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Subcommittee on Communications, Technology, and the Internet

Hearing On: State of Wireline Communications

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Chairman Pryor, Ranking Member Wicker, and Members of the Subcommittee, thank you for this opportunity to discuss the state of our nation's wireline communications networks. My name is Gigi Sohn and I am the President and CEO of Public Knowledge, a nonprofit public interest organization that promotes the public's access to information and culture through open, competitive, and universally accessible and affordable communications networks.<sup>1</sup>

### **Introduction**

The transition of our wireline networks to Internet Protocol (IP)-based services is a tremendous opportunity for our nation, but we must make sure the transition results in an actual upgrade in technology without a downgrade in the services upon which Americans depend. Right now we are in the midst of the transition: carriers are already actively moving their networks from the traditional Time-Division Multiplexing (TDM) protocol to IP-based technology. At the same time, we are seeing carriers show increasing interest in replacing their copper infrastructure with wireless service or with fiber for portions of their networks, often depending on the density and average income of each particular market.

For decades, our country has used reasonable rules based on fundamental principles to build a phone network that became the envy of the world. We are the country that brought a phone to every farm—the country that built a network you can count on. We accomplished this by moving certain fundamental values forward with us as our communications networks evolved since the founding of our country. As we now face the opportunities and challenges of implementing the next generation of communications technology, we must continue to leave no one behind.

For decades, the phone network in the U.S. has quietly and reliably provided benefits to the American public. These benefits have become so firmly engrained in the U.S. economy, public safety systems, and personal communications that users take for granted the consumer protections and competition policies that make them possible. These benefits were not a happy accident—they were the result of deliberate communications policies that demanded a telecommunications network that served its users first and foremost.

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<sup>1</sup> I would like to thank my Public Knowledge colleagues Jodie Griffin, Christopher Lewis, Harold Feld, Clarissa Ramon, and Girard Kelly for assisting me with the research and drafting of this testimony.

Just listing a few of the things we love about our phone network reveals how we are so used to relying on the protections of the phone network we often don't even notice them. We conduct our business and personal communications as if we can always trust that the phone network will just work—because it will. We can choose to use whatever phone we want. When the power goes out during a natural disaster, our phones—and the central offices that service them—will keep working. In times of emergency, we can always call for aid from police, firefighters, and medical teams. When someone calls a friend on another phone network, that call will always go through—regardless of which carriers the two users subscribe to or where they each live. When the bill comes for that call, the user can rest assured that there will be no fraudulent charges and the carrier will not have “traded” her to another carrier without her permission. If a user changes phone companies, she can keep her phone number. We know that we can benefit from the innovations and features built on the phone network because it is an open platform: innovations like the internet, new handsets, calling cards, and collect calls. And in the rare instance that any part of this system breaks down, we know that there are government authorities at the local, state, and federal levels equipped to fix the problem and protect users' interests.

Every single one of these benefits is the result of deliberate policy choices that served specific basic values. Our phone network became the unparalleled success we know today because our policymakers valued five fundamental principles: 1) service to all Americans; 2) competition and interconnection; 3) consumer protection; 4) network reliability; and 5) public safety.<sup>2</sup> These values are no less relevant and, if anything, are even more important as we begin the transition to the next iteration of our nation's communications networks.

The transition of our phone network is happening now because there is already a business case for it. The fact that the carriers are already actively updating their networks now means we need not worry that our current rules are standing in the way of the transition, but this is still an appropriate time for policymakers to review and update the rules for new technologies and ensure our communications policy continues to put everyday Americans first. The technology we use to communicate may be changing, but our basic social goals and values remain the same.

### **The Transition To All-IP Is a Good Thing, But It Must Be Handled Responsibly**

The transition to newer technologies in our communications network presents a tremendous opportunity for better service, new features, and more efficiencies that can be passed on to consumers. This does not, however, in any way lessen the public's need for continued consumer protection and competition policies that have made our communications network such a success for the past 100 years. For this reason, Public Knowledge fully supports the phone network transition. But we must make sure this transition is a step forward, not a step backward, for everyday Americans.

In addition to new opportunities, the phone network transition presents risks that the new networks will lack important features that consumers have counted on for decades. This means

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<sup>2</sup> See Jodie Griffin and Harold Feld, *Five Fundamentals for the Phone Network Transition*, PUBLIC KNOWLEDGE (July 2013).

that policymakers at all levels of government must ensure that the transition is handled responsibly and everyday Americans are not left worse off during or after the transition.

