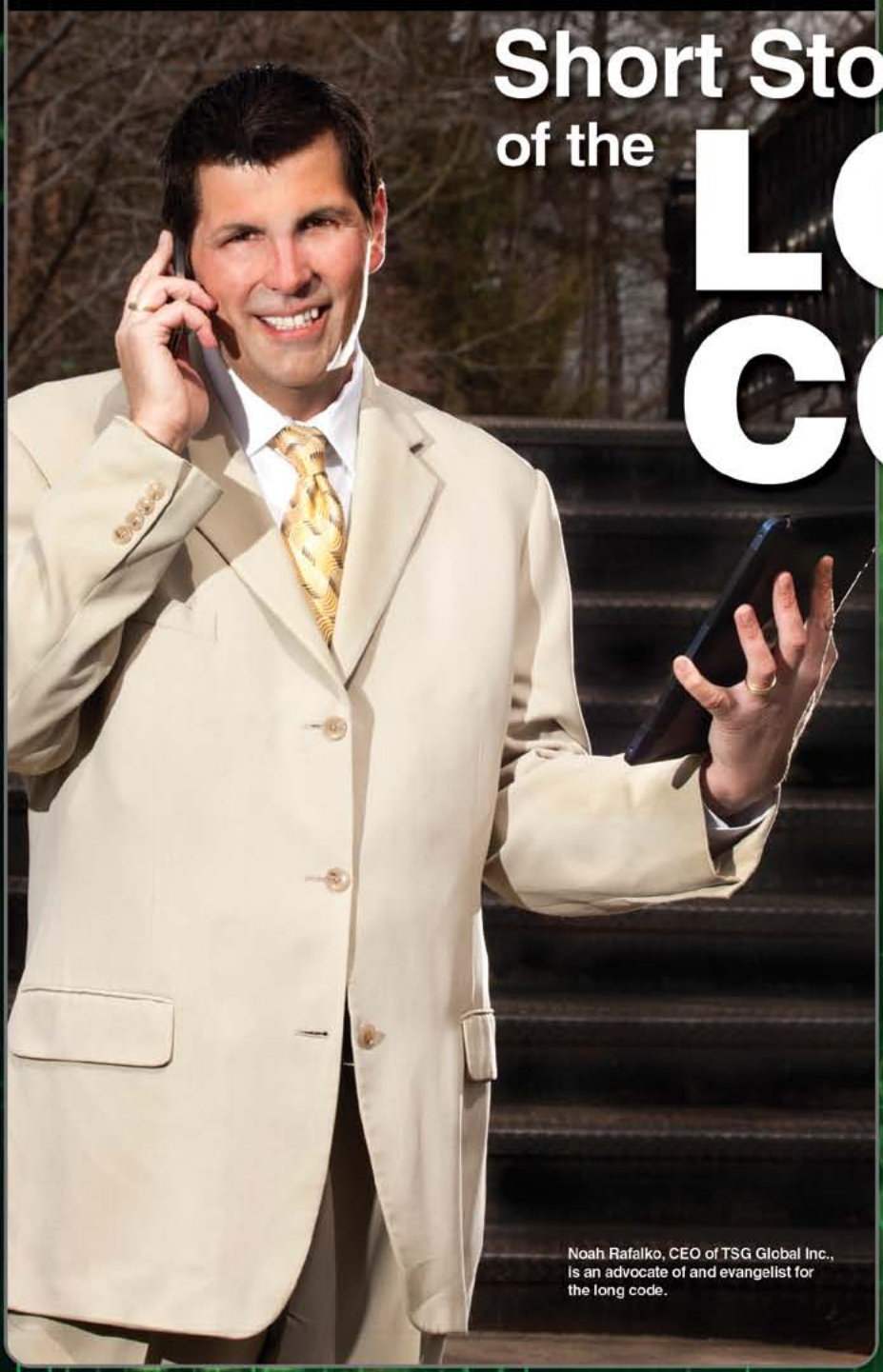
NeXt GEN MOBILITY™
www.nextgenmobilitymag.com

Contacts Settings e-Mail Internet Calendar

May 2012

Cover Story

Short Story of the LONG CODE



Noah Rafalko, CEO of TSG Global Inc., is an advocate of and evangelist for the long code.

Also In This Issue

Small Cells Become a Big Deal

Making Wi-Fi Carrier Class

Charging Kiosk Powers Marketing Efforts

Rethink Possible®

In here, meters keep in touch, so your crews don't have to.

In the network of possibilities, meters report usage in real time. The power grid monitors itself to identify problems before they become outages. And utilities put resources where they're needed most. As the only communications provider offering complete smart grid solutions, AT&T is a partner you can rely on to manage your data, so you can focus on managing your power grid.

Discover what AT&T Smart Grid Solutions can do for you at
att.com/smartergrid

© 2012 AT&T Intellectual Property. All rights reserved. AT&T, the AT&T logo and all other AT&T marks contained herein are trademarks of AT&T Intellectual Property and/or AT&T affiliated companies. All other marks contained herein are the property of their respective owners.

Next Gen Mobility

Rich Tehrani, *Group Publisher and Editor-In-Chief* (rtehrani@tmcnet.com)

EDITORIAL

Erik Linask, *Group Editorial Director* (elinask@tmcnet.com)
Paula Bernier, *Executive Editor* (pbernier@tmcnet.com)
Jennifer Russell, *Copy Editor* (jrussell@tmcnet.com)

TMC LABS
Tom Keating, *Executive Technology Editor/CTO/VP*

ART
Alan Urkawich, *Associate Vice President of Creative*
Lisa A. Mellers, *Graphic Designer*

EXECUTIVE OFFICERS
Nadji Tehrani, *Chairman and Founder*
Rich Tehrani, *Chief Executive Officer*
Dave Rodriguez, *President*
Michael Genaro, *Executive Vice President, Operations*

ADVERTISING SALES
Sales Office Phone: 203-852-6800

Anthony Graffeo, *Vice President of Business Development* (agraffeo@tmcnet.com), 203-295-0234

Jaime Hernaez, *AVP, Client Services* (jhernaez@tmcnet.com), ext. 217

Laura Casal, *Account Executive* (lcasal@tmcnet.com), ext. 299

Editorial Offices: 203-852-6800

Customer Service: For all customer service matters, call 203-852-6800.

SUBSCRIPTIONS
Circulation Director, Shirley Russo, ext. 157 (srusso@tmcnet.com)
Next Gen Mobility is published quarterly by Technology Marketing Corp. Annual digital subscriptions; Free to qualifying U.S., Canada and foreign subscribers. Annual print subscriptions; Free to qualifying U.S. subscribers; $24 U.S. nonqualifying, $34 Canada, $48 foreign qualifying and nonqualifying. All orders are payable in advance U.S. dollars drawn against a U.S. bank. Connecticut residents add applicable sales tax.

Postmaster: Send address changes to Next Gen Mobility, Technology Marketing Corporation, River Park, 800 Connecticut Ave., 1st Fl., Norwalk, CT 06854-1628 USA

Canada Post: Publications Mail Agreement #40612608

Canada Returns to be sent to: Pitney Bowes International, P. O. Box 25542, London, ON N6C 6B2, CANADA

READER INPUT
Next Gen Mobility encourages readers to contact us with their questions, comments, and suggestions. Send all editorial-related e-mail to Paula Bernier at pbernier@tmcnet.com. We reserve the right to edit letters for clarity and brevity. All submissions will be considered eligible for publication unless otherwise specified by the author.

Next Gen Mobility is a registered trademark of Technology Marketing Corporation. Copyright © 2012 Technology Marketing Corporation. All rights reserved. Reproduction in whole or part without permission of the publisher is prohibited.

REPRINTS AND LIST RENTALS
For authorized reprints of articles appearing in Next Gen Mobility, please contact The YGS Group Reprint Division, 3650 West Market Street, York, PA 17404, 717-505-9701 or 800-501-9571 x105 – tmcnet@theYGSgroup.com.

For List Rentals, please contact Jill Olsen at JOlsen@listincorporated.com or call 914-765-0700, ext. 105.

A Technology Marketing Publication,
River Park, 800 Connecticut Ave., 1st Fl.
Norwalk, CT 06854-1628 U.S.A.
Phone: (203) 852-6800
Fax: (203) 295-3773, (203) 295-3717

Free Association

Much has happened in the wireless world since our last issue of *Next Gen Mobility*, so my column this time may be a bit like free association. But there's a lot to talk about.

One especially interesting development in the recent past was the coming together of Facebook and the big cellcos on streamlined payments flow.

Facebook CTO Bret Taylor at Mobile World Congress earlier this year in Barcelona revealed the news, which was subsequently discussed in a Facebook blog. Douglas Purdy in the Facebook blog wrote: "We're working with operators around the world to minimize the number of steps needed to complete a transaction in mobile web apps, which will make it easier for hundreds of millions of people worldwide to purchase apps on their device via operator billing."

Operators involved in the effort, which ties in with the W3C Community Group, include AT&T, Deutsche Telekom, Orange, Telefónica, T-Mobile USA, Verizon, Vodafone, KDDI, and SOFTBANK MOBILE Corp.

An Ovum blog noted that Taylor in his Mobile World Congress keynote said "the payment experience on the mobile web is broken for users." And Ovum added that by saying this Taylor was "clearly implying that Facebook is the one to fix it."

Of course, this Facebook-cellco development was just one of many news announcements revealed at Mobile World Congress, an event in late February/early March that drew 67,000 people to Spain. While there wasn't a whole lot in the way of entirely new trends at the show, small cells, hetnets, the mobile wallet, and HSPA+ and LTE all were prevalent topics at the event. All of the above is covered in more detail within the pages of this issue.

Switching gears, there's also been movement in the last couple months on a couple of important database initiatives related to the cellular industry.

Just last month, CTIA-The Wireless Association and some of its members unveiled a plan to work with the federal government and law enforcement agencies to implement databases and take other steps to deter smartphone theft and resale. This seems to be a pretty meaningful development considering what appears to be widespread resale of used wireless devices.

In yet another database initiative, I also wanted to mention that white spaces database work continues to move forward. The FCC-mandated databases in this case are intended to provide wireless devices and networks with information about what radios are operating at what frequencies in an effort to prevent interference.

Ten companies have been vying to operate these databases. Spectrum Bridge was the first to complete testing, as noted in the Feb. 2 CommLawBlog. And this spring the FCC gave Telcordia (now part of Ericsson) the green light to operate what the commission calls its "TV bands database system".

But while this is a positive development for white spaces the future of white spaces remains hazy in light of the incentive auctions. For more on this topic, see Caught in the Crossfire.

Stay Connected My Friends.

Sincerely,
Paula Bernier

Goodbye Android, We Hardly Knew Ye

New research is showing that Android has some real problems. Obviously Google knows this, and it's part of the reason the company purchased Motorola and as Henry Blodget of Business Insider points out is opening an online tablet store. David Beckemeyer, the former EarthLink CTO, too weighs in with a chart showing just how dominant Apple is becoming.

But before we get into that, I was at my accountant last week and while he was crunching numbers I decided to tell my wife it was time to get my oldest daughter a refurbished laptop because her netbook takes longer to boot than the time it takes for us to assemble all the documents for the IRS. Without skipping a beat the accountant looked up and said, "Why don't you get her a Macbook?"

Most relationships with consumers and computer companies are devoid of the passion Apple seems to exude.

Part of the challenge has to do with the ease-of-use factor – many women I know and men above a certain age seem to hate Android, while techies love it. I guarantee that science fiction aficionados (also known affectionately as geeks) strongly gravitate toward Android.

Back to Beckemeyer, he has shown that for all the talk of Android dominance, in the future we will live increasingly in an Apple-dominated world. Part of the reason has to do with the fact that iPhones and iPads are still easier to use. I know many people who purchased Android devices because they were all Verizon offered, and now those folks can't wait to get Apple devices.

The words of Roger McNamee below seem to be ringing truer by the day: "What if Apple doesn't get 10 to 15 percent market share in tablets but instead 60 to 70 percent? Then Apple will be the largest hardware company out there by a mile."

If this trend continues, and I am not sure what can stop it, it will be an about-face for how the tech market traditionally has worked. Remember that with computers and laptops, the PC won the war because the price/performance curve favored open ecosystems where hardware vendors were forced to compete on an open, level playing field. The Macs too in the eighties and much of the nineties weren't so special from a design perspective, so everyone competed to provide the most computing power for the least dollars.

But Apple has turned the computing market into fashion – meaning iPhones are more like personal statements of character than merely consumer electronics. You wonder why Apple doesn't even show up at CES? Well, maybe it's because the company considers its products to be fashion statements which just happen to need a power cord.

