



Volume 1/Number 5

September/October 2009

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NGN™

Next Generation Networks

Becoming a **Critical Element** in the **Carrier Network**

Andy Ory, CEO of Acme Packet

Long Bumpy Ride for Stimulus Applicants

The Race to 4G

The Next Nortel Item Up for Bid

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Ear Ye! Ear Ye!



by Paula Bernier

The past month has been busy one for the Federal Communications Commission. Two new commissioners were sworn in and announced their staffs. Our new FCC chairman named his senior advisor on broadband. He also selected senior staffers to work on the development of a National Broadband Plan as part of the Omnibus Broadband Initiative. And the agency introduced a team of senior technologists who will help the FCC develop a National Broadband Plan.

These individuals are positioned to play an important role in shaping the communications industry in the years ahead through their input and collaboration on such key issues as helping narrow the digital divide, universal service, intercarrier compensation, rules around broadband access and VoIP, security, net neutrality/fair use and more.

As Jonathan S. Marshlian, an attorney with Helein & Marshlian, LLC – The CommLawGroup (who is also quoted in our regulatory matters article on page 20), noted during a recent interview with NGN: “Now’s the opportunity. You’ve got a new commission. You’ve got new ears.”

Here’s a quick rundown of some of the new “ears” you might want to bend at the FCC, and a bit on each individual’s back story. For a more complete list, see my blog on the new FCC personnel.

Meredith Attwell Baker and Mignon L. Clyburn were sworn in as FCC commissioners in the past month or so, finally bringing the agency’s top leadership back to a party of five.

Baker most recently served as acting assistant secretary of commerce for communications and information and acting administrator of the NTIA. Clyburn previously served on the Public Service Commission of South Carolina and was active in NARUC. Clyburn, the first African-American woman to be an FCC commissioner, is the oldest daughter of House Majority Whip Rep. James Clyburn (D-S.C.).

The two join FCC Chairman Julius Genachowski and Commissioner Robert M. McDowell, both of whom assumed their posts in late June, and Michael J. Copps, who was sworn in for a second term as an FCC commissioner in January of 2006. You’ve probably already heard plenty about Genachowski and Copps, but you may not be aware that McDowell is a Republican, has worked for CLEC association **COMPTEL** and is serving his second stint on the commission (he was first appointed to the FCC by George W. Bush).

Genachowski in August named Dr. Carlos Kirjner as his senior advisor on broadband. In that capacity Kirjner, an engineer who has worked for McKinsey and Co., semiconductor firm Telegent Systems Inc. and **Vodafone** Group PLC, will play a leading role in the creation of the National Broadband Plan.

Also contributing to the National Broadband Plan effort are Chief Technologist Stagg Newman, who has worked for Bellcore, BellLabs, Frontline Wireless, McKinsey and Co. and Pacific Telesis; Chief Engineer Byron J. Neal, who did time at Intermedia Communications, **Syniverse** Technologies, Transglobal Communications, Trinsic Communications and 2nd Century Communications; Julius Knapp, chief of the FCC’s office of engineering and technology, a 35-year FCC veteran; Rashmi Doshi, chief of the laboratory division of the FCC’s office of engineering and technology, who’s been an employee of **Verizon** and its precursors as well as Nortel and the British Telecom Research Center; Jeff Goldthorp, chief of the FCC’s communications systems analysis division within the public safety and homeland security bureau, who is a former Bellcore/**Telcordia** guy; Walter Johnston, chief of the electromagnetic compatibility division for the FCC’s office of engineering and technology, who’s held senior positions in **Telcordia** and was VP at Bell Atlantic/NYNEX (Verizon); and Ronald T. Repasi, deputy chief of the FCC’s office of engineering and technology, who has also served as the satellite engineering branch chief in the FCC’s international bureau. **NGN**



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The Acme Packet Success Story



by Rich Tehrani

Andy Ory has helped lead Acme Packet, an IP communications company focusing primarily on session border control solutions, to greatness. I first became aware of the company during the post-telecom bubble days earlier this decade and from that time Acme Packet has not ever ceased to impress me. The company prospered in a crowded field while most competitors were forced to close down or sell in a distressed fashion to others.