When users' ability to call 9-1-1, conduct business, or reach loved ones is at stake, we cannot afford to permit carriers to engage in self-help. This summer we have already witnessed what happens when carriers replace their traditional networks with new technology without guidance from authorities. Verizon's deployment of its fixed wireless service, Voice Link, has deprived customers in Fire Island, New York of important network services without advance public notice or input. This cannot become the "new normal." We are in the midst of an important transition, but that does not mean we can let people be cut off from the services they count on.

The first step to preserving a communications network we can all depend on is establishing the basic values that will guide policymakers' approach to the transition going forward. We need a basic framework of values to evaluate the many proposals that have been put forward before federal, state, and local regulators regarding the phone network transition. After all, for policymakers to know how to respond to an idea they must first know what goals and values the idea is supposed to serve. In the case of the phone network transition, policymakers can guide the transition to IP by relying on the same fundamental principles that made our phone network the envy of the world.

### **The Transition Will Especially Impact Rural Americans and Small Businesses**

The new pattern of carriers eager to replace existing networks with new, untested technologies after natural disasters or when wireline networks have simply been allowed to degrade will have especially strong consequences for rural Americans and small businesses. Rural areas depend on wireline services more than most, especially because wireless deployment—even beyond its general limitations compared to wireline service—is not very strong in rural areas. And when a rural community loses a wireline service provider that offered DSL or other broadband service, there is rarely any competing service to turn to for continued internet access. At the very least, the rural farmers who grow our food should know that they will be able to make phone calls and access the internet when needed to check weather patterns, predict crop growth, and make business arrangements to harvest and transport crops. This also impacts more than just rural communities themselves—when farmers are arranging food shipments to *your* town, do you want them to lose service?

The recent rural call completion problem also reminds us that rural communities may bear the brunt of unexpected complications tied to the IP transition, with potentially devastating consequences. As carriers switch to IP technology, it becomes possible for them to route calls through Least Cost Router systems, creating latency and sometimes trapping calls in perpetual loops so calls to or from rural areas do not go through. The Commission has rightly recognized that this issue speaks to our foundational expectation that the phone network will be reliable for all Americans, including those in rural areas, and has opened a proceeding to learn more about exactly why the rural call completion problem is getting worse.<sup>3</sup> But even so, the FCC has received some shockingly inadequate carrier responses to rural call completion complaints. For

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<sup>3</sup> *Rural Call Completion*, Notice of Proposed Rulemaking, WC Docket No. 13-39 (rel. Feb. 7, 2013).

example, one carrier told the FCC: “We have contacted the [rural complainant] and have successfully resolved this matter by advising [her] that due to living in a rural area she will experience service issues.”<sup>4</sup>

This is why we need rules of the road: problems will inevitably arise as old systems fade away and new ones arise, but carriers have clearly shown that we cannot simply assume that companies will voluntarily defend the fundamental principles that have made our communications networks great. Meanwhile, 25 states have eliminated or reduced state commission authority over telecommunications services, and 12 states (all of which are in AT&T’s incumbent local exchange carrier territory) have eliminated or reduced carrier of last resort obligations.<sup>5</sup> Particularly where the states have effectively written themselves out of the conversation through deregulation, everyday Americans are relying on federal authorities as their sole defender to protect the reliable, affordable communications access they count on.

The National Rural Assembly’s Rural Broadband Tales<sup>6</sup> reminds us how everyday rural Americans rely on communications networks to conduct business, pay their bills, and pursue education. If these communities see their internet access replaced with voice-only fixed wireless services like Voice Link, or continue to lack adequate broadband access in the first place, we all miss a huge opportunity to develop our economy and connect our nation. Here are just a few of these stories:

- John Hicks, a coal miner from Perry County, Kentucky, explains that his internet service drops around 300 to 400 times per month, leaving him unable to pay his bills and his children unable to do their homework.
- Joyce Dearstyne from Elk City, Idaho tells how, if she had access to broadband, she could “utilize e-commerce capabilities to promote artists in the woods and other value-added good products and create a level playing field for my businesses and artisans to compete throughout the world.”
- John Carwell, a minister from southeastern Kentucky suffers from (1) no wireless service and (2) poor broadband service. He explains, “[w]e feel helpless when we talk to the communication companies. We say we have the tower and land to put your services and equipment on... We’re helpless because the response is always ‘well there’s not enough people.’ That’s tough to hear because what they’re saying is ‘your area’s not worth it.’”

Similarly, small businesses—particularly those in areas with terrain inhospitable to wireless service—are vulnerable to losing necessary communications services if this transition is not handled responsibly. If a business’s wireline connection is replaced with a service like Voice Link that does not support internet access or credit card processing, they risk going out of

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<sup>4</sup> FCC Enforcement Advisory, Rural Call Completion: Long Distance Providers Must Take Consumer Complaints About Rural Call Completion Problems Seriously (July 19, 2013), [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2013/db0719/DA-13-1605A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0719/DA-13-1605A1.pdf).