Even their flaws somehow turn into selling points. Witness Siri, which doesn't work that well; people love it. Jim Cramer rants about it on CNBC – so much so that I believe the company must have optimized it for his voice.

As I have said in the past, Samsung and perhaps Sony are in the best position to put up a fight against Apple in terms of making gadgets that look great. But let's face it, the clock is ticking and at a certain point, Android will take a back seat to iOS when it comes to competing for developer time and attention. And once that happens, it will be very tough for Android to once again gain share.

So yes, the new Google tablet store and coming out with Google-branded tablets (which are likely to be given away at a loss) are the only ways to blunt the iOS onslaught, so it may be a bit premature to declare Android dead. On the other hand, it is clear that Google seems to be panicking.

TMCnet

TMCnet (www.tmcnet.com)

TMCnet EDITORIAL

Group Editorial Director, **Erik Linask**

Managing Editors, **Juliana Kenny, Stefanie Mosca**

Assignment Desk Editor, **Stefania Viscusi**

Executive Editor-IP Communications Group, **Paula Bernier**

Senior Editor, **Peter Bernstein**

Web Editors, **Amanda Ciccatelli, Jamie Epstein, Carrie Schmelkin, Rich Steeves**

Copy Editors, **Braden Becker, Jennifer Russell**

TMCnet PRODUCTION

Webmaster, **Robert Hashemian**

Associate Vice President of Creative, **Alan Urkawich**

Senior Director of TMCnet Communities and Channels, **Maxine Sandler**

Advertising Traffic Manager, **Tim Goins** (tgoins@tmcnet.com)

MARKETING

Associate Vice President of Creative, **Alan Urkawich**

Marketing Manager, **Sarah Fullilove**

Marketing Manager, **Jan Pierret**

Product Manager, Online Community Program, **Anna Ritchie**

FINANCE

Vice President of Finance, **Allen Frydrych**

READER INPUT

Next Gen Mobility encourages readers to contact us with their questions, comments, and suggestions. Send e-mail (addresses above), or send ordinary mail. We reserve the right to edit letters for clarity and brevity. All submissions will be considered eligible for publication unless otherwise specified by the author.

Next Gen Mobility is a registered trademark of Technology Marketing Corporation. Copyright © 2012 Technology Marketing Corporation. All rights reserved. Reproduction in whole or part without permission of the publisher is prohibited.

REPRINTS AND LIST RENTALS

For authorized reprints of articles appearing in Next Gen Mobility, please contact: The YGS Group - Reprint Division
3650 West Market Street
York, PA 17404
717-505-9701 or 800-501-9571 e-Mail: tmcnet@theYGSgroup.com

FOR LIST RENTALS

please contact Jill Olson at JOlsen@listincorporated.com or call 914-765-0700 ext. 105.

theYGSgroup integrated publishing solutions

TMC NeXt GEN MOBILITY

A Technology Marketing Publication,
River Park, 800 Connecticut Ave., 1st Floor
Norwalk, CT 06854-1628 U.S.A.
Phone: 203-852-6800
Fax: 203-295-3773 and 203-295-3717

Jabra®

MAKE YOUR CONNECTIONS WITH JABRA!

Jabra's wireless and corded headsets have successfully completed compliance testing with Avaya's 9600 and 1600 series telephones. Jabra PC Suite enables integrated call control from Avaya One-X Communicator, One-X Agent, IP Soft Phone, and IP Agent.

Jabra headsets are recognized worldwide in being first to market with superior technology innovations, and award-winning design and style, resulting in proven unified communication solutions that enable your organization to maximize your return on investment.

Our critics agree, as Jabra is a recipient of the Frost & Sullivan Customer Value Enhancement Award along with Customer Interaction Solutions Magazine Product of the Year Awards for the Jabra PRO 9470 and Jabra GO 6430.

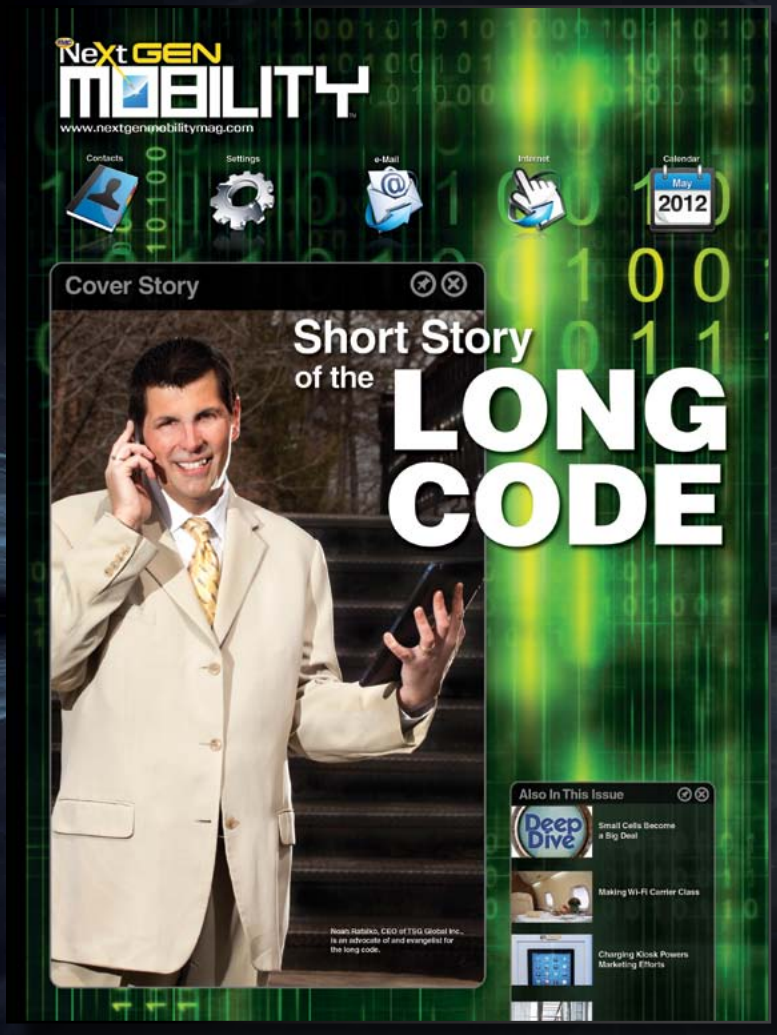
Jabra headsets ensure you and your users will stay connected anytime, anywhere, providing the best communications experience on every call.

A BRAND BY GN Netcom

For more details on Jabra's complete line of Avaya tested products, please visit us at: www.jabra.com/Avaya

AVAYA DEVCONNECT GOLD

On The Cover



Short Story of the Long Code

Service providers of all stripes, and their customers, can benefit from the goodness and rewards of the long code. That's the word from Noah Rafalko, CEO of TSG Global Inc., who's been beating the drum for adoption of long code technology since its inception.

[For more on this story, visit page 8.]

Columns

Sections

Deep Dive
Small cells have been garnering big attention lately, as many wireless service providers embrace them in an effort to add capacity and fill in coverage. TE Connectivity's John Spindler says distributed antenna systems are an integral part of the small cell discussion because of their capacity, efficiency and flexibility.
[For more on this story, visit page 10.]

Touching Base
There's a move afoot in the industry to make Wi-Fi carrier quality. The goal is to enable cellular service providers to integrate 3G, 4G and Wi-Fi at the base station and have common control, security, management and optimization capabilities for all of the above.
[For more on these stories, visit page 22.]

APPerature
Developer tools empower the creative and allow for a quick turnaround from conceptualization to testing. The ability to move fast from concept to build saves time and allows for more iteration. This encourages a kind of bold braveness and grass-root creativity in the team members.
[For more on this story, visit page 24.]

Counterpoint
Apple leads the industry in many ways, but in terms of market share, Google Android is the undisputed leader. More importantly, Google is securely set up to continue this dominance for the foreseeable future.
[For more on this story, visit page 25.]

Bucking the Trend
Metaswitch recently unveiled its Accession strategy, which is closely related to its Thrutu offering.
[For more on this story, visit page 26.]

Charge It
A company called goCharge offers mobile device charging kiosks that can be leveraged in a wide variety of marketing models.
[For more on this story, visit page 27.]

Devices
This issue, learn about wireless eye wear, the PadFone, and ZTE Era.
[For more on this story, visit page 28.]

Air Quality
Many companies are moving to give end users the power to manage and monitor their mobile data plans, performance and usage.
[For more on these stories, visit page 29.]

Fun & Games
Infrastructure vendor Allot Communications makes learning about bandwidth fun. Intel partner makes sculpture interactive.
[For more on this story, visit page 30.]

Do the Math
Mobile World Congress was great, but may lack some of its old-world charm next time around.
[For more on these stories, visit page 34.]

A NID is a NID is a NID. Right?

Not exactly.

Transition Networks' suite of carrier grade products are built to support the most stringent service level agreements (SLAs), while providing easy methods of provisioning and managing customer connections. The depth of the portfolio solves carrier needs for 3G and LTE Mobile Backhaul, Legacy Mobile Backhaul, Fiber Based Ethernet Services, Reclaiming Fiber Count, Maximizing Fiber Usage, and Aggregation of Metro Ethernet and Backhaul Services. Transition's product will revolutionize your networks with easy management, reduced OpEx & CapEx, enhanced network capacity, and reduced time to provision all while providing a higher availability of uptime.

www.transition.com/difference

TRANSITION NETWORKS®

24 hours/7 days a week
support worldwide
+1-952-941-7600
info@transition.com

YOUR NETWORK. OUR CONNECTION.

Short Story of the Long Code

TSG Global Sends Message of Long Code Benefits

by Paula Bernier

The wireless telephone companies have made a lot of money with short-code SMS, but now the long code has arrived, and wireless operators should stop clinging to the past and allow the future of messaging to move forward. That way, service providers of all stripes, and their customers, will be able to benefit from the goodness and rewards of the long code.

That's the word from Noah Rafalko, CEO of TSG Global Inc., who's been beating the drum for adoption of long code technology since its inception. A long code is simply a text-enabled telephone number not provided by a wireless operator.

Long code messaging is preferable to short code because of its affordability, flexibility and its unique ability to support rich media including voice and fax, explains Rafalko of TSG, an SMS enabler and long code pioneer that empowers telcos, the web development community and enterprises with the tools, service and guidance they need to enable long code SMS applications.

Cost Comparison

While short codes are leased from a handful of major players at a cost of $500 to $1,000 per month (costs depend upon whether standard or vanity codes are involved), the long code is just a telephone number enabled to carry SMS, owned by the customer and only costing a couple of dollars a month. Both the short code and long code have per-message fees, according to TSG Global, which indicates that if the correct telecommunications provider is selected, the long code per-message fee should be far less.

Also, as noted in a TSG blog, the short code is just a number, and it's not associated with any location. "It is cost prohibitive to own multiple short codes to localize or regionalize a product, service or campaign," according to TSG. "In the case a local presence is important, the only cost is an additional phone number to have that presence, and it can be implemented immediately. The long code again provides flexibility and gives options for immediate presence and control."

Rich Media

Another benefit of the long code is its ability to support voice, fax and text communications in a unified way. That means the long code can provide one point of contact for customers to interact with businesses and vice versa.

For example, it could enable a call center representative to receive communications from customers via text and voice. A pharmacy could leverage long code technology by offering interaction through the current pharmacy telephone number, to which users could now call or text prescription refill requests or otherwise interact with.

"Long code technology also could be used to invite customers to comment about the quality of their experiences with a business," says Rafalko. "For example, a restaurant could offer a long code phone number to enable diners to offer feedback easily and quickly before they leave the restaurant. This is how a carrier or enterprise can monetize and enter this social media revolution through enabling text messaging.

"When you look at the evolution of telecom as a whole and then look at long code interaction technology, you're looking at the future of communications," adds Rafalko

New Revenue Potential

The above is just a small sampling of what long code technology can enable. Indeed, the possibilities for marketers to leverage long codes, and for service providers to build new revenue streams from selling long code-related services, seem to be limitless, Rafalko says, particularly when you consider the drastic increases that are forecast for messaging and mobile marketing.

U.S. mobile ad spending, which was estimated at $790 million last year, is expected to grow to $4 billion by 2015, according to BIA/Kelsey. Meanwhile, ABI Research forecasts that enterprise text and messaging will grow at a compound annual growth rate of 36.9 percent between 2011 and 2015, reaching 53.8 billion communications by the end of that period. And Prosper Mobile Insights a year ago this month issued a report indicating that texting is smartphone users' No. 1 communications medium of choice, another testament to the power of messaging.