Back then Acme Packet was not the first to come to mind in the field but in many ways they became a successful publicly traded company by making smart partnerships and developing superior products while establishing thought leadership in the field. In a recent conversation at company headquarters Ory, the company CEO, explained how business picked up in October of last year – actually corresponding to the financial crisis in his words. As he explained, after the meltdown, job security became tied to accomplishing goals, better, faster and cheaper.

Most interesting was the comment that those people who aren't leading the transition to IP communications could be considered hitched to TDM.

Perhaps a key to the company's success is timing. Ory points out that all mini computer companies are gone. Considering the company's headquarters is located a stone's throw from where many of the mini computer companies such as DEC and Prime were based, this was a good example of how disruption does not favor incumbents. And it explains why Ory is happy to have launched the company at a time when there was no need to rely on legacy technology.

The following important comments he made are certainly worth sharing:

"Disruption favors the weak – [it] favors the least amount of embedded assets."

"People, money and materials – work against you."

"A disruptive event – [whether it is] technology or new market regulation – has to be just right [if it is] too big or small [it presents] a problem."

To explain market inefficiency and how disruptive technology changes this, Ory uses a simple example. He explains that if a company has a supplier relationship with another company it keeps innovation from taking place. For example if a company sells me staplers and a new supplier comes into the market with a cheaper stapler I may just ask my existing supplier for a price break. This works fine until the new supplier comes to you with a new invention – tape. At this point the new supplier becomes the preferred vendor.

And this explains why Acme Packet has reached critical mass – a point where a carrier understands that Acme has become a crucial cog in their network.

Interestingly in our meeting, Ory explained that the reason the company purchased low-end, software-based SBC vendor **Covergence** was because they determined they needed a more "innovative" brand as that seemed to be what the enterprise market was telling them they wanted. In other words Acme had become the established player – the incumbent.

Since my conversation the company announced earnings which were up 6 percent sequentially. Company officials said that there were two other "never achieved as much" categories, cash provided by operating activities of \$14 million and cash and equivalents of more than \$155 million.

In terms of opportunity, Acme Packet is now the dominant standalone SBC provider and seems to have become more synonymous with the category by the day. As a larger portion of carriers and companies adopt IP networks it seems obvious the necessity for them to consider purchasing an SBC will only grow. And in such a situation and market, it is good to be the leader. **NGN**



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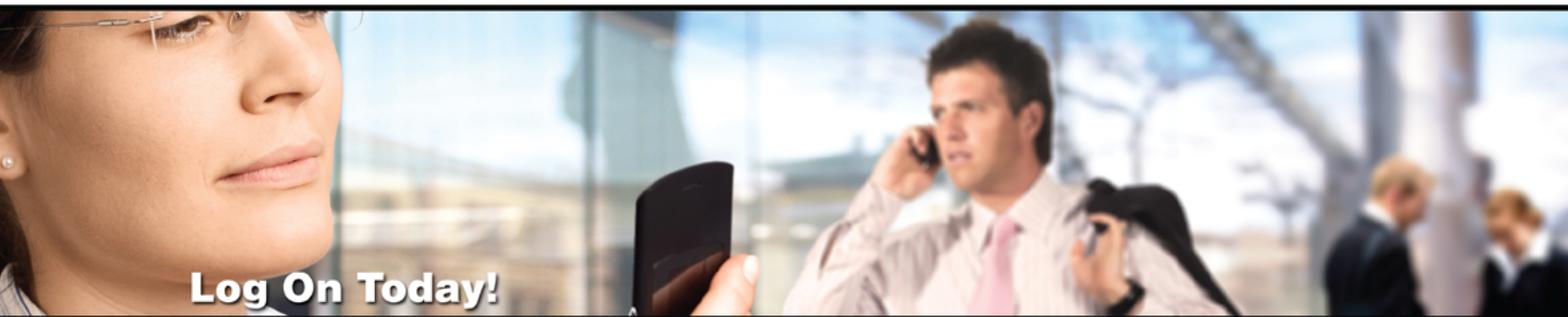
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Whether you are a start up or an established company, a one-person business or an organization of 100 employees, a Hosted VoIP phone solution with a lower TCO, reduced complexity and more advanced communication features is the obvious and smart choice.

