

## Supporting the Next Generation of Handsets

By: Tim Young

As this month's issue of *Pipeline* is focused on the ongoing mobile device revolution, it is unsurprising to anyone keeping pace with the buzz of our industry that the bulk of the coverage is focused on the Internet of Things (IoT).



No mystery there, as that segment is poised to grow rapidly in the years to come. [Forecasts and estimates](#) include a projected 32.6 CAGR until 2020 (McKinsey) and a predicted \$60 Trillion in industrial IoT investment over the next 15 years (General Electric).

And as keen as we all are on the massive potential of the growing universe of connected devices, it's not as if our connected car or electricity meter or toaster oven is our most frequent portal into the network. Though much has been made over the slowing growth of mobile handsets, particularly smartphones, over the last few years, these little devices remain our trusted companions and our vehicles into the connected world.

Though growth has slowed, it is projected to continue at a reasonable clip. IDC forecasts a [2016-2021 CAGR of 3.8 percent](#), with tablets leading that growth with a 9.2 percent CAGR over the same period.

But the story here isn't just that people are continuing to buy smartphones. There's a lot more to it.

Ericsson's [June 2017 Mobility Report](#) is full of interesting observations and predictions about the mobile market, particularly when it comes to smartphones. The full report is worth a read, but some highlights caught my eye:

- Worldwide mobile data traffic is projected to grow from 8.8 Exabytes (EB) in 2016 to 71EB in 2022.
- Worldwide data traffic per smartphone is forecast to grow from 2.1 Gigabytes (GB) in 2016 to 12GB in 2022.
- Worldwide smartphone and mobile broadband subscriptions are both forecast to nearly double between 2016 and 2022.
- LTE subscriptions around the globe will leap from 1.9 billion to 5 billion over that same period, and 5G subscriptions will exceed half a billion by 2022.
- Today there are already 7.6 billion mobile subscriptions with only 5.2 billion subscribers. That

means that, globally, the penetration rate for the entire population is 102 percent. In regions like Central and Eastern Europe, penetration rates have reached a staggering 143 percent of the population, while regions such as Africa (81 percent), India (88 percent), and China (97 percent) still have room to grow.

And it isn't just that smartphone growth isn't dead. Smartphone innovation isn't dead, either.

I mean, yes, the Windows phone is now officially dead, but was it ever really alive? According to Q4 2016 numbers from Gartner, Android and iOS run 99.6 percent of new phones, with BlackBerry dropping out of the mix and Windows sinking to 0.3 percent from its already-dismal 1.1 percent the year before. So nothing has really changed on that front.

But the Android and Apple devices are going to get slicker. The phones coming out of CES and MWC this year possessed hints of what is coming down the pike, from ever-more-complex AI to 10-nanometer chips to increased possibilities in the realms of [AR and VR](#). And as we move toward 5G, the pace of innovation in smartphones should accelerate.

So how can service providers continue to manage these devices, the enormous amounts of data they consume, and the changing expectations of their subscribers?



## From Three Things to One: More Reasons to Embrace Data Analytics

There was an [interesting article in Computerworld](#) a few weeks ago by Mike Elgan. In it, he took Steve Jobs' iPhone announcement, now a decade-old, and considered how Jobs' declaration that this one device would be three things: iPod, mobile phone, and internet communication device — all in one.

Elgan rightly noted that those three things are no longer three disparate things. At the most, they are two, as a music player is just another app, particularly with the rise of streaming music and cloud storage. And increasingly, those two things that a smartphone embodies—phone and tiny computer—are converging to become one thing.

The rise of VoLTE and products and services like Google's Project Fi (which Elgan calls Google's "gateway drug to the post-phone world") create an ongoing opportunity for carriers with a solid grasp on data analytics, real-time charging, and flexible deployment capabilities to handle rapidly escalating data consumption demands through well-planned networks and agile business models. The key concepts, of course, are agility and flexibility, as the old models come into question.

## The Death of Billing?

Much was made of the panel at TM Forum Live in May wherein representatives from the c-suites at KPN, Telefonica, and Orange [all declared that billing is an unnecessary relic in today's](#)

[communications landscape](#). It's oft-quoted at this point, but here's the zinger from Erik Hoving, group CTO at KPN:

"We've spent zillions of dollars on BSS, but who is in need of a bill? No over-the-top company sends a bill and nobody ever uses the data of the billing system. Why do we have a billing system at all?"

That's not the only bad press that billing is getting lately. [The class action suit and legal action by the State of Minnesota](#) against CenturyLink are rooted in allegations of deceptive charging and billing, and the Spectrum merger has [brought to light some shortcomings](#) in the billing arena for the constituent companies in that deal as well.

And this has all been framed as a blow to OSS/BSS vendors who rely on traditional billing models as a major component. There is no doubt that that's true to an extent, but any forward-looking BSS vendor has also spent the last decade or more looking past billing at comprehensive real-time charging and rating models that can meet customers where they are in an agile and accurate way. The aforementioned panelists all agreed that personalization, customer care, flexibility, and data liberation were all desirable and essential, and those have all been components of proactive BSS models for years.

Good thing, because there is a lot riding on converged charging. [According to a recent IDC whitepaper](#) by Andy Hicks (and sponsored by Amdocs), carriers surveyed expected to use their converged charging models to personalize offers, create single-bill relationships with customers, create better bundles, provide billing and charging capabilities to partners, and launch targeted sub-branded offerings to certain segments. A sizable minority (39 percent) also expected to launch QoS-based offerings.

Granted, these findings are not specific to smartphone users or mobile users, but is there any greater device for personalization opportunities and partnership ecosystems? Or any more indispensable a device in the lives of the average user?

So is this the end of billing as we know it now? Probably, for many customers. But the elevation of that reality to some sort of crisis for providers of products and services under the BSS umbrella is overwrought.

I am not saying smartphones will be the centerpiece of the communications landscape forever. The amount of change that has occurred in the last few decades alone suggests that that would be a baseless assertion. But given the potential for change and massive increases in data usage, there's an awful lot to plan for with the current big thing before we fully look past smartphones to the next big thing.