<sup>5</sup> Sherry Lichtenberg, Ph.D., *Telecommunications Deregulation: Updating the Scorecard for 2013*, NATIONAL REGULATORY RESEARCH INSTITUTE, at 1, 20-22 (May 2013).

<sup>6</sup> *Rural Broadband Tales*, <http://placestories.com/project/7996#!v=stories>.

business entirely. If a restaurant cannot take your credit card because it only has a voice line, or its service was just dropped, you likely won't be inclined to return. When a coffee shop can no longer offer WiFi because its internet connection has been taken away, the fact that the shop might have an almost-as-reliable wireless voice-only service in its stead will be cold comfort as it watches paying customers walk out the door.

These are the risks faced by every area that faces potential natural disasters, every town that contains small businesses, and every community that wants this transition to be a step forward, not a step backward. This is why we must be diligent in shaping a phone network transition that creates new, better services protected by strong, certain rules.

### **A Cautionary Tale: Transitioning After Natural Disasters**

It is clear that the continued success of our communications networks depends on reasoned rules and strong consumer protection during and after the phone network transition, and that need is even greater in communities likely to experience or already experiencing the transition, like rural areas and areas damaged by natural disasters. The examples we have already seen where carriers have transitioned communities to new networks on their own initiative warn us of what happens if policymakers do not step in to protect consumers. Without strong guidance, we all face the very real danger that the phone network transition will be a technological step backward and a downgrade in consumer protection.

Communities and their residents have always had to deal with temporary network outages after natural disasters, but now that we are in the midst of the phone network transition, we are seeing instances where carriers want to respond to damaged networks by replacing the existing networks with new, untested services, rather than repairing or rebuilding the infrastructure the community has relied on for decades. Like the rest of the phone network transition, this can be an opportunity for better, newer service for the community, but unfortunately we have already seen how it can also force customers—who are already trying to rebuild their lives after a devastating natural disaster—to accept less reliable, more restricted services than what they had before.

For example, after Hurricane Sandy damaged the existing copper network in communities on the East Coast, Verizon decided to replace its copper-based service with a fixed wireless service called Voice Link in certain areas. Voice Link works by connecting a device linked to Verizon's wireless network to a customer's house. It is now clear that Voice Link constitutes a substantial step backward for many of the permanent residents in Fire Island, New York, hundreds of whom have already complained to the New York Public Service Commission. As a wireless service, Voice Link does not offer the same reliability and quality of service that the copper did, and it requires the customer to remember to recharge or replace its batteries to function during a power outage. Verizon specifically disclaims liability if it negligently lets the wireless network become too congested for 9-1-1 calls to go through. And, unlike the copper

network, Voice Link does not support important features like Life Alert, other medical alerts, security alarms, internet access, credit card processing, calling cards, and collect calls.<sup>7</sup>

Even a quick glance through the New York State Public Service Commission's public comments and press reports reveals how much these changes are impacting real customers' lives:

- R. Bruce Minoff, among many other customers, complains that wireless service in his family's area is spotty, so they now have no option at all for reliable phone service.
- Dr. Samuel J. Mann complains that he cannot reliably receive emergency calls from his hospital now, while other families, like Sonia Gluckman, are worried that they will not be able to reach a doctor if their elderly parents need urgent medical care.
- Mr. and Mrs. Howard Bedell express concern that their father cannot use Voice Link for Life Alert or to remotely connect pacemakers and other medical devices to their hospitals, as they previously could using Verizon's copper network.
- Customers—particularly small business owners like realtor Jean Ufer—report that they can no longer turn to uncapped DSL internet access for approximately \$30 per month, and instead pay \$80 per month for just 10 GB of data on a 4G wireless connection. Even outside of the office, Ms. Ufer also noted that the switch to Voice Link has prevented her husband from having his pacemaker remotely monitored, as he used to over the copper line.
- Jonathan Randazzo, who owns five restaurants and businesses on Fire Island, had his credit card machine stop working on a recent Saturday evening. According to the *Washington Post*, Randazzo “hopped from table to table, scribbling credit card numbers and asking for signatures he created on a Word document printed out from his computer.”<sup>8</sup>

Every day more complaints come in; it is clear that customers of all backgrounds are outraged at having been switched to an inferior service with no prior public notice or input.<sup>9</sup>

Voice Link is one startling example, but the lessons are by no means limited to Verizon, Voice Link, or Fire Island. This could happen to any community that has ever experienced a hurricane, tornado, earthquake, blizzard, flood, or storm strong enough to damage network lines. We all have a stake in making sure policymakers protect the interests of everyday Americans, especially people trying to rebuild their communities after devastating natural disasters. Hurricane victims cannot become the de facto guinea pigs for the phone network transition—if

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<sup>7</sup> For a comparison of the capabilities of Voice Link and the previous copper-based telecommunications service, please see Appendix A.

