hurricane's impact on communications, issued a comprehensive report detailing the fragility and failures of traditional networks while lauding VoIP's robust capabilities and inherently redundant network design.<sup>4</sup> In particular, the Katrina Panel reported that some of the storm's devastation – service failure for more than 3 million wireline customers and key infrastructure disruptions that isolated emergency responders – could have been mitigated, and restoration facilitated, if public safety entities had redundant systems in place.<sup>5</sup>

Nomadic interconnected VoIP services also played a well-documented role during Katrina's immediate aftermath. The unique mobility and decentralized aspects of VoIP were utilized by FEMA, the Red Cross, the army, hospitals, emergency responders, for telethon call centers, and utility workers restoring service. Even in the eye of the storm, after the category 5 hurricane

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<sup>3</sup> See National Academies, Computer Science and Telecommunications Board, *THE INTERNET UNDER CRISIS CONDITIONS: LEARNING FROM SEPTEMBER 11* (2003) (“As a whole, the attacks affected Internet services very little compared with other telecommunications systems. Telephone service was disrupted in parts of lower Manhattan, and cell-phone service suffered more widespread congestion problems. Nearly one-third of Americans had trouble placing a phone call on the day of the attacks. The Internet, however, experienced only a small loss of overall connectivity and data loss, the report says. With phone service impaired, some individuals used instant messages on their wireless handheld devices and cellular phones to communicate instead. Web sites were created to distribute lists of missing persons and other information to help people try to locate loved ones.”).

<sup>4</sup> See Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, Report and Recommendations to the Federal Communications Commission (June 12, 2006) (reprinted as Appendix B to *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, Notice of Proposed Rulemaking, 21 FCC Rcd. 7320 (2006)).

<sup>5</sup> See *id.* at 8, 23.

disabled completely the New Orleans city government's telephone network and all other communications systems, the New Orleans Mayor was able to utilize a nomadic interconnected VoIP phone to call to President Bush and to coordinate the efforts of state and local authorities. The Mayor's staff was able to deploy interconnected VoIP "virtually" by downloading software to several laptops and establishing several VoIP accounts. For five critical days following the storm, this interconnected VoIP connection provided the Mayor's only reliable outside contact.<sup>6</sup>

The success and promise of interconnected VoIP in the face of actual emergencies demonstrates the public safety advantages of nomadic VoIP. Indeed across the country states, local communities, and federal agencies have adopted interconnected VoIP communications systems since September 11th and Katrina in order to provide more capable emergency communications.

- In Tammany Parish, Louisiana – where Katrina destroyed the tandem serving the PSAP and virtually all other wireline infrastructure – parish officials have converted to an IP-based public safety communications system that, among other things, incorporates network redundancies allowing the PSAP to connect with other PSAPs in the region independent of the 911 tandem.
- The state of Washington's Emergency Management Division has created a self-contained mobile command post that relies on satellite-connected nomadic interconnected VoIP to provide communications capability on a moment's notice in disaster recovery situations.<sup>7</sup>
- The Arizona state government implemented an interconnected VoIP communication systems in each of its 114 state agencies – and now has new capabilities in an emergency not previously possible.<sup>8</sup>

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<sup>6</sup> See Christopher Rhoads, Cut Off: At Center of Crisis, City Officials Faced Struggle to Keep in Touch, WALL STREET JOURNAL (Sept. 9, 2005) (available at [http://www.von.org/usr\\_files/Katrina%20-%20WSJ%20-%20Cut%20off%20Mayors%20office%20uses%20VoIP%209-9-05.pdf](http://www.von.org/usr_files/Katrina%20-%20WSJ%20-%20Cut%20off%20Mayors%20office%20uses%20VoIP%209-9-05.pdf)).

<sup>7</sup> See Placing Cost Effective VoIP Satellite Communication in the Hands of our Emergency First Responders (Feb. 24, 2006) (available at <http://news.thomasnet.com/companystory/478586>).

- The State of Georgia has launched a statewide interoperable public safety network based on VoIP to allow interoperability between radio, 911, and other public safety networks.<sup>9</sup>
- In southern Florida, not only does the state emergency management agency utilize VoIP for its disaster assistance, but small businesses in Florida<sup>10</sup> too have turned to nomadic VoIP because when phone lines go down in a hurricane, small businesses can maintain communications with clients simply by plugging their phone into any working broadband connection – or booting up a laptop in a Starbucks and be back in business.

Federal agencies are taking advantage of the innovative power and public safety potential of interconnected VoIP communications as well:

- The Department of Homeland Security has recognized the central role that VoIP can play in disaster response and recovery, and has put together an effort involving public safety and industry experts to explore the critical public safety communications needs that IP-based systems can serve.<sup>11</sup>
- In the wake of 9/11, the Department of Commerce converted its outdated analog phone system to an agency-wide interconnected VoIP system to enhance its ability to make emergency broadcasts similar to a “reverse 911”; depending on the nature of a

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<sup>8</sup> See Dan Tynan, *Arizona Hears the Call of IP Telephony*, *Government Computer News* (Aug. 29, 2005).

