## Mobile Internet Operators Profit from Tapping "Data in Motion"

New software and infrastructure from Cisco aims to help mobile Internet providers not only cope with, but prosper from, the deluge of devices, things, and data connecting to their networks.

Mobile operators have invested billions in their networks to keep up with customer demand for faster service and higher bandwidth. Demand is growing; Cisco predicts mobile data traffic will increase 13 times between 2012 and 2017. We also expect that by 2017 there will be 10 billion devices connected to the Internet: phones, tablets, and all of the things that make up the Internet of Things.

But operators today watch in frustration as the Googles and YouTubes reap the rewards of operators' investments. For example, it's YouTube that knows who has "liked" the video of Mudd the bulldog bouncing on a trampoline, and helps dog food companies send ads to those people. The mobile operators, whose network investments make it possible to catch Mudd's every somersault, end up with what feels like nothing more than a "Good boy" pat on the head.

However, there is a goldmine of data flowing through carriers' networks every day that only they can tap. Contextual data about the customer's location, the device she's using, and what she is trying to do. It's called "data in motion." Up until now, operators couldn't get to it. Now they can, thanks to Cisco.

The operative word in data in motion is motion," says Kelly Ahuja, SVP/GM of Cisco's SP Mobility Group. "Mobility touches each and every one of us. Cisco leads the way when helping mobile service providers get the most value from their networks. The mobility market transformation focuses on creating mobile experiences and opportunities to make money. We are making this possible for the service providers as well as all businesses, large and small, that must embrace mobility or risk being left behind."

### Software Taps Intelligence Intrinsic to the Network
Cisco's new Quantum software suite lets mobile operators immediately access that moving data, analyze it, and use it to offer services that their subscribers and other businesses are willing to pay for.

For example, Cisco Quantum software lets your mobile operator see that, at this very moment, you are at a mall, using your tablet to watch a basketball game on ESPN. Your carrier also knows that you are close to hitting your monthly data limit, and if you watch the entire game, you will go over your limit. Because Cisco Quantum software also lets your carrier program its network, it can send you a warning that you are about to hit your limit and present you with the option of continuing to watch the program without racking up overage charges by agreeing to watch an ad from Zippy car company.

That option is made possible because of Cisco Quantum software. Before you received the warning, your wireless carrier analyzed what it knew about you—from its subscriber records and all that data in motion you created that it scooped up. Your carrier figured out that you are exactly the kind of person that the Zippy company sees as its primary customer for its new family sedan, and quickly alerted Zippy to the opportunity to connect with you and help you finish watching the game.

And, of course, Zippy pays your mobile carrier for the privilege of getting in touch with you.

Doug Webster, vice president, Service Provider Marketing, points out that only the network can provide carriers with such insightful and fresh information.

"Many of the web companies collect a lot of data, but they don't necessarily know some really crucial things, like when you're about to hit your data limit, or the places on the Internet and in the real world that you frequently visit," Webster says.

"Big data-focused companies may be able to assess historical data, but they are not able to analyze and take action on it in real-time," he adds. "That's the value that 'data in motion' delivers, by providing not just immediacy of a response or reaction to an event, but the ability to offer a far more personalized and rich

'your way' experience. To achieve that, the network must be the foundation, with all aspects of the architecture working in conjunction with one another."

Cisco Quantum is more evidence of the critical role software plays in Cisco's overall strategy. Through acquisitions and internal development, we are using software to help service providers tap and use intelligence in their networks.

**Small Cell Products Help Enhance Reach, Capacity, and Services**
But software isn't the only story in this recent announcement. Cisco also introduced products that help mobile operators cost efficiently expand their networks and offer additional services.

Many of the billions of dollars that mobile operators spend on their networks go into buying licenses for wireless radio spectrum, which operators use for their core networks. But the wireless spectrum is finite, and because of the proliferation of devices and data running on wireless networks, there is less and less spectrum available every year.

More and more, mobile operators are turning to small cells to expand their networks and build new services. After all, you can't stick a cell phone tower anywhere you want, but you can install a network of small cells—tiny antennas that fit into the palm of your hand—inside or outside of a building.

The company's 3G Small Cell Module for Cisco Aironet gives mobile operators additional coverage with integrated 3G and Wi-Fi through their existing Aironet access points. (Wi-Fi is unlicensed radio spectrum.) The module helps improve voice coverage in tough environments where coverage tends to be spotty, such as at a train or subway station. In addition, our new 3G Small Cell is a robust, standalone 3G unit that, along with Cisco Quantum software, can help carriers provide enterprises with custom-designed services, such as mobile advertising.

The new ASR 901S router is a rugged relative of the ASR 901 cell-site router for macro cells and can be placed on a carrier's outdoor towers or poles. It handles small-cell network operations in the same manner as the ASR 901, which means mobile carriers that use the ASR 901 have no learning curve with the 901S.

**Wide Open Highway Ahead for Mobile Operators**
With Cisco's help, mobile Internet providers at last can be far more than road builders and tollbooth operators on the Internet highway.

**Innovations and Vision**
Watch how we are changing the world around us with mobile internet innovations.
In this video, Kelly Ahuja shares how our mobile Internet innovations, including the new Cisco Quantum and Intelligent small cell and transport infrastructure, provide the intelligence in next-generation mobile networks to deliver an enhanced consumer experience.

**Mobile World Congress 2013**
At the Mobile World Congress 2013 this month in Barcelona, Cisco leaders will share the company's vision, strategy, and solutions for helping mobile operators take advantage of the opportunities presented by the 4G mobile Internet.

We will demonstrate innovative mobile Internet solutions that help operators monetize their networks, deliver great experiences to their subscribers, and meet the challenges of rapid growth. One of the demonstrations shows how an operator can offer shoppers seamless Wi-Fi access, location services, targeted offers and promotions, and better personalized service.

Of course, we will showcase all of our mobile Internet solutions, including those mentioned in this article.

John Chambers is part of a panel that will discuss government's role in ensuring the benefits of mobile broadband reach citizens. Padmasree Warrior is part of a panel on how to redefine network architecture to take advantage of opportunities presented by the 4G mobile Internet.