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Service Providers Confront a World of Devices

By Tim Young

2011 is upon us, and boy, oh boy, do wireless service providers have their work cut out for them.

Over the past few years, mobile providers have gone from providing mobile telephony to providing a mobile lifestyle, allowing consumers to remain connected, regardless of their physical location. With consumers untethered in this way, the concept of the home or office is simultaneously sprung from the brick-and-mortar impediments that limited their movement in the past, enabling that home or office to exist anywhere a wireless user can find the bars to support the very communications activities they would have needed a dedicated location to undertake just a few short years ago.

Josh Morton, Sprint: "Users now expect connectivity on multiple devices in any location as a way of life."

"Users now expect connectivity on multiple devices in any location as a way of life," says Josh Morton, VP of IT operations at Sprint. "They are also looking for their "personality" (profile, settings, favorites, etc.) and data to be available from multiple devices." In short, users seem to be looking for a pervasive user experience that moves in tandem with their lifestyles.

It's Significant

However, the growing complexity of these devices poses a unique set of challenges to service providers, just as it enables a unique set of opportunities for providers and consumers, alike.

A look at device growth

The past few years have been a case study in how user behavior shifts in response to the changes in available mobile technology and subsequent technology adjusts to meet user behavior. It's a cycle, really—the wireless Ouroboros.

Data services are clearly the massive driver here. As wireless voice ARPU dips, wireless data ARPU surges to cover the gap. And that surge is precisely the problem. While end-users once satisfied with basic handsets move to much more complex smartphones, and their behavior shifts towards increased bandwidth usage, the service providers are left holding the bag on how to deal with the ensuing bandwidth crunch.

(In fact, for more around this, you might be interested in a recent Pipeline KnowledgeCast webinar on the network implications of the mobile culture. You can view the webinar here.)

The iPhone is the oft-cited culprit here, and as the device moves to more carriers, its impact on bandwidth capacity needs will become ever more pressing. With Verizon the next US carrier likely to take on the iPhone, many are interested in how that move would impact AT&T, from a competitive perspective. However, it is not even fully clear how the move would impact Verizon.

"Wireless providers are readying their networks for the 4G onslaught through OSS/BSS optimization."

Still, Kaufman Brothers tech analyst Shaw Wu reports that Verizon "views iPhone as essential to its future success, despite it already carrying a full roster of competing operating systems," with Android the most notable of the bunch, and Windows 7 conspicuous in its absence.

However, those Windows phones will hit Verizon and Sprint this month, most sources indicate. In addition, HP's Palm division looks to roll out a webOS-based tablet in March. HTC, meanwhile, is hard at work on LTE devices, which it plans to debut this year.

Carrier Response

These 4G devices are the tip of the spear for the accelerated network activity we will see this year.

"T-Mobile has been rapidly expanding its 4G HSPA+ network, which is now available in more than 80

major metropolitan areas," says Danielle Hopcus, a spokesperson for the company. "T-Mobile expects to reach 100 major metropolitan areas and 200 million people in 2010. We also plan to upgrade our network to offer 42Mbps theoretical speeds in 2011." Speeds like that could signal the end for WiMAX, and T-Mobile plans to do it with no additional nationwide spectrum allocation.

And these new devices and the user expectations that accompany them can have a direct effect on network planning efforts. "The design and management of the network has changed primarily in terms of capacity planning," says Sprint's Morton. "With the multiple connectivity options we now offer, our customers are using the network for much more than just voice traffic so capacity is being designed to accommodate the increased data traffic Sprint now offers."

And AT&T is clearly ramping up its efforts to pave the way for 4G, as well. Late last month the giant announced it was acquiring Qualcomm's spectrum rights for just under $2billion USD. The spectrum, formerly reserved for Qualcomm's soon-to-be-defunct subsidiary FLO TV, will pave the way for increased 4G activity on AT&T's network.

Verizon, too, is pushing into the next generation. A recent announcement from Bridgewater Systems indicates that Verizon plans on investing millions in perfecting its 3G networks, and the carrier was tweeting from CES about its upcoming line of LTE devices. Verizon spokesperson Debra Lewis, however, notes that this is a shift in technology and circumstance, not a shift in Verizon's fundamental strategy. "Philosophically, I don't think anything has changed," Lewis told Pipeline. "What you can do with your phones has increased exponentially." Noting that gauging user behavior and expanding accordingly has been at the root of Verizon's strategic underpinning for some time, Lewis concedes that technology is moving forward, but sees Verizon's shift in that direction as a fluid evolution. "Fundamentally, we haven't changed the way we go about things."

With 93 million customers, however, Verizon clearly has to remain vigilant and meet customer demand wherever the company finds it. "Reliability has always been focus," Lewis notes, but she points out that, for many wireless customers, little has changed. Even with a growing percentage of smart phones, a huge number of wireless customers remain, essentially, voice-only. The smart money is on supporting these customers, as well as those on the bleeding edge of technology (and, coincidentally, carrier revenue generation. "When a customer wants to do anything on their phone," Lewis says, " we want to make sure we have the network to support."

Morton, however, makes it clear that while those voice-only customers still exist, the usage writing is on the wall. "What was once primarily voice traffic from customers with cell phones has now expanded to a multitude of solutions in which voice usage is now almost secondary to how users are engaged with [Sprint's] offerings," says Morton. "The devices we offer and those offered by our partners have changed the way customers use a device. They now engage in an always connected mindset and expect instantaneous access to information as well as being able to make a voice call."

Morton also points out that Sprint is making changes in some aspects of its organizational framework in the never-ending BSS battle of overhead reduction and profit maximization. "Our BSS environment has shifted to providing employees with the same type of mobility that our products encourage," says Morton. "This helps to reduce overhead of managed offices while enabling the employees to be more mobile and productive."

Trends to Watch

And so, as we charge into 2011, wireless providers are making the necessary moves to ready their networks for the 4G onslaught through OSS/BSS optimization and network growth. However, there are a few additional trends that may make 2011 a particularly interesting year for mobile.

For one thing, this may be the year for NFC to hit

big in the North American market, and we look for carriers to grab the external partnerships and BSS undergirding they may need to develop this mobile payment trend to its optimal realization.

We're also keen to see what 2011 has in store in the realm of location-based services. This still-nascent technology may just hit its stride this year, and we're eager to see what impact that has on user behavior and carrier response.

It promises to be a complex and interesting year for wireless carriers, and we're eager to see the shape that their networks take as customers continue to get a move on, wireless device in hand.