<sup>8</sup> Cecilia Kang, *Verizon Pursues All-Wireless Phone Service in Seaside NY Town*, WASHINGTON POST (July 4, 2013), [http://www.washingtonpost.com/business/technology/verizon-pursues-all-wireless-phone-service-in-seaside-ny-town/2013/07/04/9120fa80-ac4c-11e2-a198-99893f10d6dd\\_story\\_1.html](http://www.washingtonpost.com/business/technology/verizon-pursues-all-wireless-phone-service-in-seaside-ny-town/2013/07/04/9120fa80-ac4c-11e2-a198-99893f10d6dd_story_1.html).

<sup>9</sup> For more selected public comments submitted to the New York State Public Service Commission, please see Appendix B.

we have pilot programs for new technologies, they must be transparent and carefully controlled to protect the communities testing the new technology.

### **The Transition Should Be Guided by the Five Fundamentals**

As we move forward in the phone network transition, we need a basic framework to establish the fundamental values that undergird our communications networks and guide new policy proposals. Working within a values-based framework ensures that our 21<sup>st</sup> Century rules will benefit everyday Americans, not just the dominant corporations in the telecommunications industry.

Public Knowledge submits that this framework should consist of Five Fundamentals that have successfully steered communications policy for decades, and continue to protect consumers and encourage innovation today. These fundamental values—service to all Americans, competition and interconnection, consumer protection, network reliability, and public safety—capture the basic principles that made our phone network a resounding success and can do the same for the next generation of communications technology. The reality of tomorrow’s network will depend on the expectations we set today and the values we commit to serving through the transition.

#### *Service to All Americans*

First and foremost, our national communications policy ensures the benefits of our communications network flow to *all* Americans – regardless of “race, color, religion, national origin, or sex.”<sup>10</sup> We have, as a nation, decided to invest in a world-class communications infrastructure and so we should, as a nation, reap the benefits of that infrastructure. The principle of service to all Americans applies whether users live in rural areas or urban areas. It applies to those with any physical disability that would interfere with communication. It applies to all users regardless of their level of income. Today, our efforts to serve all Americans must include initiatives that go beyond traditional concepts of deployment and take advantage of the opportunities presented by new technologies.

Whatever happens, the United States must not be the first industrialized nation to step back from the goal of achieving 100% penetration of basic communications service. While the United States has not yet completely achieved the goal of 100% build-out, it is vital that reaching *everyone* in the country continues to be the goal motivating all stakeholders to continue working until the job is done.

This transition is also an opportunity to look forward: what new opportunities are made possible by new technology, and how does that impact what we determine to be the “basic service” that all should have access to? The Communications Act specifies that universal service encompasses “an evolving level of telecommunications services” and that the FCC should take into account “advances in telecommunications and information technologies and services” as it decides what universal service will look like for homes, schools, libraries, and

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<sup>10</sup> 47 U.S.C. § 151.

health care providers across the country.<sup>11</sup> Access to basic communications services reaps tremendous social and economic benefits to users, regardless of the material or technology used to transport the communications.

It remains to be seen how the U.S. will continue to pursue the goal of 100% basic service for all Americans as carriers stop maintaining their older, TDM-based facilities. It is clear, however, that universal service and carrier of last resort policies must continue ensuring that all users are able to purchase reliable voice service under nondiscriminatory terms. These policies traditionally applied to all relevant carriers operating in some way on the traditional PSTN. Neither the make-up of the physical plant nor the protocols used to transport data on the network diminish consumers' need for basic service—if anything, advances and new efficiencies in technologies may justify raising the standard for what is considered basic service.

One of the most important goals of communications policy in the United States is reaching universal service for all Americans across the country. The transition of the PSTN is an opportunity to expand and improve the communications service that all Americans receive, and our communications authorities must determine how they can continue to serve that goal as the traditional make-up of the PSTN changes.

### *Interconnection and Competition*

Interconnection and other competition policies lie at the heart of the development of a robust and competitive communications network. As we saw more than 100 years ago, without mandatory interconnection the phone network will slide inevitably toward monopoly as the largest carriers can gain anticompetitive advantages by withholding access to their customers from competitors. As carriers now move toward all-IP networks, policymakers must determine how they will ensure interconnection and competition among providers post-transition. These policies are critical to creating and maintaining a functioning interconnected network and a competitive market for communications services.

