Comments on FCC NOI 11-60

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As currently structured, service providers are public companies responsible to their shareholders. Thus, in the absence of FCC regulation, the service provider companies cannot be counted on to voluntarily undertake costly measures to ensure service reliability, network resiliency, or continuity of operations in the event of major emergency. This is not a pejorative statement; it is simply a recognition of the incentives provided by the business structures currently in place. Neither is it to deny the long history and tradition of reliable communications services accumulated by the predecessors of today's service provider companies. AT&T and the Bell System were known for going to great lengths to assure reliable service to each subscriber, even under the most adverse conditions. Of course, this was easier to do in a regulated monopoly environment, and, although there were from time to time conflicts between AT&T and the FCC, by and large the Bell System's reputation for superior service reliability was mostly deserved.

The change in business environment for the service provide companies means that the free-market incentive structures now in place no longer naturally support expenditures to assure reliable service, network robustness/resiliency, or continuity of operations during major emergencies. It is true that the service provider companies do have a reputation to preserve and, if enough competitors are on the playing field, customers may choose to change service providers if their current provider's performance in these areas is not satisfactory to them. In many cases, however, only a few service providers do business in a given geographical area and customer choice is limited not only by a lack of choice but also by the difficulty and annoyance attendant upon changing providers. The ability of the service provider companies to objectively address the problem of balancing their expenditures for items and activities that promote reliable service, network robustness/resiliency, etc., is naturally limited by a lack of precise information on this aspect of customer behavior and so this important business decision can only be made informally, at best. It is easy for the service provider companies to spend less on these important areas because the effects of such reduced expenditures are delayed and diffused – emergencies are by definition unpredictable as to location and date, and the effects of cutbacks may not be seen at all or they may cause havoc depending on the location and date of the emergency.

It is in the interest of the United States to have reliable services in all telecommunications aspects, whether wireless, broadband access, or POTS. It is commonly acknowledged that at least 13 other countries have faster broadband access, on average, than does the US. Given the incentives as summarized above, this may not be surprising, but it is distressing to note that US global competitiveness is at risk because of this second-rate performance. If, as is often stated by our politicians and statesmen, the US is supposed to be the world's innovation engine, at least this insufficiency needs to be remedied. Therefore, incentives need to be created that will drive the behavior of the service provider companies in the direction of improved service reliability, network resiliency/robustness, and continuity of operations in major emergencies. This can only be accomplished, given the current business climate, by intelligent FCC regulation.

One possibly suitable approach may be indemnification of individual customers for instances of service failures. Service provider companies already offer service level agreements (SLAs) to enterprise customers. SLAs provide compensation to the customer for service failures defined in the agreement. This concept could be mandated by regulation to be extended to individual customers. This mechanism provides a market incentive to the service provider companies that counterbalances their natural emphasis on cost reductions, some of which will negatively affect service reliability, network robustness/resiliency, and continuity of operations during major emergencies. As a regulated mandate, service provider companies should be able to recover costs of compliance, *i. e.*, costs of creating and servicing these new SLAs. The FCC could undertake to have a quantitative cost and reliability model for these new SLAs created as a way to gain understanding not only of how these new SLAs could work in practice but also to help set a fair compensation level for affected customers.

In addition, service provider companies should familiarize themselves with the results of the latest research into service reliability and network resiliency/robustness, and in particular what are the best ways to promote reliable service through increasing resiliency and robustness in network design and operations. Quantitative models for these problems are beginning to appear in the literature and both the FCC and the service provider companies could avail themselves of these results to make sure that costs of improving service reliability through increasing network robustness and resiliency are incurred wisely and with maximum efficiency. Partnerships with university researchers could profitably be set up so that not only do the FCC and the service provider companies become more versed in the field but also academic programs benefit from increased exposure to practical problems facing regulators and businesses now.