

Sprint's iDENtity Crisis

BY MICHAEL HARRIS

Sprint merged with Nextel five years ago, and since then, has continued to operate both companies' wireless networks — one based on CDMA technology and the other iDEN (short for Integrated Digital Enhanced Network). Recently, Sprint Nextel unveiled a plan to integrate these technologies and 4G solutions into a single multi-mode network. The move, which Sprint calls "Network Vision," will allow Sprint to shut down as many as 20,000 cell sites in the coming years, delivering significant operating cost savings.

A Tale of Two Networks

Today, Sprint Nextel is America's third-largest wireless carrier with more than 44 million subscribers. Nearly three-quarters of Sprint's wireless customers — over 32 million — use the company's CDMA network, operating in the 1900 MHz PCS spectrum band. The other quarter (more than 11 million customers) receive service through the company's separate iDEN network operating in the 800 MHz band. Additionally, through a partnership with Clearwire, Sprint is delivering 4G services in the 2.5 GHz band.



“Because we’re running two networks instead of one network, we see the costs of running our network as a disadvantage.”

- Dan Hesse, Sprint CEO

iDEN is a proprietary digital wireless technology developed by Motorola. Nextel was one of the few carriers in the world to deploy it on a large scale. The company's iDEN offering became popular with business users because of its "push-to-talk" capability, a feature still called "Nextel Direct Connect." It enables a cell phone to act as a walkie-talkie with unlimited range, so users in a group can voice chat instantly instead of making a phone call.

Since the Sprint-Nextel merger, however, subscribers and revenues on the iDEN network have continued to decline.



FIGURE 1: Motorola Clutch i465

Additionally, the technology has lost momentum in the marketplace. Motorola remains the only supplier of iDEN handsets, with the exception of two Blackberry models (see Figure 1). By comparison, a vast number of manufacturers offer devices based on standard CDMA and GSM technologies, driving down product prices and improving innovation. Making matters worse, iDEN is a 2G technology without an upgrade path to 3G and 4G.

Not surprisingly, Sprint is eager to see iDEN ride off into the sunset. The challenge is that turning off the iDEN network and forcing 11 million customers to switch to CDMA handsets in one fell swoop is unworkable. Instead, Sprint's plan is to roll out a "multi-mode network."

The idea is for the company to deploy new cell tower base station equipment (Figure 2) that could handle both CDMA and iDEN, as well as 4G technologies like LTE and WiMAX. The company's push-to-talk feature would be made available on the CDMA network, easing the migration of die-hard Direct Connect users.

Rather than using three different cell towers for three different radio frequency ranges and technologies, Sprint's multi-mode plan is to consolidate the capabilities into an integrated tower and base station (Figure 3).

Sprint says it will be able to reclaim some of the 800 MHz spectrum now used for iDEN and begin using it to offer CDMA services. Radio waves in the 800 MHz spectrum range travel further than those in the 1900 MHz range, enhancing indoor cell phone reception. Sprint wants to capitalize on this advantage for its flagship CDMA offerings.



Current 3G/4G Base Station

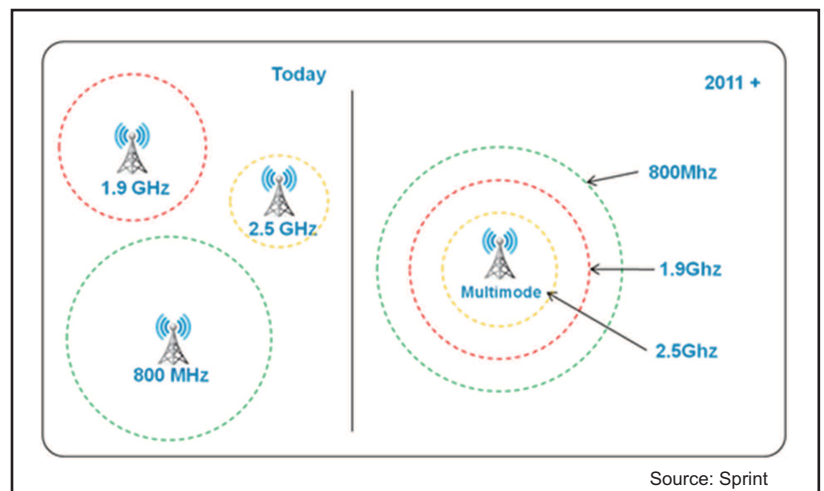


New Network Vision Multi-mode Base Station

"The top image shows Sprint's existing base stations, which require single, refrigerator-sized cabinets for each technology. Large black coaxial cables must run from each cabinet to the top of the cell tower, which has an inherent loss of signal. The Network Vision multi-mode base station will require less space."

– Sprint

FIGURE 2: Sprint Base Station Equipment



Source: Sprint

FIGURE 3: Sprint Cell Site Consolidation

“We can re-allocate a portion of our available iDEN 800 MHz spectrum to provision CDMA services, giving customers the benefit of enhanced in-building coverage associated with the 800 MHz band.”

- Dan Hesse, Sprint CEO

With its multi-mode infrastructure in place, Sprint could then shut down as many as 20,000 cell sites — equal to about 30 percent of the company's total. In December 2010, Sprint awarded contracts totaling more than \$4 billion to Alcatel-Lucent, Ericsson and Samsung for its Network Vision upgrade initiative. Sprint says it expects the plan will provide the company with a total net financial benefit of more than \$10 billion over a seven-year period.

Cell site owners will be watching Sprint closely to iDENtify the impact of Network Vision on their businesses.

About the Author

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