The duty to interconnect with other networks was first a means of enabling universal service in rural areas in the days of the old AT&T monopoly so rural cooperatives, municipalities, and local businesses brought service to places AT&T found too expensive to serve. Later, as amendments to the Act shifted national policy from regulated “natural monopoly” to encouraging competition among competing networks, interconnection became the *sine qua non* of fostering and developing competition. Unless we propose to return to the days of regulated natural monopoly, policymakers must absolutely guarantee that competing networks will continue to accept each other's traffic and terminate each other's calls in a manner that both preserves call quality throughout the country and actively promotes a robust and competitive environment.

In particular, subscribers to different networks must not find themselves with dropped calls or degraded quality of service due to “peering disputes” between carriers. If NBC and AT&T have a retransmission dispute and AT&T video subscribers temporarily lose NBC programs, it is annoying. But if Comcast and AT&T have a “peering dispute” and millions of

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<sup>11</sup> 47 U.S.C. § 254(c).



AT&T wireless customers cannot call Comcast landlines, it is a disaster. It is not enough to speculate that incentives will prevent such a thing from occurring. Policymakers must make sure such an event continues to be *impossible* after the transition.

It is not just idle speculation to imagine this happening in a post-transition PSTN. Already, some carriers are refusing to file IP-to-IP interconnection agreements at the state level. Without adequate interconnection requirements, consumers may find themselves suffering from interconnection disputes between carriers that provide not just their video and internet access, but their basic voice service as well. If the interconnections that have tied together our voice network unravel, dominant service providers will be able to leverage their customer bases against competitors and control increasingly large shares of the market, resulting in higher prices and fewer choices for consumers.

Interconnection and competition policy also require an examination of potential reform in call termination and access charges. Even now, rate-of-return carriers that serve rural areas have reported increasingly poor phone service quality and increasingly frequent customer complaints. This quality decay prevents small businesses from offering prompt service, threatens to hinder emergency calls to or from public safety officials, and thwarts customers' efforts to communicate with loved ones. These complaints should be taken as a warning of things to come if interconnection requirements are not adequately implemented and enforced in the post-transition PSTN.

The phone network transition also calls into question the future of other rules and policies designed to encourage competition among communications providers. For example, local number portability (LNP) obligations have currently been extended to VoIP providers so that VoIP customers may keep their North American Numbering Plan (NANP) telephone number when changing providers. LNP rules encourage competition by allowing consumers to respond to providers' price and service changes without losing their phone numbers. But at this juncture the questions inevitably arises: when the traditional PSTN is gone, what will happen to the NANP? How can LNP rules extend to all phone service providers without revisiting the foundation of the NANP or classifying VoIP service?

Additionally, to preserve a competitive environment in wireline, the law must provide certainty that businesses and competing carriers will be able to obtain special access services at reasonable rates. If a carrier desires to exit a market completely, Congress must ensure that consumers are not left behind by protecting the right of local communities and governments to provision their own communications services.

As the PSTN transitions to new physical facilities and IP protocols, it is critical to the competitive future of the market that the law and rules ensure carriers will continue to interconnect and rules will continue to promote competition in the marketplace to the benefit of consumers.

### *Consumer Protection*

When we talk about a system that everyday Americans count on to call 9-1-1, businesses, and loved ones, we cannot ignore users' need for consumer protections in the network.

Competition is important, but it does not always guarantee consumer protection. From the privacy of phone calls to truth-in-billing to slamming and cramming, Americans rely on a safety net of rules that protect them when they communicate with one another. Throughout and after the PSTN transition, consumers must continue to be adequately protected—including effective recourse through the timely resolution of complaints.

But on the federal level, the Federal Communications Commission has only extended privacy rules to interconnected VoIP services by reasoning that those VoIP services send calls to and receive calls from the traditional phone network.<sup>12</sup> It makes sense that customers should be able to rely on the same protections they have always enjoyed when they switch to what by all appearances seems like a pure replacement for “regular telephone” service. However, without further guidance or action it is unclear how the FCC will be able to continue applying these rules to VoIP by relying on its authority over the traditional phone network when the traditional phone network as we know it has been retired.

Even worse, “slamming” rules that prevent carriers from switching subscribers’ services without permission and “cramming” rules that forbid carriers from adding unauthorized charges on customers’ phone bills only apply to providers that use the older, TDM-based, technology, and do not apply to VoIP providers at all. Leaving consumers vulnerable to predatory practices with no avenue for recourse cannot become the new normal. Consumers should not be punished for upgrading to new technology by receiving downgraded protections.