Open and Closed

That helps explain why short codes, which are used by many businesses today for marketing, have been so successful. Indeed, SMS is the fastest growing mobile segment in the U.S. today.

"The performance of SMS over the last five years has been staggering and remains so mainly because it is cheap, easy to use,

convenient, discreet and universally acceptable to some 4 billion consumers worldwide," according to a recent report by Portio Research. "During 2009 SMS continued to grow in all markets and the report confidently predicts that it will continue to do so for several more years. In 2009, worldwide SMS traffic topped 5 trillion messages, and that figure is set to exceed 10 trillion in 2013."

What you may not have heard, however, is that the short code version of SMS falls short compared to the long code one because the short code is closely controlled by the CTIA and the wireless carriers, which have, in effect, a monopoly on the short code, Rafalko says. In fact, according to Rafalko, wireless carriers are creating barriers to market entry. But that is something TSG has solved for its carrier customers, he adds.

As reported in the last issue of *Next Gen Mobility*, Rafalko believes that the large wireless service providers that are CTIA members are trying to limit long code technology with guidelines that treat short codes one way and long codes another. And he's troubled by the fact that the CTIA wireless association recently set the new guidelines around long codes in a closed meeting.

"If you're not invited to your voting booth, what voice do you have?" Rafalko said following the CTIA's move on that front. "It's not like because McDonald's sells the most hamburgers in the world, they have the right to dictate how all hamburgers are made."

In this comment, Rafalko was referring to the significant market power of the nation's big cellular providers. On the second page of the CTIA guidelines are the logos of AT&T, Cellcom, Cricket, nTelos, Sprint, T-Mobile, U.S. Cellular and Verizon Wireless. Following the passage of the new guidelines, the CTIA indicated this would be a living document, but Rafalko tells Next Gen Mobility that there has been no further movement on this front by the CTIA since the initial guidelines were passed last year.

"The small guy deserves a chance too," Rafalko says, adding that keeping newcomers out of the market hurts not only those companies but consumers as well.

Taking Control

Giving the customer more control is a large part of what the long code is all about, Rafalko adds.

Noah Rafalko

Customers can instantly activate new campaigns using long code technology.

"With the long code, there is no lengthy process necessary to get projects approved," according to TSG. "The customer is in complete control, but they still have to follow ethical business practices."

The long code also offers better reach than does the short code, which only provides access to cellular carriers in the U.S. Meanwhile, the long code offers access to all carriers – wireless or land-based.

That's why, in the end, Rafalko believes long codes eventually will replace short codes, as short codes are arbitrary numbers not connected to a brand, while a long code enables a business or organization to make its current phone number text-enabled.

To help ensure that outcome, Rafalko is calling on service providers to join the long code cause.

"Become a part – not a spectator – of text messaging," says Rafalko. "Why not put the revenue in your pocket instead of your competitor's."

by Paula Bernier

Small Cells Become a Big Deal

Forecasts Indicate They Will Outnumber Macro Basestations by 2014

Small cells have been garnering big attention lately, as many wireless service providers embrace them in an effort to add capacity and fill in coverage. So popular are the different iterations of this kind of gear that the number of small cells is expected to outnumber that of macro base stations by 2014, according to Rethink Research.

"Small cells are set to drastically reshape mobile networks over the next few years as they become comfortably the most common form of base station worldwide," says Dimitris Mavrakis, principal analyst at Informa Telecoms & Media. "Over the past few months alone we've seen a host of new operators make small cell announcements including major players like Telenor and Telefónica O2, as well as smaller providers like 3UK and Free in France whose free femtocell offer look set to be highly disruptive. Unsurprisingly this sea change in mobile networks is impacting M&A activity with Mindspeed acquiring small cell chipset frontrunner Picochip while Ericsson provided further proof of the importance of Wi-Fi in small cells by picking up BelAir Networks."

Informa Telecoms & Media forecasts that small cells will grow from 3.2 million this year to 62.4 million by 2016 – a 2000 percent increase. Femtocells will play a leading role in the small cell expansion, with expected growth from 2.5 million in 2012 to 59 million in 2016, according to Informa. Public access small cells, including microcells and metrocells, most of which are for outdoor installation, are forecast to increase from 595,000 this year to 2.9 million in 2016. Enterprise and public area picocells are positioned to rise from 140,000 this year to 540,000 in 2016, Informa Telecoms & Media estimates.

Meanwhile, Infonetics Research expects public space femtocells to make up more than 50 percent of all small cells shipped this year, and says that most operators are planning small cells only in the urban core for the next three years or so. Infonetics forecasts the global small cell market will grow rapidly, with about 3 million small cells shipping and the market worth about $2.1 billion in 2016.

"While small cells, including microcells and picocells, have been used for the past two decades to improve voice coverage, now mobile broadband is shifting the game to capacity upgrades," notes Stéphane Téral, principal analyst for mobile infrastructure and carrier economics at Infonetics Research. "Therefore, the chief objective is to complement and enhance the macrocell layer from a capacity standpoint with a new breed of low-power nodes like public space femtocells and WiFi."

However, he adds, small cells do have their challenges in terms of inter-cell interference and backhaul issues.

"The question is," says Teral, "how small can the cell be? Because the smaller the cell, the higher the number of units required to cover an area, and that will determine the true size of the small cell market."

Whatever the true size of the small cell market, many infrastructure vendors – be they big names like Alcatel-Lucent, Ericsson, Huawei, NSN or ZTE, or smaller outfits like Contela, ip.access, Juni, Minieum Networks, Ubiquisys, and others – clearly want to grab their slice of what looks to be a sizable pie.

Alcatel-Lucent earlier this year at Mobile World Congress in Barcelona was pushing its new metrocells (what some might call picocells) and the fact that it is in trials by three customers. The metrocells are based on the company's lightRadio technology, which uses beam forming that makes amplifiers on the radio towers more energy efficient, have an extremely small footprint, and lower the cost per bit for carriers, explains Thomas R. Gruba, senior director of 3GPP product marketing. Etilsat in the

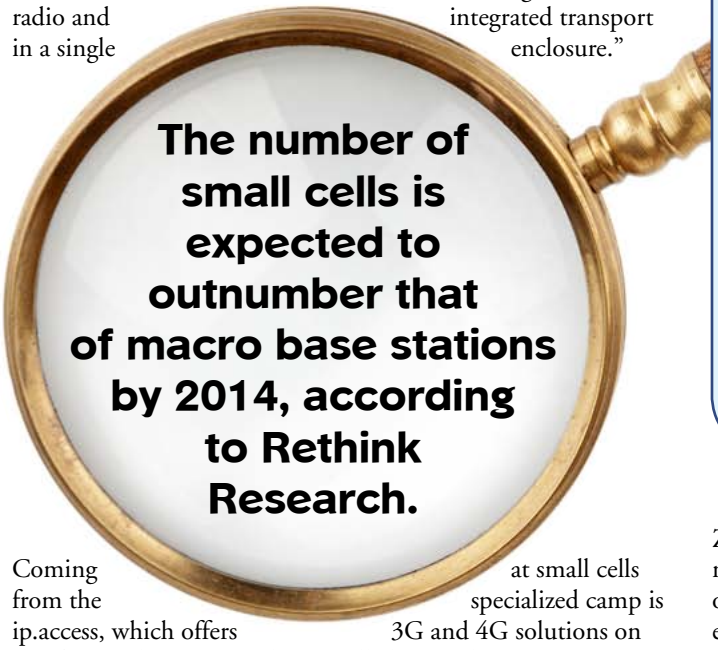
United Arab Emirates is among the service providers that have been testing the lightRadio Metro Radio Outdoor product.

Ericsson, meanwhile, is addressing the small cell opportunity through both new product introduction and via acquisition. The company earlier this year unveiled a new pico base station. The multi-standard RBS with integrated Wi-Fi access is part of Ericsson's RBS 6000 portfolio, which includes products ranging from pico to macro.

The purchase of BelAir also will let Ericsson's service provider customers more easily integrate Wi-Fi and their cellular services, says Mikael Back, Ericsson AB vice president. BelAir has indoor and outdoor Wi-Fi systems that are in use by such service providers as AT&T and Comcast.

And Nokia Siemens Networks plans to make its Flexi Zone small cell solution, which it has had in trials in Chicago running on its own spectrum, generally available at the end of the year. The product targets-high density applications, including business campuses, shopping centers, and sports arenas. The Flexi Zone architecture can aggregate and do traffic management for up to 100 small cells and present that information to the network as if it's just one cell. The solution includes Wi-Fi backhaul, network discovery, and is non-line-of-sight.

NSN also offers Flexi Compact, which is targeted at GSM rural deployments. The company calls it "the industry's smallest macro base station for three-sector sites combining baseband, radio and integrated transport in a single enclosure."



Coming from the at small cells specialized camp is ip.access, which offers 3G and 4G solutions on this front. The company has installed more than 500,000 3G public and private small cells in more than 60 networks to date.

Small Cell Glossary

Small cell: An umbrella term for low-powered radio access nodes that operate in licensed and unlicensed spectrum that have a range of 10 meters to several hundred meters. These contrast with a typical mobile macrocell which might have a range of up to several tens of kilometers.

Femtocell: A low-power, short range, self-contained basestation. Initially used to describe consumer units intended for residential homes, the term has expanded to encompass higher capacity units for enterprise, rural and metropolitan areas.

Picocell: Typically used to describe low-power compact basestations used in enterprise or public indoor areas; the term is sometimes used to encompass outdoor small cells as well.

Microcell: Typically used to describe an outdoor short-range basestation aimed at enhancing coverage for both indoor and outdoor users where macro coverage is insufficient.

Metrocell: A recent term used to describe small cell technologies designed for high-capacity metropolitan areas. Such devices are typically installed on building walls or lampposts and CCTV poles.

Source: Small Cell Forum report, February 2012

Zain Bahrain of the Middle East, and multiple European networks under the Telenor Group umbrella, have signed on to deploy 3G small cell solutions from ip.access. And the equipment company unveiled an LTE small cell solution, called the E-100, earlier this year; it is slated for general availability in early 2013.

The Role of DAS is Small Cell Technology

By Paula Bernier

Small cells are a hot topic these days in wireless networking, and TE Connectivity's John Spindler says distributed antenna systems are an integral part of the small cell discussion because of their capacity, efficiency and flexibility.

TE Connectivity played in the small cell space before the term came into vogue, says Spindler, director of product management for the company's indoor DAS solutions. He adds that the company, which gets about 75 percent of its business from mostly large service providers in the U.S., saw a huge uptick in its DAS business last year in light of the mobile data boom.

DAS solutions from TE Connectivity offer strong capacity and reach because they rely on fiber-based digital transport (as opposed to HFC-based analog RF transport) between base stations and radio headends, and amplify end to end, explain Spindler and Tony Lefebve, director of product management for the company's outdoor DAS solutions. That means more capacity and strong uplink performance, which is important in the age of user-generated content, Spindler says.

The TE Connectivity DAS gear, which is marketed under the brands InterReach and FlexWave Prism, is efficient because it has good reach and strong signal integrity and doesn't use much power, creating savings on a number of fronts, according to Lefebve and Spindler. The products are flexible in that they are band- and technology-agnostic, so can operate at any spectrum in networks based on 2G, 3G, 4G, SIMO, MIMO or whatever. Meanwhile, picocells, says Lefebve, tend to be band- and protocol-specific.

With the rise of the wireless hetnet, or heterogeneous network (the new term for mobile networks that leverage macrocellular, microcellular and Wi-Fi technologies), Wi-Fi increasingly is becoming part of small cell solutions. Spindler says to address Wi-Fi, TE Connectivity has forged a relationship with Aruba Networks. TE Connectivity is working with ip.access, a company in which it's the partial owner, on a proof of concept using the ip.access baseband processor in its DAS digital headend. This, he says, fundamentally eliminates the base station from the equation. And that lowers capital, energy and real estate costs for such solutions.

Another company promoting the benefits of DAS is Optiway Ltd.

The company, which got its start in 2004, sells an indoor DAS solution. Unlike Wi-Fi, these DAS systems act as an extension to the cellular network, so users have all the same functionality across both networks, explains Richard Parker, senior technical director at Optiway. He adds that the company's product is technology-agnostic, so it can work with any type of cellular network.

And while most DAS solutions rely on coax for interconnection, CEO Ofer Reviv says, Optiway leverages fiber for in-building distribution. Using fiber is much more cost efficient in terms of its reliability and performance, he notes.

At Mobile World Congress, Optiway announced a ruggedized AllAccess High Power Wireless Distributed Antenna System. The product offers enhanced outdoor wireless coverage, uses a passive cooling system, and offers high power distribution from what the company says is one of the smallest and most compact casings available.

