Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of  
Technology Transitions Policy Task Force  
GN Docket No. 13-5

COMMENTS OF L.R. KIMBALL

L.R. Kimball, a CDI Company, of Ebensburg, Pennsylvania hereby submits comments in response to the Federal Communications Commission’s (Commission) Public Notice released by the Commission on May 10, 2013, in the above captioned proceeding. L.R. Kimball specifically comments on the Public Safety – NG911 Technology Trials proposed by the Public Notice.

L.R. Kimball is one of the nation’s largest engineering/architecture/consulting firms, annually ranked among the top 200 design firms and the top 20 telecommunications firms by Engineering News Record. L.R. Kimball’s Communications Technology Division has offered public safety and mission critical consulting services for more than 15 years. Our communications technology practice is focused on all facets of public safety, supporting operations and technologies; 911 networking, call delivery and call handling; radio communications; cyber security; and public policy.

COMMENTS

B. Public Safety – NG911

“Scope. Given that reliable 911 service is critical to public safety, we seek comment on a possible trial that would deploy an “all-IP” NG911 service on an accelerated basis in a number of geographic areas where public safety authorities are ready to deploy NG911 for one or more PSAPs."
We seek comment on using trials that build on the earlier and more limited NG911 proof-of-concept effort that was conducted by the U.S. Department of Transportation in 2008. With an updated NG911 trial, we would hope to gather both process and technical knowledge, addressing such questions as: Can VoIP and other IP-based networks readily interconnect with ESInets? Can advanced real-time services, such as video and text, reach ESInets? In IP-based networks, how can subscriber location data be maintained and conveyed to the ESInet? How long does it take transition from a TDM-based to an IP-based architecture? Where and how are 911 calls to be handed off to the ESInet, whether by ILECs or other providers, such as CMRS, interconnected VoIP, interconnected text and telematics services? Are there state or Commission rules that accelerate or delay the conversion from E911 to NG911? Are there steps that regulators can take to speed the transition to NG911 and/or minimize the expense?"

Next Generation 911 projects have been underway in states and regions across the country for several years. Therefore, L.R. Kimball encourages the FCC to focus on projects that are already underway and identify common roadblocks that occurred in those projects in order to focus trials on areas that will be most beneficial to geographic regions that have not yet started implementing NG911 or are stalled due to similar roadblocks.

L.R. Kimball has found that every state and region is very different and while common requirements do exist, no single implementation strategy works for every implementation. While it would be useful to standardize connections for usability and create a foundation for how all NG911 systems will operate, there are many different ways of connecting networks, so standardization is not always possible. However, L.R. Kimball recommends focusing on robust and redundant networks to prevent underbuilding and support the necessary broadband and interconnection uses of the future such as FirstNet.

Any trial that is undertaken should be done on a large scale in order to cover the diversity of the environment. Trials that focus on only one PSAP would not be practical because the nexus of NG911 is interconnection and redundancy. L.R. Kimball recommends that the FCC focus any trials on large regions that consist of diverse PSAPs. In many instances around the country PSAPs don’t want to connect to an ESInet or cannot connect. The best use of a trial
would be to gather data from these types of scenarios to analyze what is occurring where implementations are successful and what is occurring where implementations are unsuccessful.

NG911 planning and implementation takes years to achieve, by the time the proposed trials are complete it is likely that a majority of the country will already be far down the path of planning and implementing NG911. Therefore, a trial that covers the start to finish of implementation would likely not be useful. L.R. Kimball recommends that the FCC focus on analyzing and resolving known issues and roadblocks in current implementations in order to provide timely recommendations to other areas.

L.R. Kimball has noticed one consistent issue during NG911 implementation is the ability to procure network infrastructure in areas where multiple network providers are required. L.R. Kimball has experienced firsthand PSAPs having difficulty with interconnection in several areas of the country. There is difficulty with the ordering process within individual providers and where interconnection is required between multiple providers. Scenarios like this should be analyzed to generate methods of resolution.

“We seek comment on the technical and process issues that should be covered by a trial and on how best to structure a trial to gather data on these issues.”

Best practices for any area will be specifically based on the infrastructure available in that particular area and it will be impossible for any trial to depict every scenario that will be faced by other geographic areas. Even doing several trials will not cover every scenario. L.R. Kimball recommends that the FCC canvas footprints that exist today in order to focus trials on specific issues rather than holistic best practices that focus on the entire implementation.

L.R. Kimball recommends that during any trials the FCC collect data prior to the trial, during the trial and after the trial in order to determine whether NG911 implementation improved call quality and whether they still have emergency service quality and are not dropping calls.
“Process. We are considering a NG911 trial that would take place in areas where public safety authorities are transitioning or have taken initial steps to prepare for transition of their legacy systems to NG911 and where providers, including landline, wireless, and interconnected VoIP, are able to deliver VoIP-based 9-1-1 calls (and potentially other IP-based traffic) to an ESInet, either “natively” or, if necessary, initially through legacy network gateways (LNGs). We seek comment on the process for identifying such areas. Trial participants would also make caller location available through NG911 mechanisms, including the Location Information Server (LIS). We seek comment on candidate PSAPs or regions, the selection of participating carriers, and whether trials should take place in areas where calls are delivered via VoIP or also via legacy network gateways. We intend to coordinate with the National 9-1-1 Implementation Coordination Office and seek comment on the best ways to coordinate with state, local, and Tribal authorities during such trials.”

Trials should take place in both of the areas outlined above, legacy networks are going to exist for a long time and legacy CAMA trunks still have to come through the gateway. L.R. Kimball recommends that the FCC establish best practices for ILECs to move to a soft switch environment. It takes all parties involved to implement NG911, not just PSAPs. Whether service providers are agreeable to the transition to NG911 or not, some may not be capable of making the transition. L.R. Kimball recommends that the FCC do trials where the ability exists to transfer calls both ways and to do trials where SIP technology is available.

While L.R. Kimball recommends that the FCC conduct trials in areas where NG911 implementations are occurring, it is hard to get regions that are already operating in a NG911 environment to participate at a state or larger level. Differences of opinion exist surrounding who has the authority to operate 911 systems because 911 has traditionally been governed locally.

“Any trial of this kind should provide data on both the challenges of transitioning from E911 to NG911 and the operational performance characteristics of NG911 call handling. Thus, we propose that participants in the trial document the design and conversion process, including effort and time required, and gather data on call handling performance, interoperability issues, location accuracy, and any system failures related to call or location delivery. We seek comment on how best to address these issues and whether there are other aspects that should be documented or evaluated.”

L.R. Kimball agrees that operational performance should be monitored prior to and after
the trials. Improved operational performance should be the goal of any NG911 transition. L.R. Kimball suggests that voice quality be specifically monitored as we have found that there are many more issues surrounding voice quality than data quality during NG911 transitions.

“Finally, we also seek comment on the impact of consumer migration to wireless and IP-based services that are dependent on commercial power and network resiliency and public safety services generally. Participants in the Commission’s recent field hearings following Superstorm Sandy consistently raised this issue and the need to establish adequate back up power solutions. How should this issue be integrated into the Commission’s technology trials and other data gathering efforts?”

L.R. Kimball has found that it is just as important for PSAPs to be prepared with generators and UPS as it is for the service providers. However, no matter how well prepared a PSAP is, they have no control over network outages and the hours that service providers provide network support. It is important for PSAPs to be familiar with service provider support services and hours and prepare for emergencies that occur off the clock within service level agreements. Standardized network support service should be explored during these trials to provide for the adequate support of these critical networks.