As the PSTN begins to transition to IP protocols and other upgraded technologies, policymakers must come to terms with how they will continue to protect consumers post-transition. All signs indicate that consumer protection rules will be equally, if not more, important post-transition than they are today, and if anything consumer protection agencies will need flexibility to ensure that current and future consumer protection rules serve the same basic social needs as they do today.

### *Network Reliability*

A comprehensive framework for the PSTN would be incomplete without a principle ensuring that the basic mechanisms of the network will continue to function throughout and after the PSTN transition, even and especially in emergency situations. Above all else, Americans rely on their communications networks to work consistently and reliably. Above all else, a successful transition means that phone numbers still work and calls still go through with the same reliability they do today.

The first and most fundamental criterion for network reliability is ensuring that basic network mechanisms will continue to function during and after the transition. We must therefore determine how the fundamental mechanisms underlying the phone network today will continue to operate when the traditional PSTN technology no longer exists. The FCC currently exercises its authority over phone numbers to distribute phone numbers through the North American Numbering Plan (NANP). Most VoIP providers must buy phone numbers through another carrier that uses the PSTN instead of obtaining numbers directly from a NANP Administrator. This

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<sup>12</sup> 47 U.S.C. § 222.

raises the stark and critical question: who will be able to obtain numbers when all carriers have transitioned to IP-based technology? How will phone numbers work in a world with no TDM-based PSTN? These are questions that we absolutely must answer if the phone network as users now know it is to continue operating post-transition.

After the transition, there will also be no “copper safety net” to offer the reliability that users have come to expect with basic phone service. Nevertheless, users’ phone service—regardless of the protocols or materials it uses—must be able to withstand emergency situations. Even at this early point we are witnessing phone network technology “upgrades” result in less redundancy and back-up power in the system and increased reliance on the commercial power grid, creating a single point of failure when users need to communicate most. This does not mean that the only answer is to hope that fiber or wireless services suddenly become self-powered as copper is, but it does mean that we must find new ways to ensure a reliable phone system that doesn’t let customers down when they need it most.

The impact of the transition to IP-based networks on reliability is unfolding before us in real time. After Hurricane Sandy, Verizon acknowledged that the storm caused outages in its FiOS voice, internet, and video services, while users across the affected areas lined up outside to use pay phones connected to the copper network. Similarly, this past January customers of AT&T’s U-verse voice, internet, and video services suffered outages for days due to problems with a software upgrade. As one customer hit by the outage put it, “You go on U-verse, and the old handy dandy landlines that would work no matter what? . . . That’s not happening any longer.”<sup>13</sup> This, of course, is no new phenomenon. Outages by cable providers have been periodically denying subscribers their services for years. Such outages would be unacceptable in the TDM-based, circuit-switched world, and they must be equally unacceptable in the IP world.

This means that the FCC, and other regulatory authorities, must determine how they can ensure that the post-transition PSTN continues to guarantee robust service for everyday uses and for emergency circumstances, when users need communications services most. As the PSTN continues its transition, policymakers must decide how they will ensure that consumers can continue to expect that their phone calls will go through, every time.

### *Public Safety*

Finally, it is unquestioned that when someone calls 9-1-1, that person needs to know beyond a shadow of a doubt that she will be connected in one second. Everyday Americans rely on 9-1-1 daily to call for help in time of need. The FCC has already begun to look to the future of public safety requirements with the Next Generation 9-1-1 transition.<sup>14</sup> This conversation, however, is best situated in the broader context of the overall PSTN transition, both to evaluate

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<sup>13</sup> Brian X.Chen, *AT&T’s TV, Phone and Internet Service is Down in Some States*, N.Y. TIMES BITS BLOG (Jan. 23, 2013), <http://bits.blogs.nytimes.com/2013/01/23/atts-tv-phone-and-internet-service-is-down-in-some-states/>.

<sup>14</sup> The FCC is also working with surer authority in this area compared to other aspects of the PSTN transition, based on the Next Generation 9-1-1 Act. See Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96 (2012), Title VI, Subtitle E.

the effect of 9-1-1 proposals on other aspects of the network, and to anticipate the impact of non-9-1-1 proposals on our emergency communications structure.






















Public safety rules must ensure that emergency services like 9-1-1 and geolocation technologies continue to help first responders offer emergency care, regardless of whether the network that the customer uses is wireless or wireline, copper or fiber. The conversion to an all-IP network offers an opportunity to further facilitate emergency communications, and that opportunity must not be squandered. This also includes ensuring that the thousands of alarm systems and alarm system standards that rely on access to a “telephone line” are not disrupted by the transition, as we have seen them be disrupted by the transition to Voice Link in Fire Island, New York.