But, one size does NOT fit all! As such, TMCnet has joined together with one of the industry's leading IP communications service providers, 8x8, Inc., originator of Packet8 Internet Phone Service, to educate the business and residential communities on the advantages and efficiencies of Hosted VoIP phone service.



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INTRODUCING THE

Next Generation Communications Global Online Community

<http://next-generation-communications.tmcnet.com>



The Next Generation Communications Global Online Community, sponsored by Alcatel-Lucent and powered by TMCnet, is primed to become the de facto resource for information and news. The community is designed to keep Service Provider and Enterprise decision-makers up to date on the latest trends driving next generation communications.

Be sure to bookmark the Next Generation Communications Global Online Community

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Alcatel·Lucent 

<http://tmcnet.com/15828.1>
FCC Launches "Blogband"

To stimulate public dialogue over the development of a National Broadband Plan, the Federal Communications Commission is launching a new blog, called Blogband. The blog, which can be found at <http://blog.broadband.gov>, will chronicle the development of the plan and invite readers to comment. The FCC is also launching on the microblogging platform, Twitter, at <http://www.twitter.com/fccdotgov>. The FCC's tweets will include news about the FCC and progress reports on the National Broadband Plan.

<http://blog.broadband.gov>
www.twitter.com

<http://tmcnet.com/15829.1>
Qwest Issues 60-Day Notice to Wireless Customers

Qwest Wireless customers will begin to receive notification that they have 60 days to switch their Qwest Wireless service to another wireless provider. In 2008, Qwest announced plans to exit its wireless business and began offering Verizon Wireless service to Qwest customers.

www.qwest.com
www.verizon.com

<http://tmcnet.com/15830.1>
Starz Chairman and CEO Clasen Announces Plan to Retire

Starz, LLC, announced that Robert B. Clasen, chairman and CEO of Starz, LLC, plans to retire around year-end. "During his 40-year career in the industry, Bob has demonstrated his vision and management skills in every phase of the business," said John Malone, chairman of Liberty Media. "He has been a valuable member of our top management team and I thank Bob for his leadership and contributions."

www.starz.com

<http://tmcnet.com/15831.1>
Fixed Mobile Convergence Still Struggles to Gain Traction

But the technologies driving FMC applications have developed more quickly than business end-user interest. Recent research by In-Stat found that FMC handset connections will jump from 5.8 million in 2009 to 31 million by 2013 and that 19 percent of businesses with Wi-Fi capability use voice over Wi-Fi. The ability to seamlessly roam between wireline and wireless net-

works carries more importance among business users than other FMC solutions, but all FMC solutions remain in a relatively nascent state.

www.instat.com

<http://tmcnet.com/15832.1>
Optimum Lightpath Intros New Service

Optimum Lightpath, a provider of Ethernet-based communication solutions for the New York metropolitan area businesses, introduced an Ethernet-based virtual private ring service for businesses. Companies with three or more locations can now experience metro Ethernet-based, high-speed communications over their own dedicated network. With this VPRS offering, Optimum Lightpath can help businesses reduce costs, simplify billing and customer care by leveraging shared bandwidth and bundled communications services. VPRS is a business-dedicated Layer 2 access service that delivers 500 megabit, 1000 megabit and 10 gigabit connectivity to businesses in the New York metropolitan area.

www.optimumlightpath.com

<http://tmcnet.com/15833.1>
54 Million Free-to-Air Analog Mobile TV Users Worldwide in 2009

Telegent Systems, the company that makes television mobile and independent market research and consultancy firm In-Stat, recent whitepaper, "Analog Mobile, TV: The World's Most Widely Available Option for Mobile TV," predicts six-times growth to 300 million users by 2013 and highlights common global mobile TV usage trends revealed by primary research conducted by Telegent in Brazil, Colombia, Indonesia and Turkey.