"The high power AllAccess completes our ability to provide comprehensive solutions to the in-building market, for existing and new customers, with a solution that cost effectively provides outstanding performance," says Reviv. "We can now offer the industry's most innovative solutions to meet the current and future indoor, outdoor and public safety wireless coverage needs of most markets."

The addition of the AllAccess outdoor DAS is just the latest addition to Optiway's AllAccess family of compact high, regular and low power products, which are all managed by the same management system and connect to the same Central Unit over a single optical fiber for all remote types.

THE COMMUNICATIONS & TECHNOLOGY MARKETPLACE

Workshops & Conference Sessions: October 2-5, 2012 • Exhibit Hall: October 3-5, 2012
Austin Convention Center • Austin, Texas

ALL ASPECTS OF TECHNOLOGY—ALL IN ONE PLACE

WWW.ITEXPO.COM

TMC Cloud COMMUNICATIONS EXPO

SUPER Wi-Fi SUMMIT

TMC Cloud4SMB EXPO

Synopsis under IP/Patents • Telecom Sourcing Conference • SUITS

CVX

TMC ITEXPO®

StartupCamp6 comms edition

EDUCATION • NETWORKING
PRODUCT DEMOS

HTML5 A DevCon5 Event SUMMIT

MSPAlliance MSPWORLD

LatinComm conference and expo

TMC M2M MACHINE Evolution Conference & EXPO

TMC MOBILITY TECH Conference & Expo

Platinum Sponsors:

AVAYA · 8x8, Inc. · sansay · INTERACTIVE INTELLIGENCE · AudioCodes · NETXUSA · Sonus · digium

Gold Sponsors:

DoubleHorn COMMUNICATIONS · MegaPath · tw telecom · Vitelity · SANGOMA · SIP PRINT · snom VoIP phones

Figures May Lie, but Words Deceive

by Carl Ford

Sometimes, no matter the name of the law, the law's name is counter intuitive to what the law accomplishes. The Patriot Act, The American Jobs Act, and Spectrum Incentive Auction all share an element of bath water staying with the baby.

In my speculating on spectrum, I get the logic of incenting the TV industry to give up the spectrum. After all, the revenue from over-the-air TV from a government perspective is not as valuable as the potential of selling spectrum.

The bill, according to an FCC blog:
- codifies the voluntary nature of contributing spectrum;
- authorizes the commission to offer a broadcaster at least three ways to contribute spectrum, giving an individual broadcaster not only an exit route previously unavailable but also multiple ways to receive auction proceeds to strengthen ongoing broadcast operations: a multi-station owner can contribute one or more licenses and use the proceeds to strengthen its other operations, and a broadcaster can receive auction proceeds for contributing spectrum and keep even the affected station on the air, through channel sharing or moving from U to V;
- expressly preserves must carry rights for stations that choose to channel share; and
- provides a $1.75 billion repacking fund to pay costs of channel changes by broadcasters who don't participate.

Caveat Venditor

On the sale side, the National Association of Broadcasters is one constituency that is happy because its members get to act as sellers. An interesting possibility is that they act more like cable operators.

Here is an interesting speculation. It's possible for some industry consolidation to happen as a result. About 20 years ago cable companies traded MSOs like baseball cards to get to the point where their footprints were more logical. We may see the same thing happen in the way the shared spectrum rules impacts the NAB members.

Caveat Emptor

On the buy side, CTIA – the Wireless Association is excited to get access to this valuable resource. However, I am not sure the market has as many speculators as it has had in the past, particularly given the problems experience by companies like Clearwire, LightSquared and T-Mobile.

The market has not been easy to penetrate even when spectrum was a key asset. In the past we have watched lots of spectrum gobbled up and put to little use. The dollar amounts I have seen for the estimation of the spectrum auction ($15 billion) are considerably less than were first projected in the balancing the budget effort ($50 billion). Like Metcalfe's law, the value of the spectrum may be dependent on the number of addressable users. Value becomes very dependent on delivering a full block of coherent frequencies for the greatest reach.

Caveat Lector

That brings me to my final point. What is the public good? TV white spaces, or what Chairman Genachowski called SuperWiFi (hence the name of our conference), were touted as a great opportunity. Indeed, when you look at Wi-Fi and what has been accomplished by companies delivering products and not services, Wi-Fi has been a fantastic winner.

TV white spaces have the added opportunity in the fact that they would have less interference, greater range and a design in place that would allow for products and entrepreneurial solutions to be implemented.

We are now at a point where the best we can hope for is a good implementation plan from the FCC. However, the market forces of the incentive auction can drastically reduce the opportunity for TV white space to deliver the SuperWiFi dream.

When first looking at how to implement SuperWiFi, two strategies were planned for. The first was the use databases to track where spectrum was occupied. The second was to use cognitive radio to provide the devices the ability to shift frequencies when contention occurred. When looking at frequencies from a time division strategy, often we find spectrum use is bursty in the private implementations. Cognitive radio could have been a way of sharing spectrum, but at this point cognitive radio is not ready for commercial implementations. The database methodology is a precedent that should be protected and used in the implementation of the sale of the spectrum. We have too much spectrum idle not to put some strategies in place that make the purchase of the spectrum associated with real implementation. In theory, the rural implementations are safe for SuperWiFi, but to get to economies of scale, they need access to larger markets as well.

The FCC blog reports that "Our phones are already ringing with questions about how broadcasters can set their reserve prices, how the reverse auction will work, and the mechanics of channel sharing….We think that similar outreach can be useful as we tackle the tasks before us – we want to provide an avenue for exchanging thoughts about how to approach implementation issues and eliciting broadcasters' thoughts about pitfalls to avoid…. By working together with broadcasters, we can make the incentive auction the effective policy innovation it has the potential to be."

It's clear they see the sale side. As for the buy side, let's look out for the public good in the implementation.

Carl Ford is co-founder of Crossfire Media (www.crossfire.com).

Transforming your communications begins with keeping up to date with the latest communications trends and breaking industry news.

Visit the Next Generation Communications Global Online Community and engage with industry leaders on how to extend applications and services to drive higher levels of functionality, usage, interaction and end user stickiness.

Engage with industry leaders to explore:

- How to leverage a high value network and web 2.0 capabilities
- Optimum ways to provide differentiated end user experience
- Best practices for developing new business models and strategies
- Opportunities to generate revenue while reducing OPEX

Learn more at
http://next-generation-communications.tmcnet.com
and follow us at http://twitter.com/NextGenCom

Alcatel·Lucent

alcatel-lucent.com

©2009 Alcatel-Lucent

The Impact of Cloud Models on OSS and BSS

by Grant Lenahan

Last issue, I talked about clouds, the new business models that are developing around them, and some of the value CSPs can deliver in a cloud environment. In summary, CSPs have an opportunity to be part of a broader range of services, but they will provide only certain parts of a larger end-to-end service. Specifically, I noted that CSPs have opportunities in transport, QoS, billing on-behalf, and – interestingly – E2E service management. So can OSS/BSS really be a competitive advantage for our industry? Let's see.

Assembling composite services across entities depends on the availability of published, re-usable, loosely-coupled service components. Throughout IT, this idea is really called SOA, the service-oriented architecture. In SOA, complete services are composites – meaning they are made up of smaller service components such that service A plus B plus C forms a complete, interesting commercial product. Most IT shops are embracing this internally already. It's the logical extension of object-oriented programming and has lots of business benefits:

- greater re-use;
- lower maintenance;
- faster time to market;
- lower development costs; and
- greater flexibility.

Let's think about the network effect. The more that people can (re)use a component, the greater its value. Consequently, if SOA is good for IT, it's even better on the global web or public cloud. That's the genesis of web 2.0, and the hope for CSP's developer APIs everywhere. The problem has been that most developer APIs have suffered from weak adoption. Nonetheless, primary market research indicates that the market potential remains strong – developers universally indicate that they want richer functionality, simpler accessibility, and simpler or more attractive commercial terms. Many CSPs are actively addressing these deficiencies, and thus we may yet see the day where app developers view telco resources as absolutely critical elements of their toolkit, and as natural to reach out to as Google, social media or other web based resources today. So, assuming we will eventually succeed, let's look at the implications on OSS and BSS.

If, in the emerging world of clouds, services will be composed using SOA-like principles, success demands a similar structure for OSS and BSS support processes. This is a significant departure for most operators. It means that each service must be accompanied by a set of OSS/BSS services, specifically those that:

- allow for discovery of that service;
- allow for provisioning/fulfillment of that service;
- allow for assurance of that service; and
- allow for end user and wholesale charging for that service.

In effect we need a more complex web service with multiple components that collectively support the functional interface, as well as each of the OSS/BSS functions. The service composer may now compose a working service, and, at the same time, compose the OSS/BSS support required for that service to scale commercially.

This is the same approach that manufacturers have employed for decades – in some cases for nearly a century. Interchangeable and standardized parts can be assembled into multiple different products. In manufacturing, this results in faster time to market, lower component costs, greater flexibility, and lower repair costs. (You don't need a master machinist to make you a custom screw; you buy one for 6 cents at the hardware store.) The same benefits accrue to management process support.

But this fundamentally changes OSS and BSS. They become platforms, exposing process fragments as web services, which can be assembled as we please. Continuing the analogy to process efficiency, my employer, Telcordia (now a part of Ericsson), refers to this as service studio. It is our vision that the long lead times and high process development costs that have characterized OSS/BSS support can tumble, and with it, the costs of innovation can fall.

Internally, we can easily see the advantages in terms of agility. But this also opens the door for innovative developers – from large content companies to small entrepreneurs, to utilize CSP-provided service components, and easily plug them into a full management framework. It also opens the door for CSPs to offer capabilities like end-to-end service quality management of a web service basis. (See last issue's column for more on this.)

In summary, the cloud's power comes from the network effect, where innovation occurs across the broadest range of capabilities and service building blocks. CSPs can participate in this ecosystem only if they expose valuable services, and make them easy and practical to employ. Among first order implications, this means flexible charging models and loosely coupled management components. In making this transformation to support public clouds, we do ourselves a great favor. We, in effect, build the internal infrastructure to innovate more agilely within our own networks, building an internal cloud architecture for both services and their management.

Grant F. Lenahan is vice president and strategist for service delivery solutions at Telcordia, now part of Ericsson (www.ericsson.com/telcordia).

SBCs and Multimedia Capability: A New Necessity for Service Providers and Enterprises

by Jim Machi

Today's communications networking environment is rapidly changing and very complex. IP has become the new transport methodology for delivering voice and video services, while converged applications are growing quickly and video is expanding at exponential rates. More IP networks are being installed and used as core networks, and until recently, these were considered adjunct networks connected to core TDM networks through gateways. However, these core IP networks are now increasingly being used today as the primary service delivery network.

While the world is moving more toward an all-IP infrastructure, the global communications scene still includes a large TDM component. So all-IP networks will still need to interconnect with existing TDM networks. This means there will be service delivery challenges encountered in making these disparate networks work well together. Because of this, a premium will be placed on technology solution providers experienced in connecting IP with legacy TDM networks; who know, understand and appreciate both sides of this mixed communications world; and who can develop solutions that can serve the broadest range of networking options while at the same time supporting a wide range of multimedia IP-based services.

The session border controller is a being counted upon as a critical component to meet these requirements. SBCs not only provide functionality at the borders between network environments to support baseline voice services, but they also enable and support a host of new IP-based services and applications, including high-definition voice and real-time video communications.

In terms of benefits for service providers, the SBC, counted upon in many ways with regard to IP-to-IP interconnection, sits at demarcation points between the networks and provides a wide range of important functions for security, protocol translation, normalization and call handling. An SBC enables seamless communication between different service provider networks and end user networks that are comprised of elements from an array of equipment manufacturers.

SBCs can also help network operators manage calls, regulate data flows, fix or change protocols and syntax, and overcome obstacles that network address translation devices and firewalls may pose for IP calling. In addition, where SBCs are inspecting the sessions – both multimedia and control traffic – as they are entering the network, they are also able to play a major role in maintaining high availability by helping to mitigate potential system failures and network overloads that can result when networks are confronted by denial of service attacks.

Another notable benefit of SBCs is that they can help expand the options enterprise organizations have when it comes to considering choices for communications equipment and solution – for example, a premises-based IP PBX or hosted solution. Because an SBC compensates for or corrects potential incompatibility issues, customers have a wide variety of services and service providers to select from, and might no longer need to give primary attention to factors such as compatibility that in the past may have limited their communications options. As a result, SBCs allow for enterprises to be flexible in terms of taking a best-of-breed approach when choosing a platform or solution that most fits their needs, and helps to remove or minimize the limitations or restrictions imposed by one service provider versus another. In addition, while SBCs deployed within service provider networks provide infrastructure protection for the operator, those deployed at the enterprise edge provide protection against malicious attacks for enterprise networks.