<sup>9</sup> The Georgia Office of Homeland Security/Georgia Emergency Management Agency (OHS/GEMA) asked the Georgia Tech Research Institute (GTRI) to help implement a statewide communications system that enables interoperability among public-safety agencies by taking advantage of VoIP’s inherent advantages and enabling first responders to use their existing equipment.

<sup>10</sup> See “VoIP provides small business with a defense against hurricane damage”, June 12 2006, *Sun-Sentinel*

<sup>11</sup> The Department of Homeland Security roundtable found that IP-based systems have several critical disaster-recovery applications, including: radio system connections (*i.e.*, connect communications center to a mountain top transmitter); radio system to radio system interface (*i.e.*, connecting two or more radio systems via a VoIP link); dispatch interface (*i.e.*, using VoIP to enable dispatchers to communicate with each other); bridging systems (*i.e.*, using VoIP to connect radio systems that do not support direct interconnection); system and subscriber unit interfaces (*i.e.*, communications from radio system to radios, PDAs, wireless laptops, or direct communications among such devices, in the event of infrastructure failure). See Department of Homeland Security, Office for Interoperability and Compatibility, *Roundtable on Public Safety Interoperability and Voice Over Internet Protocol (2007)* (available at <http://www.safecomprogram.gov/NR/rdonlyres/F5097180-FD4C-463A-8050-F24489853ED7/0/2ndRoundtableonPublicSafetyInteroperabilityandVoIPmeetingreport.pdf>).

particular emergency situation, Commerce officials can direct voice, text, or data information to all employees or to specified subgroups.

- From our nation's air craft carriers, to our troops in Iraq – VoIP has extended the reach of, and improved communications options for this country. Indeed, even Congress has recognized VoIP's fundamental role in interoperable communications for use in disaster-recovery by passing legislation signed into law earlier this year modifying NTIA's \$1 billion interoperable communications grant program by clarifying that IP-based solutions are eligible targets for funding.<sup>12</sup>

The VoIP communications industry is justifiably proud of the technology's achievements in the public safety arena, and it continues to make emergency services a key priority. Yet in light of interconnected VoIP's impressive track record and largely untapped public safety potential, VoIP providers need this committee's help in advancing legislation to remove the barriers that can make these vital public safety technologies available in more regions and in more ways.

This legislation would help further accelerate VoIP 911 solutions by providing direct access to the 9-1-1 network, enabling equivalent liability relief for call-takers, maintaining a bright-line on covered services, and requiring a national plan for a next generation 9-1-1 system. It represents an important recognition that fostering complete and comprehensive solutions for the delivery of 9-1-1 calls by VoIP providers is important for consumers and industry alike. Given the urgency of the issue, we are calling on this committee to act quickly to ensure workable 911 and E911 solutions for VoIP.

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<sup>12</sup> See Pub. L. No. 110-53, Implementing Recommendations of the 9/11 Commission Act of 2007, § 2201 (“Nothing in this section shall be construed or interpreted to preclude the use of funds under this section by any public safety agency for interim or long-term Internet Protocol-based interoperable solutions.”).

The VON Coalition would again like to thank this Committee for its leadership on VoIP. With continued leadership from this Committee, the VON Coalition believes that the potential for an immense new wave of VoIP-led technological innovation is at your doorstep. The VON Coalition looks forward to working with you to achieve this bright future.

Thank you very much. I am happy to answer questions.

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HEARING ON H.R. 3403, THE 911 MODERNIZATION AND PUBLIC SAFETY ACT OF 2007  
SUMMARY**

Dialing 9-1-1 can be the most important call a person ever makes. That is why VoIP providers have made providing 9-1-1 emergency service in an Internet world a paramount priority. We have gone to extraordinary lengths to make astonishing progress under a very ambitious timetable. We are proud to tell you that Interconnected VoIP services now provide E911 to more than 97 percent of their subscribers -- the fastest and broadest onetime implementation of E-911 in the history of public safety.

To accelerate the vast benefits of VoIP competition, I wish to highlight today six 911 related barriers that must be removed – five of which are addressed by H.R. 3403, and one which I hope can be addressed as the legislation moves forward:

**First, make sure interconnected VoIP providers have the full toolkit available to provide current generation E911 to consumers throughout the country wherever possible.**

**Second, providing liability parity.**

**Third, balancing the need to protect both public safety and innovation.**

**Fourth, preventing specific technology mandates.**

**Fifth, extending the reach of emergency access by providing flexibility in delivery method.** Unlike other 911 requirements for other types of phones, the FCC's VoIP rules require routing utilizing a specific technology (the selective router), rather than ensuring that all calls get to the correct PSAP regardless of delivery technology. We believe language should be added allowing providers to route 911 calls to the correct PSAPs using the method most likely to achieve accurate and reliable routing.

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