www.telegentsystems.com
www.instat.com

<http://tmcnet.com/15815.1>
Avaya Expands Next-Gen 911 Ready Solutions

In an effort to help public safety organizations better meet the demands of new and emerging communications technologies being used more and more by the public, **Avaya**, a provider of business communications applications, systems and services, announced it has enhanced its next-generation 9-1-1-ready solutions. The expanded solution is bringing together a team, including professional services consulting, technical capabilities, and developer partners to help

deliver integrated solutions for public safety organizations, the company said.

www.avaya.com

<http://tmcnet.com/15816.1>
AMR Corporation Signs Letter of Intent with HP

AMR Corporation, a parent company of American Airlines and American Eagle, has signed a letter of intent with HP to develop a next-generation passenger service system. AMR Chairman and CEO Gerard Arpey said the decision to enter into a letter of intent with HP is an example of "the company's efforts to ensure a successful, competitive airline for the long term, while continuing to work to overcome the many immediate challenges facing the entire airline industry."

www.aa.com
www.hp.com

<http://tmcnet.com/15837.1>
IBM to Use DNA to Make Next-Gen Microchips

International Business Machines Corp is looking into human DNA to be the structure of next-generation microchips, **Reuters** reported. As chipmakers develop ever-smaller chips at cheaper prices, designers are struggling to cut costs. According to a recent paper published in the Nature Nanotechnology journal, artificial DNA nanostructures or "DNA origami" may give designers a cheap framework on which to build tiny microchips that are used in computers, cell phones and other electronic devices.

www.ibm.com

<http://tmcnet.com/15838.1>
OpenTV Partners with Jinni

One provider of advanced digital television solutions has collaborated with Jinni to bring next generation search and recommendation functionality to the television. These new features will enable viewers to find their desired content quickly and intuitively, and **OpenTV** says that viewers can expect these features in its soon to be released OpenTV Core2 middleware. OpenTV plans to combine its Core2 Search Feature with Jinni's "mood-based" content discovery to allow viewers to find their desired programs quickly across multiple content sources.

www.opentv.com
www.jinni.com

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The community showcases daily content updates highlighting:

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- * Asterisk Developer Blog

Participants in this community will be better prepared to make the proper decisions when it comes to selecting enterprise communications solutions based on Asterisk.

<http://asterisk.tmcnet.com>





by Ronald Gruia

Nortel Optical Sweepstakes

With the sale of [Nortel's](#) CDMA/LTE assets to Ericsson and the initial “stalking horse” bid made by Avaya on Nortel’s Enterprise business (the outcome of which will be known on September 11, before this magazine reaches readers), attention is shifting to other lines of business that are still available.

Among those is the optical unit, which generated roughly \$1.1 billion in 2008 and, while it had declined to the third spot behind Alcatel-Lucent and [Huawei](#), still held a steady 8 percent market share at the global level.

Nortel once was the 800-pound gorilla in the optical transport market, but the company struggled with increased competition and some execution issues, such as the manufacturing transition to [Flextronics](#), which impacted the lead times, stretching them out to 16 weeks, as they encountered difficulties in manufacturing. Over time, those issues were resolved and Nortel remains a force to be reckoned with in the long haul WDM market.

In addition, the company possesses a leading 40 Gig technology, which can be an important trump card for a potential acquirer. According to RBC Capital Markets estimates, the Metro Ethernet 40G optical business is estimated to be worth approximately \$1.7 billion in 2009. Nortel actively invested in this area, while other incumbent vendors opted to OEM 40G technology from a privately held vendor. Nortel had been keen on developing its 40G product line using a single wavelength approach, which is different than the 4x10G strategy being favored by vendors such as [Infinera](#).

The list of vendors that could be eyeing Nortel’s optical business is long – Ciena, [Cisco](#), Ericsson, Fujitsu, Huawei, Infinera, Juniper, NSN, Tellabs, among others. Given that Ericsson won the CDMA/LTE asset sale, we believe it is less likely to participate in the optical auction. Infinera might not have the necessary financial strength to make a solid bid, and Huawei would face a lot of scrutiny both in the U.S. and Canada due to national security concerns of having traffic running over equipment acquired by the company.