> SBCs provide functionality at the borders between network environments, and enable and support a host of new IP-based services and applications.

In conclusion, although SBCs were once being looked upon primarily as security devices, they have taken on an expanded role for fostering successful connectivity and providing high-quality IP service. SBCs can provide vital support for SIP normalization, QoS, NAT traversal, IPv4-IPv6 interworking, support for a host of multimedia value-added services, and much more.

Jim Machi is senior vice president of marketing at Dialogic Inc. (www.dialogic.com).

Can We Handle the Flow?

by Ken Osowski

Data traffic flowing across mobile service provider networks is going through the roof. And as quickly as the service providers are implementing faster networks, mobile device manufacturers are introducing products with higher resolution screens and processing speeds that consume much higher data rates. In fact, these two dynamics will never completely balance each other; operators will always need more network bandwidth and throughput at more economical pricing with exceptional quality of service.

That is quite the tall order.

Just look at the specs for Apple's new iPad. Because it has a higher resolution display than current HDTVs, it could require more network bandwidth to stream video content. The VUDU Internet video streaming service recommends that a user's Internet download access speed range between 4.5mbps to 9mbps to access video content in 1080p format. With the new iPad at 50 percent more resolution than 1080p, one can extrapolate that the bandwidth requirement to stream the iPad's native resolution video would range from between 6.8mbps to 13.6mbps. So, even at 6.8mbps, a user would be fortunate to see the first 10 minutes of iPad native resolution video content with a 4 GB mobile data plan. Even at 1080p resolution, one would watch 15 minutes of video at the most. Not to be outdone, the first batch of 1080p display resolution smartphones is right around the corner, if not already available by the time you read this.

So how can service providers meet these new challenges and remain profitable with their existing data plan services? They have a choice to continue to offer unlimited plans where subscribers go well beyond usage expectations and overwhelm the network, or deal with subscribers who are dissatisfied about how fast they are running over their current data plan limits. If data service plans remain status quo, then subscribers who want to stream the best quality video content to their mobile devices may have to curb their videophile tendencies or go back to renting DVDs.

The ability for mobile service providers to offer personalized services is the future for mobile data plans.

Sure, there are a core set of common applications and websites that we use every day, but progressing into the future requires service providers to provide economical plans that cater to the usage patterns of their subscribers. This could include, for example, tiered charging for VoIP, video, and gaming. This would enable the service providers to cater to subscribers' interests without breaking their fixed quota limits or getting a warning from the service provider when the unlimited plan usage becomes unbearable for the service provider's network.

Another personalized service plan possibility, as "free" smartphones become ubiquitous, offer smartphones that are tied to a collection of zero-rated applications. This would essentially give the subscriber free access to an application portfolio with a particular device and associated data plan. Other variants of this plan could allow these applications to have free access during certain times of the day or limit an individual's sessions per application.

Traditional data service plans have been tied to one mobile device; but again, service personalization can play a critical role in improving this service model. Many of us have gone from one to several mobile devices that we use daily, including smartphones, tablets, and laptops. A more flexible model for data plan subscribers is for all of their devices to consume data from a single plan's usage quota. This would take the burden off subscribers to manage multiple plan limits, while giving them more efficient plan usage right up to the quota without concern about balancing usage among all of their devices. Even unlimited plans can evolve to a service personalization model; the service provider could tailor offerings such that subscribers can choose the quality of service they wish to pay by selecting among tiered bandwidth service plans.

The ability for mobile service providers to offer personalized services is the future for mobile data plans.

Over the next few articles in this column, we will look at service options like these that mobile service providers can implement in their networks today. I will review the technologies that service providers employ to help get to this next generation of personalized mobile services, allowing them to achieve mass market customization and incremental revenue streams with high service velocity. Not only will they be able to handle an increase in data flows, but they will benefit from the additional cash flow.

Ken Osowski is director of solutions marketing at Procera Networks (www.proceranetworks.com).

How Google or Apple Could Create a Major New Mobile Carrier

by Brough Turner

An open Internet is critical for companies like Google, Apple or Amazon and, while they may not want to become competing mobile carriers themselves, there is a way they could foster disruption that enables open access.

Globally, most mobile markets are tight oligopolies at best. Limited mobile spectrum favors a few market-leading companies with large resources. Such a company can spend $2 billion on a license that will only produce $1 billion in value, if they believe they'll make another $1 billion or more by blocking rivals. This is one reason the U.S. has gone from seven or eight players per major market to four and may be heading toward duopoly – just Verizon and AT&T – as Sprint, T-Mobile and Clearwire totter.

However, fighting over mobile spectrum misses a key opportunity. Yes, wireless data will exceed fixed, eventually, but the projected 2015 breakdown is 46 percent wired, 46 percent Wi-Fi and just 8 percent mobile. Already, more than 40 percent of smartphone data bytes and 90 percent of tablet data goes via Wi-Fi. Wi-Fi is the key to reshaping this market.

Increasingly, smartphones come with both mobile and Wi-Fi connectivity. When you track individuals' mobile phone usage, it's overwhelmingly from just two cells – the ones near home and work. But home and work are likely to have Wi-Fi. What's more, that Wi-Fi equipment was bought and installed by individuals or corporations, and its spectrum is free. If you could harness these Wi-Fi resources, you'd only need traditional mobile coverage to support people in motion and backfill isolated locations.

Suppose a major national brand (like Google?) made you an offer you couldn't refuse for access to the unused capacity on your Wi-Fi setup? Assume they guarantee you absolute priority on your own gear; enable encryption and firewalling so you are more secure than you've ever been; and give you free reciprocal access at places you frequent. Interesting? What other incentives could a major brand like Google or Apple offer?

Suppose their network also includes deals with Boingo, iPass and other Wi-Fi aggregators? Finally, suppose they offer software that seamlessly connects your device to any affiliated Wi-Fi access point? That's technically straightforward and even better if built into an operating system like Apple's iOS or Google's Android.

Of course an 80 percent or 90 percent coverage solution wouldn't be competitive with the 99 percent coverage of a leading mobile carrier but, with an almost free 80 percent or 90 percent solution, one could afford to buy backup coverage from Sprint, T-Mobile or Clearwire. Now it becomes a matter of incentives, coverage and pricing. How do you drive traffic to the Wi-Fi network, at least during busy periods? (Nights and weekends are already free when purchased at wholesale.)

This potential Wi-Fi network is dramatically different from a costly, centrally designed LTE network, so mobile network experience may be a disadvantage. To facilitate the aggregation of millions of Wi-Fi devices owned and managed by individuals and corporations, experience with consumer devices and cloud-based software services would be more important.

While creating the incentives to make this work is non-trivial, there would be none of the large capital outlays for an LTE network. There might even be equipment revenue from reselling pre-configured Wi-Fi devices. So cost is not a major barrier.

Wouldn't a mobile network be a distraction for Google or Apple? Yes, but they can't afford to ignore open wireless access. Smartphones and tablets are the future. Historically, mobile operators have dictated to handset vendors what services can work on which devices. Even after the iPhone, operators dictate to most handset vendors and block Apple from over-the-top voice. Worse, mobile operators have used their political clout to get exempted from net neutrality. Neither Google, Apple or Amazon can afford to cede control of their destiny to Verizon and AT&T. Something has to change.

Traditional mobile isn't going away, but the explosion in 4G data services is increasingly dependant on Wi-Fi, and Wi-Fi is completely unlike a mobile network – different economics, different organization, different control. Whether done directly by a Google, Apple or Amazon, or through investments in other players, there's a clear need and a clear opportunity for leading Internet companies to disrupt the mobile operators.

Brough Turner is founder and CTO at netBlazr Inc. (www.netBlazr.com).

WiGig Alliance Works to Expand Wireless Possibilities

by Ali Sadri

The widespread availability and use of digital multimedia content has created a need for faster wireless connectivity that current commercial standards cannot support. This has driven demand for a single standard that can support advanced applications such as wireless display and docking.

The Wireless Gigabit Alliance was formed to meet this need by establishing a wireless technology operating in the unlicensed 60gHz band that promises data rates of up to 7gbps, or more than 10 times the speed of the fastest Wi-Fi networks available today. The band has much more spectrum available than the 2.4 or 5 gHz bands used by existing Wi-Fi products, allowing wider channels that support faster transmission speeds.

The WiGig Alliance completed a successful 2011 with the publication of two new protocol adaptation layer specifications, the WiGig Display Extension and the WiGig Serial Extension to supplement the previously published WiGig Bus Extension and MAC/PHY specifications.

The completion of all the necessary components of the first ever multi-gigabit wireless docking specification was a major milestone. We have also hosted the first ever WiGig interoperability test event, received ITU-R endorsement and formed a docking task group chartered with creating the world's first multi-gigabit wireless docking specification. Now industry momentum is really growing and I am pleased to see analysts such as NPD In-Stat predicting that WiGig is likely to emerge as the most popular wireless HD video technology.

So what's next for the WiGig Allliance?

The WiGig Alliance is calling for even more developer involvement in the creation of the world's first unified specification for multi-gigabit wireless docking. At the inception of the WiGig Alliance back in 2009, we envisioned the realization of innovative and interoperable multi-gigabit wireless connectivity among PCs, consumer electronics and hand-held devices. We are now close to making this a commercial reality with the first release of certified WiGig products scheduled for early 2013.

The alliance continues to gather additional industry momentum with product developments moving forward at great pace. I am confident that WiGig will soon become the world's most important multi-gigabit wireless technology found in many products. We are going to see a real shake up of the industry.

ZTE, one of China's flagship telecom equipment and services suppliers to the world market, recently joined the impressive list of WiGig members representing the industry's top chipmakers and consumer electronics manufacturers from around the world. And in February Huawei joined the board of directors. These world-leading tech companies are seeing WiGig as a desirable and interesting technology.

Sun Qingbo, general manager of the standards and pre-research department at ZTE Corp. suggests why this is the case.

I am pleased to see analysts such as NPD In-Stat predicting that WiGig is likely to emerge as the most popular wireless HD video technology.

"We believe WiGig technology has a bright future that will provide a very promising short-range communication solution for the industry," he said. "ZTE has a broad product range, from cell phones and tablets, to conference terminals and set-top boxes. I think it will be fantastic if WiGig technology can be adopted on all these products. I am certain there are many companies that share the same vision as us."

WiGig has also increased its Asia presence with a new office opening in Taipei. The organization has roots in Beaverton, Ore.; San Diego; Beijing; and now Taiwan. In fact it will be hosting a series of technical briefings on virtually every continent during 2012. That started in Asia in April and June. The main objective is to share information about WiGig systems with leaders in the consumer electronics industry.

WiGig products are already coming onto the market now, but official certification from the WiGig Alliance will not be available until early 2013. Once certification has been finalized we are likely to see an upsurge in the number of interesting products coming to market using this exciting technology. Just think, wires, excessive battery use and clogged up networks could be a thing of the past.

Ali Sadri is the president and chairman of the board of the WiGig Alliance (www.wirelessgigabitalliance.com) and director of the Intel Mobile Wireless Group.

www.tmcnet.com/community

Smarter Communities... Superior Results...

You need an Online Community for your business.
Here's why:

Reason #14:

We Love to Socialize. Communities integrate your multiple social media initiatives into one powerful portal. Save time, effort, and get your messages out faster!