When the traditional architecture of the PSTN no longer exists, it is crucial that consumers are able to contact emergency services when they need it most. The moments in which the public relies upon emergency services like 9-1-1 are literally life-or-death, and it is crucial that policymakers implement rules that maintain the public safety components of the phone network. To its credit, the FCC has already begun the process of creating a framework for next-generation 9-1-1 services, but these issues must also be considered in the broader context of the overall shift of the PSTN to new technologies.

### **Conclusion**

The transition of the phone network presents new opportunities and new challenges for policymakers seeking to ensure new networks constitute a true step forward, not a step backward, for everyday Americans. The stakes are high. The choices policymakers make now will impact how the public conducts business, communicates with loved ones, and reaches emergency services. Public Knowledge urges Congress to follow the basic values that have informed our communications networks since the founding of our country to ensure we can all continue to enjoy a communications network we can count on.

## Appendix A

 <b>Public Knowledge</b>		
<b>What Voice Link Doesn't Do That Copper Does</b>		
	Traditional Copper Phone Service	Verizon Voice Link
Will 911 work during congestion?		
Will medical alerts work?		
Does it provide access to broadband?		
Will home security systems work?		
Does credit card processing work?		
Can you make international calls (without a separate international calling plan)?		
Will you be able to use calling cards?		
Will you be able to receive collect calls?		
Will you be able to make a local call without an area code?		
Will fax machines work?		

## Appendix B

The following are just some examples of the hundreds of public comments submitted to the New York State Public Service Commission in its proceeding on Verizon's Voice Link deployment in Fire Island.<sup>15</sup>

1. "I bring my 93 year old mother who is in home hospice, to my beach house on Fire Island, and having an old fashioned landline is crucial to my feeling safe about having her there." – Sonia Gluckman, 7/15/2013
2. "We have also been relying on cell phone service through Verizon which has been spotty, at best. My cell phone works in our house while my husband's does not. He is a physician at NYPresbyterian Hospital and relies on his cell phone to take emergency calls when he is away from Manhattan. Sometimes these calls are urgent and confidential." – Maureen and Samuel J. Mann, 7/15/2013
3. "In hurricanes Irene and Sandy the land line phone service was a life saver. Without the land-line phone I would have had to keep my cell phone off to save battery power for 911 calls. I am a senior citizen. With a cell phone I could not receive calls from doctors. If land-line is dropped then people will die. Because cell phones will run out of battery power and people will not be able to call 911. My whole area was out of electricity after Sandy. I lost power for 5 days in hurricane Irene and 8 days after Sandy. My area loses power many times a year. About a month after hurricane Sandy my area lost power again for 12 hours. The land line phone has to stay." – Albert Dresner, 7/12/13
4. "The bigger issue has been internet. I and most Fire Islander's previously had unlimited DSL service (through the copper wires) for about an additional \$30 per month, tagged on to the phone service. Now, for the 4G service (which is admittedly faster), I am paying \$80 per month for just 10GIGs per month of data (I believe the cost is \$10 per month for each additional 2GIGs). Those 10 GIGs just get me and my family through a month of email, normal levels of work related internet use, and basic household internet usage . . . . One could easily spend hundreds of dollars or more per month, at Verizon's rates, in order to regain the amount of data we previously had pre-Sandy. This is where Verizon is truly taking advantage of us all, and what people are most upset about." – Keith B. Stein, 7/10/2013
5. "Cell service is often poor on Fire Island and it can often times requires several minutes to get cell service and may require you to physically move to another location to pick up service. I have previously had a heart attack and do not want to rely solely on cellular service in case of an emergency. We need a hard line service provider on the Island." – Arthur Rhein, 7/8/2013

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<sup>15</sup> See New York State Public Service Commission, *Tariff Filing by Verizon New York Inc. to Introduce Language Under Which Verizon Could Discontinue Its Current Wireline Service Offerings in a Specified Area and Instead Offer a Wireless Service as Its Sole Service Offering in the Area*, Case 13-C-0197, <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=42688>.