Cisco, Fujitsu and Tellabs are long shot contenders but, they should not be readily dismissed. Cisco has a large cash balance and some industry pundits could interpret John Chambers’ statement to explore “market adjacencies” as a signal of intent to bid on Nortel’s enterprise and perhaps even optical businesses. [Fujitsu](#) has a good North American presence, and could bolster its current 7 percent optical share with a potential purchase of Nortel’s optical unit to put more pressure on Alcatel-Lucent and Huawei. With Tellabs, there is less of an overlap

with Nortel’s product lines and Tellabs’ ROADMs would complement the Nortel portfolio. There would also be synergies in areas such as wireless backhaul, FTTH and [IPTV](#).

That leaves Ciena, Juniper and NSN as the most probable bidders. In the highly competitive optical market, Ciena is a small player compared to rivals like ALU, Nortel, Huawei and Fujitsu. But, unlike Infinera, Ciena has a better cash position, albeit also more debt. Making an expensive acquisition would lead to taking on more debt, a risky proposition in the current macro environment. But, the possibility to gain more scale, market share and manage new accounts might make this a possibility worth considering.

NSN would be able to absorb Nortel’s optical business with fewer difficulties, and the acquisition would be a bit of a “consolation prize” for the company, after losing the CDMA/LTE assets to Ericsson. More importantly, the purchase would enable NSN to augment its footprint here in North America, which traditionally has been the Achilles’ heel for the company from a global revenue split perspective.

Juniper is another good candidate, given the close ties it has with Nortel. George Riedel, the current CSO for Nortel, was previously responsible for strategy and corporate development at Juniper. Moreover, Lauren Flaherty, the current CMO at Juniper, previously held this function at Nortel. However, in the recent past, Juniper has acquired the reputation of not being particularly aggressive in bulking up.

Transport equipment utilizing wave division multiplexing (WDM) keeps on driving the optical market, as operators add capacity to their metro and long-haul networks. From the top ten players in the market, only Huawei and Alcatel-Lucent have managed to gain or hold share, while most of the other competitors have experienced consistent share declines. As Nortel unwinds its operations, the implication for these other vendors is clear: try to get bigger to fight the top two players (Huawei and Alcatel-Lucent).

In order to be successful, the integration of optical assets needs to realize synergies and as such, would entail changing service providers to one optical system or the other. It is likely that due to these reasons, Nortel’s optical business sale will be slightly tougher than the other lines of business, in which a smoother integration could be achieved. **NGN**

Ronald Gruia is program leader and principal analyst at Frost & Sullivan covering Emerging Communications Solutions. He is available at rgruia@frost.com.



Introducing the VoIP Phone Systems Global Online Community

Voice over IP is transforming the business communications space with immediate benefits, including cost savings, added features, greater functionality, remote access, and more. Finding the right VoIP phone system for your business can be a challenge, which is why FreedomIQ brings you the VoIP Phone Systems community on TMCnet.

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<http://www.tmcnet.com/webinar/parature2>

September 30, 2009 • 12:00pm ET/ 9:00am PT

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October 6, 2009 • 2:00pm ET/ 11:00am PT

The Optimal Strategic Planning Process: Learn From the Best Companies

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by Marc Leclerc

The Rise of Syndication and The Social Graph: Going from Individuals to Communities

In the previous issue I wrote about combining context with preferences in order to offer choices relevant to a consumer's changing situations and desires. This approach leverages key capabilities of Internet technologies, and telecom networks including IMS to provide rich communications services and new ways to monetize them. Consumers get services they value, and carriers can build an offering that can even compete with free Internet services. But can the social aspects of telecoms be leveraged to bring even more value to consumers and create new revenue opportunities for carriers?