TMCnet Online Communities
Connect in the cloud™

To learn how you can build your own customized Online Community, contact ClientServices@tmcnet.com or call 203-852-6800

TMC Technology Marketing Corporation • 800 Connecticut Ave, 1st Floor East, Norwalk, CT 06850 USA
Copyright © 2012 Technology Marketing Corp. All Rights Reserved

TMCnet.com

by Paula Bernier

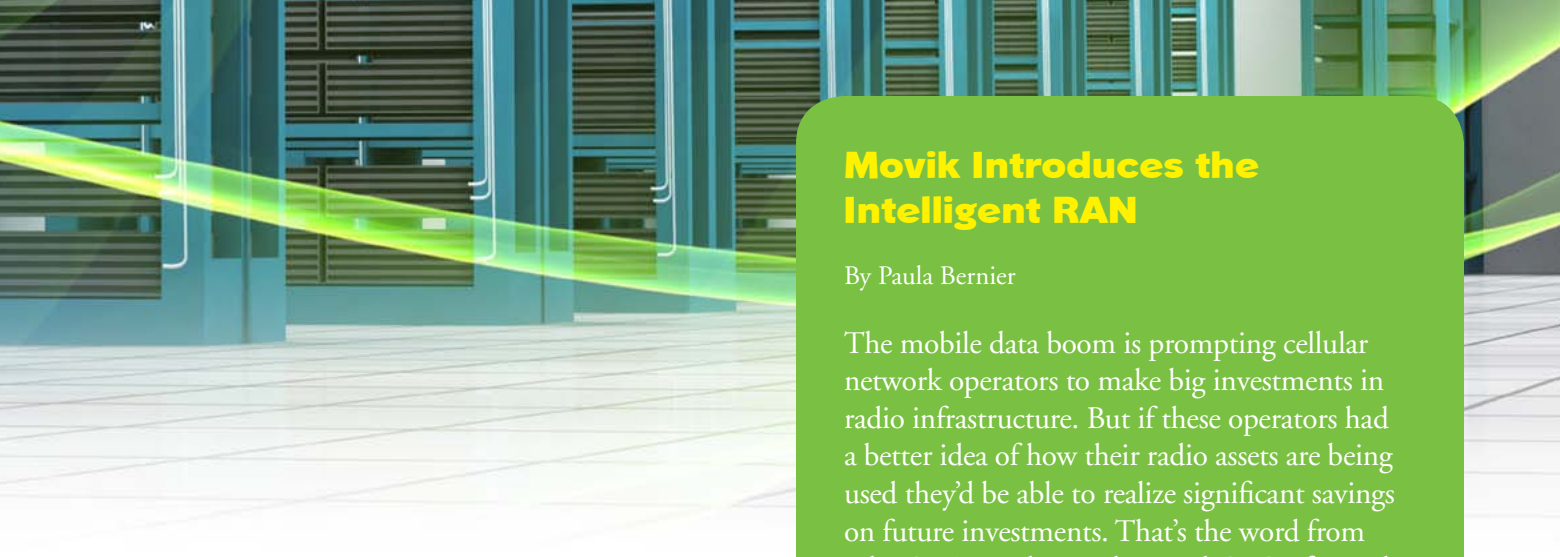
Wi-Fi Looks to Upgrade to Carrier Class

There's a move afoot in the industry to make Wi-Fi carrier quality. The goal is to enable cellular service providers to integrate 3G, 4G and Wi-Fi at the base station and have common control, security, management and optimization capabilities for all of the above.

In this scenario, Wi-Fi is just another connectivity mode in the heterogeneous network – or hetnet. And every vendor in the wireless access space, from the big guns like Alcatel-Lucent and Ericsson, to smaller outfits, is talking about carrier-class Wi-Fi and the rise of the hetnet.

Fresh off of announcing plans to buy BelAir Networks, Ericsson at Mobile World Congress this February in Barcelona unveiled a new pico base station. Both the new product and the acquisition are Ericsson efforts to align cellular and Wi-Fi more closely, says Mikael Back, Ericsson AB vice president.

The multi-standard RBS with integrated Wi-Fi access is part of Ericsson's RBS 6000 portfolio, which includes products ranging from pico to macro. These products are designed to help network operators add capacity with a relatively small footprint and, thus, real estate requirement, and deliver what Ericsson says are two to 10 times the throughput gains



using half the spectrum of competing solutions. Because the pico radio base station has integrated Wi-Fi, that makes it easier for service providers to add small cells to the network using both licensed and unlicensed spectrum – and to backhaul traffic from both over shared facilities.

Meanwhile, Back says that Ericsson's move to purchase BelAir also will let its service provider customers more easily integrate Wi-Fi and their cellular services. BelAir sells indoor and outdoor Wi-Fi systems that are in use by such service providers as AT&T and Comcast.

"Ericsson will lead the way in the growing converged Wi-Fi and cellular market where improved end user experience is the driving force. By integrating BelAir Networks' market-leading products and competence into Ericsson's existing radio portfolio, we will be able to do this more quickly. We welcome 120 highly skilled people into the company," said Hans Vestberg, CEO of Ericsson, in announcing the BelAir deal.

Thomas R. Gruba, senior director of 3GPP product marketing at Alcatel-Lucent, says the company offers metrocells (or what some might call picocells), macrocells and carrier-grade Wi-Fi as part of its hetnet strategy.

The products are based on the company's lightRadio technology, which uses beam forming that makes amplifiers on the radio towers more energy efficient, allows for an extremely small footprint, and lowers the cost per bit for carriers. Alcatel-Lucent on Feb. 14 introduced a Wi-Fi-enabled version of lightRadio.

Industry bodies are working the issue as well. For example, the GSMA and the Wireless Broadband Alliance have joined forces to simplify connectivity to Wi-Fi hotspots from mobile devices. To do that, the organizations plan to develop technical and commercial frameworks for Wi-Fi roaming.

"The combination of Wi-Fi and mobile technologies extends the power of broadband for consumers," says Shrikant Shenwai, CEO of the WBA. "The work by the WBA and the GSMA will expedite the availability of a new generation of Internet access for the benefit of consumers everywhere. Key to this is Wi-Fi being able to replicate the success of mobile technology and allow users to roam seamlessly between different networks."

Movik Introduces the Intelligent RAN

By Paula Bernier

The mobile data boom is prompting cellular network operators to make big investments in radio infrastructure. But if these operators had a better idea of how their radio assets are being used they'd be able to realize significant savings on future investments. That's the word from John St. Amand, president and CEO of Movik.

Given radio access network capital expenditures across the top 99 service providers in the world are $70 billion, that could mean big money, he says.

To help enable wireless service providers to manage their networks and their capex more efficiently, Movik has created a new product category called intelligent RAN. It was designed to help wireless operators lower their capex and opex costs, as well as control quality of service.

Movik's solution delivers real-time intelligence to service providers regarding what applications (both voice and data related) are being used by subscribers on which radios in the network. As a result, carriers can better optimize existing network resources (through network policy) and, thus, will need fewer radios than they would in a less efficient scenario, St. Amand says. For example, a carrier might choose to "optimize" video on a given sector once the radio in that geography reaches 40 percent capacity.

To implement policy, carriers can rely on Movik infrastructure or can use policy servers from other vendors.

Movik's intelligent RAN solution can work with any vendors' CDMA, 3G HSPA/UPA, LTE or Wi-Fi radios. And the Movik solution can provide intelligence and policy across multiple radios, even from different vendors, in an integrated way. Future releases of the Movik solutions will enable RF control by wireless endpoints.

by Adam Telfer

(Great Teams + Great Tools) x Creativity = Great Mobile Games

Great mobile games are built by great teams. Great teams build with great tools. When great teams build with great tools, creativity multiplies. And creativity is the fuel needed to find that addictive hook that leaves the user wanting to play just one more round.

Developer tools empower the creative and allow for a quick turnaround from conceptualization to testing. The ability to move fast from concept to build saves time and allows for more iteration. This encourages a kind of bold braveness and grass-root creativity in the team members.

With thousands of mobile games launching every day in the different app stores and firing the know problem of app discoverability, finding that creative hook has become the single most important aspect of mobile game development. And tools help you make time to search for that spark.

Tools aren't just for saving time and improving the development process though, they also help in getting more creativity from a developing team as a whole. Without tools, you are stifling innovation. No best-selling game was ever built on just one great idea. It's a common misconception, even by AAA game designers, that a great, well-thought-out idea is all you need. It is quite the opposite – long documents with clearly defined rules do not make great games. The fact is, your first idea of what will make your game fun is usually wrong.

Truly great game designers will build a sandbox to play in. They take a rule set, tweak parameters, and try different things, and experiment, experiment, experiment until the game concept is apparent. Many game designers use paper and board games to prototype new ideas quickly and start testing.

Why not just build it on the computer? The reason is because the faster creative can come up with a new direction and try it out in the current version of the game, the more iterations will be possible and the better the game will turn out to be. If a designer thinks of an idea, but has to wait hours, weeks or months before he or she can see what it does to the game, then the innovation is already stifled. It is really that simple.

Tools create the sandbox. And the more fun designers can have in this sandbox, the better the game will be.

This is especially true as game concepts grow and the game size scales. The quality of complex games like RPGs, Platformers and Strategy games, depends strongly on running numerous iterations. Tools allow designers to test and manipulate the game concepts without relying on developers. This gives them more creative freedom but also saves the studio valuable time and resources. Unless the team built its own set of tools for designers to use, developing these kinds of games simply wouldn't be possible, let alone economical.

If it weren't for tools, game developers would be doomed to act as bottlenecks at the very end of the development process. The artist can create an amazing artistic vision; the UI designer can create an awesome plan for an intuitive UI; the game designer can create a hundred levels, which all are fun and addicting, but without tools, the developer has to do all of the heavy lifting and put all of that content in the game. With great tools, the creatives can skip the middleman. They can design games in their heads, explore what's possible, and see their creations immediately.

Unity is the weapon of choice at XMG Studio because it is a game engine that allows developers and designers to co-exist. It forces developers to design and develop their code so that designers can play with it. The interface is easy enough to use that with a few days of training anyone can be placing objects and manipulating game parameters. Time is saved, creativity enhanced, and the developer isn't left alone with the hard work.

Adam Telfer is vice president of game development at XMG Studio Inc. (www.xmg.com).

by Kevin Ross

Google Android Will Win the Marathon

There is no question that Apple leads the industry in many ways: beautiful design; easy to use operating system; an eye toward integrated product offerings, to name a few. But in terms of market share, Google Android is the undisputed leader. More importantly, Google is securely set up to continue this dominance for the foreseeable future.

In the three-month period that ended in February, Android grew more than 3 percent to capture 50 percent of U.S. smartphone subscribers, according to comScore's most recent statistics. That's over twice as fast as Apple, which has 30 percent of the U.S. market.

You could accurately say that Apple is reaping more profits than anyone in the industry right now because of Apple's sole ownership of its platform and devices, as well as excellent management of its supply chain. You could also say that some consumers have more emotional attachment to Apple products, probably because they are design-driven. For any single phone or tablet Apple may be on top, but if you are looking at overall market share, then Android is killing Apple.

Chris Anderson's "Long Tail" and the theory that we live in a world of niches are very applicable here. Consumers are becoming more active at seeking out things that fit their needs. As they see more variation in mobile devices, they will seek the devices that meet their needs. Android is in a position to aggregate the market and serve this long tail.

If my primary interest is being able to read the news on my phone, I want a phone with a bigger display, that loads faster and is perhaps a bit thinner than the iPhone. The Samsung Galaxy Note easily fits this bill. With Android, consumers can purchase a device that matches their specific needs, specifications and details. With iPhone, consumers get the exact same thing that everyone else already has.

If Apple has always been about building something that's beautiful, but limited in its features and products, Apple isn't going to serve the needs of an ever-expanding set of niche markets. What it will do is allow Apple to maintain a position as one of the leaders in the industry, and because of its ownership and excellent management of its supply chain, Apple most likely will be the most profitable within its industry for some time to come.

But Apple won't have the highest market share. Android is going to continue to aggregate most of the rest of the marketplace, which is a more powerful position to be in. Saying that Apple will overtake Android is like going back to 2001 and saying that Borders will overtake Amazon. There is no chance that Android or something like Android isn't going to be around filling that space in the market.

Don't get me wrong; the Apple ecosystem is powerful one. Apple is fervently pulling together hardware and software and working toward seamless integration of the iCloud, iPad, iPhone, MacBook and Apple TV. But, Google isn't a hardware company, and isn't trying to become one. Google is an information company. Thinking, for example, that Google purchased Motorola to get into hardware is erroneous. Google purchased Motorola's portfolio for its patents to be in a greater position to defend Android; Motorola's hardware division was just the dessert course.

So while Apple is integrating hardware and software for a seamless user experience between devices, Google is building an ecosystem around information and accessing that information with ease.

Google amasses an incredible amount of information, from Google Maps to Google Local and acquisitions, like Google's recent purchase of Alfred, a mobile app that recommends restaurants based on preferences and location. Google can apply this information in ways that are incredibly useful for consumers. For example, one of the main uses of smartphones is location-based services, and Google's information inroads makes it easier for you to find things while you're on the go. Arguably, Apple is in the trailing position in this respect, and they are merely trying to catch up.

The mobile industry can be a fickle one, subject to fashion, trend and evolving consumer needs. Apple produces a stable, quality product with little variation, and for now, these products make up mainstream fashion. Android devices are adaptable, produced in any form factor any OEM determines will be demanded by consumers; it's this variety that sets Google up to aggregate the market and change as the industry changes. Layering in the fact that Google has dramatically more users and information, Google will easily outpace Apple in the marathon.

