Wireless Network Roundtable Exercise Comments

Sprint Nextel Corporation

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Exercise #1: Based on your personal experience, please identify the key communications challenges developing a cost-effective, secure, reliable network that meets public safety-specific requirements. In addition, please note if you wish to take a more active role in initiating discussion on any of the challenges/solutions you cite.

The key challenge is to build a cost effective wireless network that provides a consistent grade of service across the coverage area. A stand alone network for the exclusive use of the public safety customer base would be very high cost on a per user basis. Sprint faces a similar challenge, since its total customer base is split between two networks (iDEN and CDMA) and a total of 68,000 cell sites.

In order to solve our network cost challenge, Sprint is in the early deployment stages of Network Vision. This project will improve network performance, spectrum and technology flexibility, and lower network costs for the future. Combined with the next generation of a CDMA based Push to Talk product, we will be able to migrate our core iDEN customers to the CDMA network. After completing the customer migration, we will decommission the iDEN network, and further improve our network cost structure.

Network Vision provides a unique opportunity to propose a different approach to building a broadband network for public safety through network hosting. Sprint is interested in exploring with public safety agencies the joint construction of a cost effective network that would meet the unique needs of public safety customers.

In brief, Network Vision is a complete upgrade to our CDMA network through the deployment of the latest software defined base stations, an Ethernet backhaul network and an all IP core. It provides the flexibility to add spectrum, such as 700 MHz, through the deployment of remote radio heads, and define the service technology, such as LTE, through plug in baseband units.

Network Vision would allow Sprint to build out the 700 MHz spectrum by hosting that spectrum on the cellular network we are already deploying. The LTE service would share a common Ethernet backhaul network and the traffic would be separated at the core location and delivered to the service destinations as required by public safety.

Sprint envisions a business arrangement in which public safety would provide the construction funding for the 700 MHz network build. The deployed network capacity would be owned by public safety and would be leased back to Sprint for commercial use at a wholesale rate. Sprint would engineer and operate the network based on service level agreements defined to and agreed by the public agencies.

Since LTE is an IP based service, public safety services can be assigned a quality of service that gives it the needed priority to insure the service is available for its customers. In an emergency, the most important services would be assigned the highest priority and commercial services would be shed as needed. In addition, VoIP services can be built in the same priority structure. Sprint is already planning to deploy such a service on its EVDO network, and can evolve that service to a LTE network.

Through this approach, public safety can achieve its goals of a high quality, low cost mobile broadband network. Jointly building the 700 MHz LTE service with the Network Vision infrastructure would significantly reduce build costs. Leasing back the capacity would spread the capital costs and operating expense over a much larger customer base. By retaining the spectrum ownership, public safely can

Microsoft Outlook

From: apchopra <(b)(6)>
Sent: Friday, May 27, 2011 12:51 AM
To: Chopra, Aneesh
Subject: Public safety broadband cost assumptions

From Evernote:

Public safety broadband cost assumptions

The case for 10.5 billion.

Network sharing has demonstrated a 30-40 percent reduction based on the following cases:

Sprint, lightsquared: initial estimates in the 5-6 billion range have dropped 30-40% based on sprint's ability to "wholesale" additional network capacity while preserving network controls with the operator.

Orange and tmobile share infrastructure in london.

China mobile savings goal.

How is this possible? The shift to software defined base stations has enabled a carrier to add a new network at relatively low marginal cost.

Operating costs will be born by the network users, second responders but in a sharing arrangement, can be dramatically lower. Ericcson described australia's experience lowering opex 50%. See vanu statement?

Closing the requirements gap: a healthy discussion ensued on what "reliability" means, especially in tne context of multi-modal devices where the consumer has control over which network to use based on a variety of emerging business models,