Let us first recognize one of the most significant advantages enjoyed by carriers: consumers almost always begin any social activity by going to an address book – most likely the one in their phones. Few people bother to memorize phone numbers because we each have an address book in our mobile phone. These address books, along with our various IM buddy lists, e-mail address books and social networking friend lists, define our social map – the people whom we influence and who influence us. Telecom operators can leverage these relationships to reach potential new customers for services – a concept called “viral marketing.”

Viral marketing generates high-quality leads at essentially zero cost (other than the cost of the initial awareness-building campaign and maintaining the viral marketing mechanism).

Communication-oriented services generally gain value as more people use them (a.k.a. Metcalf's law). Viral marketing works because it is often in the consumer's own interest to get family and friends to join a service – a process integral to the success of social networking and IM communities. People are more likely to join a new service when it is recommended by someone they know and trust. Also, people who are part of the same social circle often have common interests and shared activities. They are more likely to have overlapping lifestyles and share preferences. What is relevant to a consumer is more likely to be relevant to his or her family and associates.

Why would a carrier choose to engage in this form of marketing? Viral marketing generates high-quality leads at essentially zero cost – other than the cost of the initial awareness-building campaign and maintaining the viral marketing mechanism.

Telecoms carriers are ideally positioned to utilize the data syndication tools (syncML and Active Address Book solutions) already

implemented in their networks and widely deployed in both mobile and Internet-based devices. Telecoms networks are the largest in the world, serving more than four billion subscribers, thus delivering massive market reach and quality leads to prospective advertisers.

As mentioned in the previous issue, a key element to making this approach work is consumer buy-in. Just like suggesting a movie or restaurant to a friend, if a person is to recommend a service, they must feel confident that the service will provide a positive experience for their acquaintance. As such, here are a few basic guidelines for success:

- **Explicit grant of permission:** Consumers need to feel in control of the recommendation process because their reputations are at stake. It should be simple for both the people recommending and receiving the offer to opt-in or out of the process as they see fit.

- **Ease of use and recommendation:** It should be extremely simple to forward the service or application to any person in the consumer's address book. Similarly, it should be easy for the recipient to subscribe, and billing must be equally simple and unambiguous.

This ease of use is how the syndication capabilities of the telecoms value chain provide a key competitive advantage.

- **Global access:** As people's social graphs usually span markets and regions, the service should function across carrier, geographic and even network boundaries. This requires tight interoperability where possible (via standards and specifications such as RCS, or rich communications services), and working “over-the-top” – even if this means a reduced feature set – where IOT standards do not exist.

- **Feed your stars:** Certain people have a great deal of influence, either because of the size of their contact bases or the degree of repute they enjoy. It pays to know who these people are and cultivate their patronage via early adopter marketing, premium offers and by providing mechanisms to enhance their reputations such as blog sites, contributor awards, etc.

Of course, this mechanism only works if the service or application in question delivers true value to the consumer. By combining the context and preferences of the individual consumer with his or her social graph, viral marketing can extend the commercial benefits of relevance into entire communities creating new revenue opportunities that leverage the unique advantages of telecoms. **NGN**

Marc Leclerc is manager of the Global IMS Expert Centre at Ericsson (www.ericsson.com).



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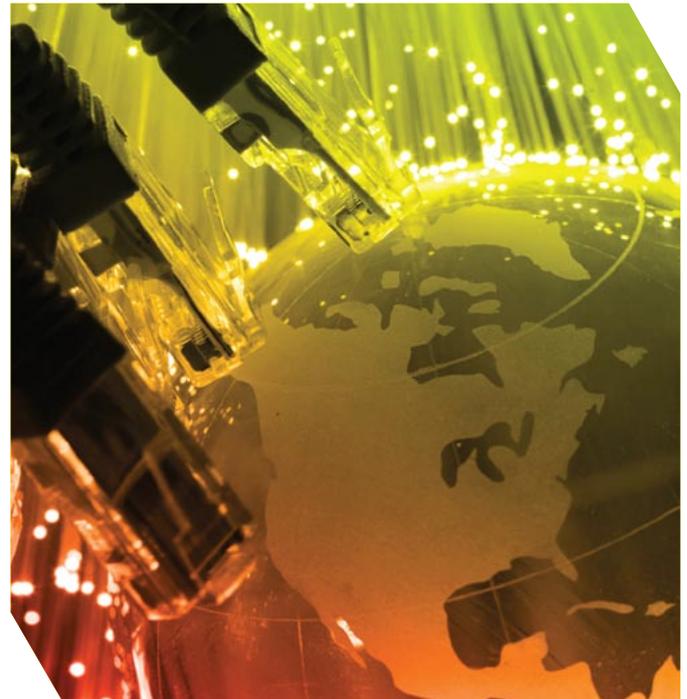
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Business of Cable Telephony Looks Like a Winner

