Sprint’s Tri-Band LTE Could Be a Valuable Differentiator

Ben Munson

The weather metaphors chosen in addressing the rise in mobile data consumption trend toward waves or, for added emphasis, tsunamis. But those are a bit misleading. Waves hit the shore and then recede into the ocean. The unprepared will be swept up but soon the tides will turn and the rebuilding can begin.

It’s more accurate to think of the surging demand for good coverage, big bandwidth and faster speeds as a flood. A flood to end all floods that will steadily cover the earth in rich content and drown all networks unfit to bear the throughput.

Global mobile data traffic is expected to increase 13-fold by 2017 [1], reaching the impossible-sounding rate of 11.2 exabytes per month, according to Cisco's Visual Networking Index Global Mobile Data Traffic Forecast.

On top of that, findings from Accenture’s Mobile Web Watch 2013 indicate that fully 63 percent of wireless broadband users would be willing to pay more each month for LTE that could hit speeds ten times that of their current service. Considering the same consumers surveyed put coverage and connection speed ahead of cost and it’s rational to think that huge network monetization opportunities await which ever carrier can keep up with the surging data demands while delivering the best possible experience.

The U.S.’s major carriers have thus far indicated their up to the task. AT&T has deployed its LTE network in the 700 and 1700 MHz frequencies, providing a dual-band approach that can optimize propagation and bandwidth. Similarly, Verizon has deployed LTE on 700 MHz for coverage purposes and has begun building out on AWS spectrum (1700, 2100 MHz) to gain the same dual-band advantages.

T-Mobile is the last of the four big providers to launch its LTE network. It’s deploying its LTE on AWS like Verizon, after moving its HSPA+ to the 1900 PCS band. It’s single-band LTE for now but with access to MetroPCS’s AWS 1700 spectrum once MetroPCS’s CDMA is shut down, T-Mobile could be boasting as much as 20 MHz LTE spectrum in some markets, more than any other carrier. Of course, without any lower frequency coverage, coverage could be spotty and T-Mobile’s eying a 2015 shutdown of MetroPCS’s CDMA.

That leaves Sprint, which is currently deploying LTE on 1900 MHz. But on June 29,

the carrier is scheduled to finish decommissioning its iDEN network and will be able to begin incorporating 800 MHz spectrum previously reserved for the Nextel push-to-talk service into its LTE network. Sprint will begin selling devices that also utilize Clearwire’s TD-LTE in the 2.5 GHz. That all adds up to tri-band LTE, a proposition that could provide some of the fastest, capacity-rich and abundant mobile data.

Sprint PR Manager Michelle Leff Mermelstein sat down with Wireless Week at CTIA to talk about the trio of new mobile hotspots Sprint has on the way for this summer. Oh, and Sprint will be selling Samsung and LG smartphones that run on tri-band LTE by the end of the year.

“I probably shouldn’t have put that at the very bottom of the release,” said Mermelstein, admitting she may have buried the lead a little bit.

Phones obviously possess wider appeal than hotspots so it’s fair to wonder why Sprint didn’t just jump straight to tri-band LTE smartphones this summer rather than testing the waters with hotspots. Strategy Analytics analyst Kevin Burden sees a couple of different reasons for starting out the way Sprint did.

“I think [a hotspot] is probably easier to build,” Burden said. “When you build tri-band into a device, it does take up a considerable amount of space. If you look at these mi-fi devices [Sprint] has coming out this summer, they’re not the smallest mi-fi devices out there. There’s a real estate issue with these devices.”

He clarified that even though tri-band essentially means three times the components, it definitely won’t result in three times the price or size for compatible handsets.

“When you want to build something for a single band, there’s a cost to the components. Adding bands makes the cost go up but it’s not a 1 to 1 thing. There are economies of scale. It’s more expensive to build tri-band but there are manufacturers that can be very efficient in how they build these,” Burden said.

Burden also talked about the effort that goes into convincing an OEM to build a tri-band device. Since Sprint’s tri-band offering is somewhat of a niche, he said, an OEM might be skeptical of the value in building compatible devices. Burden said that Sprint likely put the mi-fi devices out first to show the uptake and grow OEM confidence in consumer demand for the service.

He added that because of the dominance Huawei and ZTE have exerted over the hotspot industry worldwide, other hotspot manufacturers have to be more willing to build niche-filling products, like the tri-band devices for Sprint.

“We’re happy with the progress we’ve made so far,” Mermelstein said, adding that Sprint will add an additional 120 markets to the 88 LTE cities the company has already announced by the end of the year. On June 17, Sprint added 22 more cities bringing it to 110 total LTE markets. She added that Sprint sets a threshold of 40 percent POPs per city before it will officially announce that city as an LTE market.

It would appear that Sprint’s Network Vision is on track and that the company has gone a long way towards putting its WiMax past behind. Sprint famously put its faith in the ill-fated 4G foil to LTE after Clearwire became the first company to deploy a 4G network in 2009 using WiMax. If changes to Sprint’s terms of service are any indication, WiMax’s demise is nigh. But Sprint’s relationship ties to Clearwire are still strong, even as the carrier’s attempts to buy out Clearwire have been complicated by other suitors. And it’s Clearwire’s 2.5 GHz that could prove to be the real differentiator for Sprint’s LTE.

Yankee Group analyst Ken Rehbehn sees the volume of data Sprint can move across the 2.5 GHz as a big value and something that other U.S. carriers won’t be able to match. But in terms of offering an overall advantage over other LTE networks in the U.S., he said it’s not that simple.

“The tri-band offer is notable for the raw capacity that is available at the higher frequencies,” said Rehbehn. “However, at the lower frequencies Sprint still struggles with the amount of capacity they have.”

In that sense, Rehbehn believes that Sprint decommissioning its iDEN network so that the 800 MHz spectrum can be used for LTE will have the most impact in improving Sprint’s LTE coverage.

“It’s a big win for them in several respects,” said Rehbehn. “First of all, their customers get better coverage in rural areas. Secondly, they’re rebuilding their network with simplified architectures that help them drive internal costs down.”

It’s unclear if Clearwire’s BRS/EBS spectrum will join Sprint’s 800 MHz in improving customer experience in rural areas. Dish Network has shown some moderate success in deploying fixed mobile broadband in the Blue Ridge Mountains using regional carrier nTelos’ 2.5 GHz spectrum. Dish’s tests show off what the satellite-TV provider could do with Clearwire’s spectrum if it beats Sprint’s offer and acquires part of Clearwire’s minority stock. It’s one advantage Dish can hold over Sprint in the battle to gain public interest approval from the FCC.

But Clearwire’s 2.5 GHz could prove just as useful wrapped up in Sprint’s network plan. And if Sprint is able to buy out Clearwire, Sprint’s tri-band LTE could be

sporting an extremely fat pipe in many major markets.

When the flood comes, that fat pipe could make Sprint’s LTE one of the most compelling in the industry.

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