Kevin Ross is founder and president of Metova (www.Metova.com), a software company that develops custom mobile applications for smartphone and tablet platforms, including Android, iOS, BlackBerry and Windows Phone 7. This piece is a Counterpoint to this month's Look, No Wires, on page 4.

BUCKING THE TREND

by Paula Bernier

NFC PDQ?

A pack of sweaty reporters crowded into a corner of the GSMA booth at Mobile World Congress earlier this year to get the latest on the hot topic known as near field communications.

NFC, as you probably already know, is the underlying technology behind many of the world's mobile wallet initiatives. Indeed, the GSMA in Barcelona reported that as of November 2011, 45 of the world's leading mobile operators had committed to use SIM-based NFC to power their services. That list includes such companies as AT&T, China Mobile, China Unicom, Deutsche Telekom, KT Corp., SOFTBANK MOBILE, Telefónica, and Verizon. Supporters of NFC also include the ISIS mobile wallet effort by partners AT&T Mobility, T-Mobile USA and Verizon Wireless.

The implementation of NFC-powered services is predicated upon the availability and adoption of wireless devices that support near field communications. GSMA offered encouraging forecasts on that front as well.

According to the association and research firm Strategy Analytics, almost 1.5 billion SIM-based NFC handsets are expected to sell worldwide between 2010 and 2016. Those devices are expected to drive more than $50 billion in transactions globally by 2016.

And then you have your point-of-sale terminals; 85 percent of PoS terminals shipped in 2016 are expected to be NFC capable, according to ABI Research, which GSMA also quotes.

Handset vendors helping drive forward NFC include Samsung, RIM and Nokia. Noticeably absent from the group is Apple.

DigiMo Offers Non-NFC Mobile Payments Solution

The mobile wallet is hot, and it's become more than a concept in recent months with service launches by such big names as American Express and Google. But there's a problem: Most mobile payment solutions rely on near field communications, and less than 1 percent of mobile phones and point-of-sale terminals contain NFC chips.

Gartner forecasts indicate that it will cost on the order of $40 billion to make all terminals in the U.S. NFC-compliant, and that it could take five to 10 years to do so.

That's why DigiMo has come out with a mobile payments solution that doesn't involve NFC.

Yossi Yarkoni, DigiMo's founder and CEO, says his company wants every handset and every point-of-sale terminal to be able to do mobile payments, and without any costly integration. To allow for that, DigiMo has created an end-to-end mobile payments solution that includes a mobile app, and back-end security and financial institution connections.

But there's a potential problem: DigiMo as of earlier this year still needed to cement partnerships with the financial institutions on which retailers and other potential customers rely. The company was in negotiations with such financial institutions as well as with retailers, its target customers, in late February.

Metaswitch Accession Aims to Improve User Experience

Facilities-based service providers are looking for ways to bring applications on to their networks, and to add value for both themselves and their customers. End users want to be able to work and play on whatever communications devices make the most sense for the application at hand, and they seem to have an unquenchable thirst for mobile applications, and tools that enable flexibility, collaboration and sharing. Metaswitch is addressing all of the above through its Accession strategy and related Thrutu offering.

Accession, which includes network elements and a device client, allows end users to move in-progress calls from one network, device or communications mode to another. What's more, Accession can allow all this new functionality without requiring the end user to get a new device or phone number, and without requiring the service provider to build a whole new network.

Network infrastructure supporting Accession includes a service centralization and continuity application server, a media gateway, an SBC, and an RCS server. Initially, Metaswitch will offer Accession as a managed service, but the network infrastructure will live within carrier networks. However, down the road the company could offer it to service providers as a cloud-based solution, says Steve Gleave, Metaswitch vice president of marketing.

Metaswitch itself is using such infrastructure to power Thrutu, a mobile content-sharing service now enjoyed by some 300,000 users. Basically, Thrutu allows mobile devices running its client software to do in-call sharing of about 30 applications. For example, say I want to invite you to meet me for coffee; a Thrutu app can let me convey that message to you, and enable me to present you with the address of and map to a coffeehouse (or have the app find a coffeehouse between our two locations).

While Thrutu to date has been a consumer application offered by Metaswitch, the effort is really just a jumping-off point for this solution. Metaswitch now is expanding Thrutu to deliver business applications (like mobile coupons, offers and store directions) and offering service providers the ability to deliver its functionality through white-label agreements.

by Paula Bernier

Charging Kiosk Powers Marketing Efforts

Marketing can be a powerful tool. That seems to be particularly true in the case of goCharge. The company offers mobile device charging kiosks that can be leveraged in a wide variety of marketing models.

One of the marketing models goCharge has created involves a bar kiosk, which liquor brand Patrón is leveraging to help promote its Patrón XO Cafe and Ultimat Vodka. The branded kiosks, which have been in bars in New York City since the first quarter of 2010, appeal to establishment owners because they can keep customers around for a long period of time, according to goCharge.

Another application of goCharge is in the conference and exposition space. The company offers floor model units for this application, which enables conference organizations and/or their exhibitors and sponsors to brand the kiosks, and to derive revenue from conference attendees that charge their devices on them.

"For show organizers, goCharge provides an incremental and innovative sponsorship sales opportunity," says goCharge Chief Revenue Officer Scott Gurfein. "Charging stations can be fully wrapped and branded, and play video content. Since attendees stay near their device, the sponsor message is communicated in a targeted and effective manner."

AT&T, AMEX, Microsoft and Verizon have all sponsored goCharge kiosks at events in the recent past. And more than 300 business-to-business conferences have leveraged goCharge, which expects its volume on this front to nearly double this year.

Of course, goCharge also offers kiosks for rent. For what goCharge says is a low monthly charge, business owners can provide their customers with this amenity, which can bring customers in the door and get them to stay around longer and potentially buy more product. These goCharge units are especially popular in dining establishments and coffee shops.

The kiosks can charge up to 16 mobile devices at a time. That includes nearly all models of cell phones, smartphones, tablets and MP3 players.

Charging kiosk outfit goCharge is also leveraging wireless technology to help people locate its terminals. The company recently released a free iPhone for that purpose.

"As mobile devices have become an essential part of people's professional and personal lives, the subsequent demand for goCharge's convenient charging solutions comes as no surprise. We have recently upgraded our technology and expanded our kiosk line-up to meet this exciting market need," says David Walke, CEO of goCharge.

Doubling Down

Concord Keystone recently launched the Keystone ECO Booster 2.0, which promises to double battery life.

It's an "ultra slim and lightweight" 2000 mAh Li-Polymer portable battery pack for Android smartphones and iPhone/iPod products.

"The Keystone ECO Booster 2.0 is the only portable battery pack that comes with a built-in retractable Micro USB charging cable, so it recharges smart phones without the need for additional loose cables," according to Concord.

The product, which is 0.4-inches thick and weighs 2.5 ounces, features blue LED indicator lights. The lights help users understand when charging is happening and when their devices are powered and ready to go.

The Booster 2.0 can be attached to the back of the phone using an adhesive gel pad concealed beneath a removable, snap-on protective cover. When the cover is removed, it can be placed on the back of the unit to act as a horizontal or vertical stand so users can view the screen and charge the phone simultaneously.

The MSRP on this product is $44.99.

– P.B.

DEVICES

Outta Sight

Scientists at the University of Washington in Seattle are reportedly working on contact lenses that can do a whole lot more than just help people see better. According to Cisco's "The Network" from March 6, the contact lenses would effectively be wirelessly-enabled, wafer-thin computers. And they could do things like alert a doctor about medical problems; notify the wearer of an important event; or overlay computer-generated visual information, such as maps, on the real world.

"The potential impact is huge if we can demonstrate the technology can work," says UW Prof. Babak Parviz, whose team recently published a paper on research it did in association with Aalto University in Finland.

Parviz himself wrote in an article he authored for IEEE Spectrum back in September of 2009: "In the Terminator movies, Arnold Schwarzenegger's character sees the world with data superimposed on his visual field – virtual captions that enhance the cyborg's scan of a scene. In stories by the science fiction author Vernor Vinge, characters rely on electronic contact lenses, rather than smartphones or brain implants, for seamless access to information that appears right before their eyes. These visions (if I may) might seem far-fetched, but a contact lens with simple built-in electronics is already within reach; in fact, my students and I are already producing such devices in small numbers in my laboratory at the University of Washington, in Seattle."

The more recent article, a Q&A with Parviz on the Cisco site, explains that the scientist's team assembled onto a contact lens an integrated system that includes an antenna, a silicon-powered radio and a chip containing a custom-designed micro LED.

"The display, which so far consists of just a single pixel, is powered up by having radio waves sent its way," according to the piece. "It was tested on live, anesthetized rabbits, apparently with no adverse effects."

Double Vision

Taiwan's AsusTek Inc. has unveiled the PadFone – which is part laptop, part smartphone, and part tablet.

AsusTek offered a sneak peek of the device to some folks earlier this year at Mobile World Congress in Barcelona. The product was slated for commercial availability starting last month.

The smartphone part of PadFone fits into the tablet/laptop part when the user wants a bigger screen or longer battery usage.

PadFone offers up to 63 hours of extended talk time, delivers two devices that can be supported on a single data plan, and offers 4.3-inch and 10.1-inch display screens. The screens leverage what AsusTek calls DynamicDisplay. The company says DynamicDisplay is an exclusive technology that automatically adjusts the PadFone's display layout when it is placed into the PadFone Station. "The intelligent DynamicDisplay technology will also ensure that the app remembers where you stopped so that you can immediately continue playing that new game without having to start all over again when switching from PadFone to PadFone Station and vice versa," according to AsusTek marketing materials.

In the Era

ZTE has a new wireless device called the ZTE Era, which it's promoting as one of the thinnest quad-core devices on the market today. The 7.8mm-thick device leverages NVIDIA's Tegra 3 quad-core mobile processor and Icera 450 HSPA+ modem.

It has a 4.3-inch QHD screen that presents users with 960 x 540 pixel images; offers 8GB of memory, which is expandable with a MicroSD card; and delivers HD voice and Dolby sound.

The ZTE Era, which runs on the Android 4.0 (Ice Cream Sandwich) platform, is ZTE's most powerful Android smartphone, according to the company.

This product, which launches in Europe and China in the second half of 2012, is part of a series of eight new devices that ZTE unveiled at Mobile World Congress. The company notes that all of these devices deliver significant advances in power, high-definition multimedia capabilities and design.

"In 2012, ZTE products will be building up from the low-middle end of the market into the middle-high end, with the ZTE Era being the best example of that development," says He Shiyou, executive vice president of ZTE Corp. "We will continue our long-standing cooperation with operators around the world, but we will also continue to build our distributor channels (both ODM and OEM), and we will be focusing our marketing in particular on the high-end markets of Europe, America, Japan and China."

by Paula Bernier

New Solutions Help Customers Drive Their Mobile Experiences

The mobile revolution has put a lot of power into the hands of end users – both in terms of feature-rich smartphones and tablets, and in light of their ability to pick and choose easily the applications and content of their choice. Now many companies are moving to give end users the power to manage and monitor their mobile data plans, performance and usage as well.

A little company called Millenoki is among the outfits delivering a solution on this front.

Millenoki's datasquasher mobile application gives users control of their own experience. They can use the app to compress, or select lesser-quality (in terms of parameters like pixels or frame rate) content. This can lead to up to 90 percent savings in data use, which can result in significant savings for users, particularly when they are using data roaming, company sources tell *Next Gen Mobility*. It also can enable better battery efficiency on mobile devices.

The solution is expected to be available through Apple's App Store and the Android Marketplace by the time this issue appears in print. The company is also preparing to support Windows Phone 7 and Symbian devices.

On a separate front, a company called Carrier IQ is also working to brings mobile end users into the loop by providing them with more intelligence on how and why mobile devices and networks act as they do.

Carrier IQ software runs on handsets (first feature phones and smartphones) and can store up to 200 kbytes of information on phones that can help explain how, when and where a call failed, for example, or how applications are affecting phone and battery performance. (It's important to gather that information at the handset, says Andrew Coward, vice president of marketing and product management for Carrier IQ, because the source of such issues can come from the network or the endpoint.)

The company long ago outfitted its service provider customers with a dashboard that shows what's happening on a per subscriber basis in terms of mobile user experience; application, phone and battery performance; the source of crashes; and the like. Now Carrier IQ is working with its mobile service provider customers to put a subset of that information into the hands of end users, explains Coward.

End users are increasingly playing a more active role in mobile application, device and service selection. This addresses the trend of the pro-active mobile user. At the same time, wireless service providers at once want to make their services stickier while lowering customer support costs. The end user dashboard can meet both carrier goals as well, says Coward.