6. "Please help with this very bad situation with Verizon service at Fire Island. They will not repair my landline, which my husband really needs, as he has a pacemaker, which has to be monitored by a land-line. They also refused to connect my DSL, even though they charged me the monthly fee right through the winter, when I questioned this, they said they would transfer me to the billing department, and I was promptly disconnected!!!! I have a Real Estate office here in Fair Harbor, and I am getting SO many complaints about Verizon service, (or, NON service)." – Jean Ufer, 7/8/2013
7. "I'm extremely unhappy and very nervous that our hardline or copper will be cancelled. We are year round residents on Fire Island and need a hard line to run our business and to monitor our property from The DSL line. After the storm, I temporarily had the Home Connect system and it worked poorly. Calls would ring for 30 plus times before I even knew they were coming through and we had no Internet which is essential to run a business. Sometimes calls didn't even go through. Please don't allow Verizon to cut our lines without offering a suitable option. VOICE LINK DOESNT WORK." – Barbra Heller, 7/6/2013
8. "I'm single, live alone and am now considered 'senior.' While I don't use the telephone too often I rely it being there for essential help in emergencies. I am active on the Internet and require it for business connections. Life without a real telephone would be precarious and dangerous on our relatively isolated island." – Patricia Robbins, 7/5/2013
9. "During superstorm Sandy, we lost power for 2 weeks. Although the telephone line fell and was across the backyard, we had telephone service. We were able to call Verizon to come and fix the line. We were able to call the children and tell them that we're ok. We also were able to call LIPA to tell them about the power outage. We are senior citizens in our 70's and are afraid of not being able to call for assistance if needed." – Robert and Barbara Grosswald, 7/4/2013
10. "My father was on life alert and many of the seniors who lives alone depend on that service. I work in a Nursing and Rehab Center and many people who have fallen and have medical issues live alone." – Mr. and Mrs. Howard Bedell, 7/2/2013
11. "As a home owner in Fair Harbor I am distressed and concerned about the 'solution' of Voice Link over the copper wire system for our phones. Already I have had an incident with being unable to make a call from my cell phone because the network was busy. Thankfully it was not an emergency call, but if it had been the delay in getting through would have been significant. With an aging mother who does come out to visit, the idea of not being able to reach 911 in an emergency is terrifying." – Jennifer-jo Moyer, 7/2/2013
12. "As a NY resident with elderly (80+) parents, and an elderly (80+) aunt with health issues and Parkinson's Disease on Fire Island for the entire summer, I am concerned that the Voice Link system will not meet their needs in a time of emergency. Cell phone signals are notoriously erratic particularly in poor weather, and particularly on Fire Island; and I am concerned that this system is more likely to fail in the event of an emergency. In my elderly aunt's case, she will no longer be able to use her medical alert

bracelet as it is dependent on a working landline. That she would be able to reach her cell phone after falling down seems unlikely.” – Ken Rothchild, 7/2/2013

13. “As a senior-age Fire Island customer since 1970, my wife and I are very dependent on a telephone system that we can rely on, especially during health emergencies. The research that I have done on the Voice-Link System tells me that its very unreliable and would be a terrible down-grading for us causing lots of anxieties. Please do not give Verizon a go-ahead ruling on their ‘consumer un-friendly plan.’” – Lee Epstein, 7/1/2013
14. We need Life Alert systems, our home alarm system and communication with the outside world, especially in times of weather disasters such as the recent Hurricane Sandy. During that storm, which caused electrical power outages, our cell phone also failed. Our landline made it possible for us to contact our son and daughter, as well as emergency sources, should it become necessary. Since we do not drive, having a landline made it possible to contact neighbors should we need food and help. There are many stresses, which accompany aging. Losing touch with the outside world should not be another source of worry.” – Phyllis and Herbert Hildebrand, 7/1/2013
15. “If Verizon were to abandon the South Bronx for landlines with the argument that the neighborhood is unprofitable due to income, credit worthiness problems or vandalism, it would never fly. Why then can Verizon be allowed to reduce service levels to Fire Island?” – Kevin Lee, 6/28/2013
16. We rely on phone service for emergency response. In the short time that we have had Voice Link we have had problems in rainy weather. The Jetpack internet service that, with our limited mobility, we rely on to order medications, food and communicating with physicians is painfully slow and does not work at all on weekends.” – R. Bruce Minoff, 6/28/2013
17. “My husband and I are seniors, and in the future may need life alert. That does not work on VoiceLink. There have been break-ins in our neighborhood, and we are going to install an alarm. That doesn't work on VoiceLink. We have been waiting not so patiently for FiOS to be installed in our neighborhood. I have initiated many complaints to Verizon for noise on our line. Our DSL is so slow, it seems as if we have dial-up Internet service.” – Jean L. Coleman, 6/28/2013
18. “If you are unfamiliar with Fire Island, there is very little medical service and the only way off the island is a scheduled ferry service or, for some people who have permits and trucks, a very long drive. When someone needs to be rushed to the hospital, they are evacuated by helicopter, which makes timely emergency calls of the essence to save lives.” – Nora Olsen, 6/20/2013