Dialogic Unveils VideoVision

By Paula Bernier

Dialogic earlier this year unveiled a video quality of experience measurement tool called VideoVision. It measures the perceptual quality of video, which is to say the quality of video from the standpoint of the end consumer. That's important, says Dialogic's Jim Machi, because a lot can go wrong between the video server and the video endpoint, given all the transcoding and adaptations that happen along the way.

Components of the VideoVision solution include a video quality analyzer, which measures quality on streaming video, and a quality control server, which checks that video quality is acceptable on content that already has been transcoded but is awaiting use in on-demand environments, Dialogic CTO Jeffrey Bloom explains.

Brightcove and Mobi TV are among the users of VideoVision.

by Paula Bernier

Tilting Customer Education Toward Fun

Mobile subscribers seem to have an unquenchable thirst for bandwidth, yet it can be difficult for them to understand that there are limits to network capacity and that service providers sometimes need to address that by creating new service and pricing plans. Perhaps part of the problem is that consumers haven't been educated about the networks, their own impact on those networks, and how it all relates to the services to which they've subscribed. Allot Communications is offering some fun, new tools to help its service provider customers inform end users about all of the above.

Allot earlier this year came out with a fun little pinball application that demonstrates the relationship between different types of applications and various service packaging and pricing options. It was put together for Allot service provider customers, but those customers could potentially leverage the application to educate their own customers, indicates Jonathon Gordon, Allot director of marketing.

Allot also aims to help service providers monetize and personalize the mobile experience through a partnership with Openet. The two suppliers have joined forces on an application called SEE, which can provide end users with visibility into their own mobile applications and usage, and enable those end users to increase their levels of service as needed. For example, an end users might elect to use SEE to purchase a higher level of bandwidth and a lower level of latency for a limited time if they wanted to watch a video.

SEE is a working application backended by Allot and Openet infrastructure. Allot's gateway powers SEE and does traffic recognition of application and related analytics. Openet gear handles the policy and charging part of SEE.

The solution was in trials with various service providers earlier this year.

As discussed in a recent Q&A with us, Allot believes the market will move quickly into value-based charging this year.

"As operators deploy advanced traffic management solutions that allow them to monitor, meter, and charge for subscriber consumption of over-the-top applications and content, early movers are already transitioning into the next phase

of the mobile charging evolution," Gordon says.

"Value-based charging enables operators to differentiate and charge for different application and content usage; and therefore, offer personalized service plans that best reflect the unique value of different applications and usage patterns to different types of subscribers," Gordon explains.

What Happens in Nevada...

Nevada is the only U.S. state where online and mobile gaming is legal today, but other states may follow suit in light of a U.S. Justice Department legal opinion. That opinion, issued in December in response to inquiries from New York and Illinois as to the legality of

thrupoint®

fusion

Next-Generation Application Framework for Rapid Service Delivery and Consumption

INTEGRATE
Unify mixed vendor UC solutions as you are

ORCHESTRATE
Chain together cloud and dedicated services rapidly

INNOVATE
Publish & consume mobile collaboration apps wherever you are

Learn more at: thrupoint.com/fusion

2011 TMC Internet Telephony Product of the Year

2012 The Computerworld Honors Program Laureate

Product Of The Year 2010 TMC Unified Communications

1040 Avenue of the Americas • 19th Floor • New York, NY 10018 • www.thrupoint.com • 646-562-6000

Fun & Games

the sale of lottery tickets on the Internet, would further fuel growth in online and mobile gambling.

However, in the meantime, it is difficult to determine if an online or mobile gamer is physically located in Nevada when he or she places a bet.

All this is according to Locaid Technologies Inc., which offers the GeoFence solution that uses network location to build virtual, digital perimeters around any location, in any shape or size, such as the state of Nevada. Locaid use that information to prove that a user is physically with a mobile device, and whether the person is located within Nevada state, for example.

"Mobile gaming is a market with enormous growth potential, and as the only location service provider to meet all of the requirements of the Nevada Gaming Control Board, Locaid is also well positioned for growth in this segment," says Rip Gerber, Locaid president and CEO. "As mobile gaming gains headway, companies that develop and offer online and mobile gaming applications will find that it is imperative to authenticate a gambler's location to be in compliance with state laws and best practices.

Locaid is already the trusted provider to a number of providers in the U.S., and we also see an opportunity to partner with international companies that would like to bring online and mobile gaming applications to the U.S."

Allot earlier this year came out with a fun little pinball application that demonstrates the relationship between different types of applications and various service packaging and pricing options.

The American Gaming Association estimates global online gaming revenue was nearly $30 billion in 2010, with roughly $4 billion originating in the U.S.

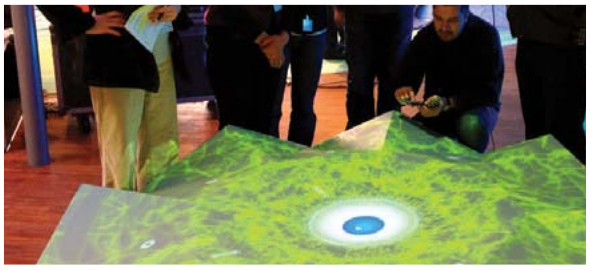
Making Sculpture Interactive

If you visited the Intel booth at Mobile World Congress in Barcelona, you may have noticed what appeared to be a crazy-looking, glowing table toward the back of the exhibit. This, in fact, was an electronic sculpture that enabled visitors to use their smartphones and tablets to create "visual performance".

The multimedia and interactive sculpture was created by an outfit called SuperUber, which was invited to participate in the initiative by Vice Media and Intel. The three are part of The Creators Project, a global ecosystem that celebrates the creativity, culture and technology.

Here's how the sculpture works:

- Visitors use their wireless devices to drag a virtual sling to dribble obstacles and reach the center.
- That triggers a visual performance on the sculpture.
- Up to six players can collaborate to reach the common goal.



- The angles on the physical sculpture influence the physics of the virtual projected layer.
- Each player's shot rises and falls, accelerates and slows, according to the sculpture's design.
- After a number of shots reach the center, a new texture is revealed through an animated performance that takes over the sculpture.
- At that point, the devices are used as interfaces.
- And four large screens next to the sculpture create a video wall that shows images of the performance in real time.

www.tmcnet.com/community

Smarter Communities... Superior Results...

You need an Online Community for your business.
Here's why:

Reason #22

Your TMCnet Online community will achieve high organic ranking on major search engines.

Most people start their search for purchasing decisions online, so it's more important than ever to rank highly and be viewed as the thought leader in your industry.

TMCnet Online Communities
Connect in the cloud™

To learn how you can build your own customized Online Community, contact ClientServices@tmcnet.com or call 203-852-6800

TMC Technology Marketing Corporation • 800 Connecticut Ave, 1st Floor East, Norwalk, CT 06850 USA
Copyright © 2012 Technology Marketing Corp. All Rights Reserved

Do the math.

Apps Ascend

Mobile applications are booming.

The number of mobile app downloads is projected to go from 8 billion in 2010 to 21 billion in 2013, according to Crain's. Meanwhile, revenue from mobile app stores worldwide is poised to go from $6.2 billion to nearly $30 billion in the same period.

WLAN Sizzles

Wi-Fi and other WLAN technology may seem like old news, but this product space is a dynamic area for new investment in light of the growth of wireless endpoints.

"Sales data for 2011 enterprise networking equipment are in, and the results are very clear: Enterprises are racing to upgrade their infrastructure to support the wave of wireless devices hitting their networks," explains Matthias Machowinski, directing analyst for enterprise networks and video at Infonetics Research. "While the bulk of expenditures still goes toward wired Ethernet switches, and will for some time to come, the growth is coming from wireless networking gear, up 24 percent in 2011, compared to flat sales for Ethernet switches."

Machowinski adds: "With wireless taking up an ever-larger share of the expenditure pie, vendors must have a well-developed wireless strategy to address the evolving requirements of their customers."

The global wireless LAN equipment market recently hit a peak, at $893 million in the fourth quarter of 2011. That's 1 percent up from the previous high, which was set the previous quarter.

MWC By the Numbers

As you may have heard, Mobile World Congress this year drew a record 67,000 visitors to Barcelona. In addition to the attendees, which came from 205 countries, there were more than 1,500 exhibiting companies that occupied 70,500 net square meters of exhibition and business meeting space.

That's the good news.

The not so good news – that is, if you enjoy the historical beauty of Barcelona – is that Mobile World Congress this year was so successful that GSMA decided to move it to a larger venue (and one that appears to lack much of the charm of the existing location) starting next year.

The event in recent years (since 2006, we think) has been held at Fira Montjuic, a setting with the beautiful National Palace of Montjuic on one end and a view of a castle on a mountain (Montjuic) on the other end. Lots of charming old buildings, parks, restaurants, and museums are nearby.

Starting in 2013, however, Mobile World Congress will be housed at the Fira Gran Via, which the Barcelona Event Bureau says was created by Japanese architect Toyo Ito and is an example of "sensational modern architecture". The bureau goes on to say that this "huge" venue is "quite far from the heart of the city, but only 2,5 km from the airport."

HTC Loses Ground

This section of the February issue of *Next Gen Mobility* quoted tech analyst Jeff Kagan saying that "HTC went from zero to hero in the last two years. Two years ago they were virtually unknown in the U.S. smart phone marketplace. Today they are at the top of the list along with other brand name companies we grew up with." But, apparently, HTC is not flying quite as high now as it was earlier this year.

As Kagan more recently noted, HTC profits have plummeted a whopping 70 percent as it struggles to compete with the Apple iPhone and Samsung, the No. 1 Google Android device provider.

"HTC was an early leader in the smart phone race over recent years, but they have suddenly lost that edge over the last year," Kagan now says. "Now they are scrambling to stop the loss and catch up with competitors.

"It's amazing how rapidly this market changes," he adds. "They quickly grew to lead the fast growing smart phone sector. Now they are scrambling to stop the fall."

Huawei Gains Ground

There's a new deputy sheriff in town, and its name is Huawei.

According to ABI Research, Huawei pulled ahead of Nokia Siemens Networks recently to become the No. 2 wireless equipment vendor. Ericsson remains the leader in this space, with $3.5 billion in wireless network equipment sales during the fourth quarter of last year.

"Huawei had an exceptionally good fourth quarter," says Aditya Kaul of ABI Research. "Preliminary quarterly results of U.S. $2.53 billion for wireless networks were up 54 percent quarter-on-quarter and 38 percent year-on-year. As a result, Huawei grabbed second place from NSN in wireless network equipment market share for the fourth quarter of 2011."

Live Streaming Coverage of Events

with KenCast's Vazzt Video-On-The-Move (VOTM)

Visit www.vazzt.com for a Free Trial

Become an Online TV Producer

Vazzt enables Independent TV Producers to build their business immediately, without the need to invest in infrastructure for content delivery from the event, to the cloud, and out to the world on the Internet.

Vazzt Service, SaaS consists of a software program, the VazztCaster, with transmission to the Vazzt hub/delivery service, then Internet delivery to your Viewers.

Vazzt provides the tools the Producer needs to setup and operate a complete business:

- Support for any and all 3G/4G IP networks
- No theoretical limit on the number of IP networks that can be aggregated/bonded
- Transmission support for HD+ and beyond (it has been used to deliver live video in 3-D to cinema screens)
- Full E-Commerce support with Pay Per View (PPV) and Paid Subscription features
- Ideal companion for multiple camera operation with video switchers

KenCast, Inc., Stamford CT, USA; sales@kencast.com;
http://www.kencast.com/products/live-votm

KenCast

Machine-to-machine (M2M) technology is interconnecting our world in incredible ways. Digital signage, energy grids, medical equipment, vehicles and factories — they're all being linked together in a massive communication system that has staggering potential. At Sprint, we're a leader in the charge to power this connected world by bringing you the first wireless 4G network from a national carrier. Plus, we offer an incredibly reliable Nationwide Sprint Network built for data. With our open networks, open standards, over a decade of M2M expertise and teams that thrive on open ideation, there's no limit to what we can help our partners accomplish.

*Visit **sprint.com/m2m** to learn more about our M2M ecosystem. For the latest news, announcements, case studies and more, visit the Embedded M2M Solutions Community on TMCnet.com.*

Use a QR Code app and scan or text SCAN to 43588.

Nationwide Sprint Network reaches over 278 million people. First 4G claim: Sprint 4G network reaches over 70 markets and counting, on select devices. See sprint.com/4G for details.
© 2012 Sprint. All rights reserved. Sprint and the logo are trademarks of Sprint. Other trademarks are the property of their respective owners.