It's no secret that small and medium businesses are getting more attention these days as a variety of carriers attempt to appeal to these customers. While the SMB set has long been a sweet spot for many CLECs, large cable companies have expanded beyond their traditional residential customer set to address smaller businesses just in the past couple of years.

According to most accounts, the cablecos are making good headway in appealing to low-end business customers and are now headed up market. In fact, some argue that the cablecos have been so successful with their SMB strategies that large incumbent telcos like [Verizon](#) are sitting up and taking notice.

Business is clearly a growth area among the cablecos, says Chris Carabello, director of marketing at voice gear supplier [MetaSwitch](#). He says the initial target of MSOs has been the very small business customer with maybe one to eight lines and some basic residential-type calling features. But now, he says, the cablecos are looking to



expand beyond that segment to also reach customers with 20 to 100 employees with more sophisticated services.

For example, he explains Bresnan Communications, a MetaSwitch customer, started with a facilities-based play to reach very small businesses with basic phone services. Now the company, which is the nation's thirteenth largest MSO, is moving up the value chain with services such as PRI and hosted [PBX](#). "So that is the model that I think a lot of the operators are trying to emulate," Carabello says.

Despite a short history in business telephony, Carabello adds, cablecos have strong brands and good reputations for the voice services they've delivered to date, so their efforts in the business space are getting a warm reception, which may be fueled in part by the fact that small businesses are particularly price sensitive and not particularly brand loyal at this point in time.

Indeed. In July Cablevision Systems Corp.'s [Optimum Voice](#) received top honors from J.D. Power for customer satisfaction in the "2009 Major Provider Business Telecommunications Voice Services Study" for SOHO and SMBs. Optimum Voice scored 701 for SMB customer satisfaction, 61 points higher than the major provider segment average, and performed particularly well across all six factors driving satisfaction which include performance and reliability; sales representatives/account executives; billing; cost of service; offerings and promotions; and customer service.

Optimum Business offers small and medium-sized businesses the option to select up to 24 lines of Optimum Voice. Each Optimum Voice line features low flat-rate pricing, unlimited local and long-distance calling within the U.S., Puerto Rico and Canada with no

Cablevision's Messaging for Optimum Voice for Business

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What Cox Business VoiceManager Includes

Unified Messaging

The UC feature places voicemail and e-mails in one window for easy management, and Personal Call Manager logs call history on the desktop.

Enhanced Productivity

Call control features such as find me/follow me ensure that calls are promptly routed to the most convenient location and priority callers are given preferential treatment.

Complete Mobility

Remote Office allows one number to be pointed to desk, home and mobile phones while simultaneously ringing and provides voicemail alerts to ensure that calls and messages don't go unanswered.

Business Continuity

Streamlined administration allows every employee to adjust communications preferences from a Web portal, ensuring that business continues from home, on the road or an alternative work site when the office is moving, closed or during an unforeseen disaster.

was the first MSO to deliver circuit-switched telephone services to its residential customers – an effort it began years ago when the telephone companies launched their move into the video services arena. Today both the residential and business sides of Cox sell a variety of telephone services.

Cox Business does business in 18 U.S. markets in the states of Arizona, California, Connecticut, Florida, Idaho, Kansas, Louisiana, Nebraska, Nevada, Oklahoma, Rhode Island and Virginia – all of which are in the traditional Cox service region. The effort started with POTS and a package of popular Class 5 features. Today it also sells PRIs, long-distance and toll-free calling plans, as well as more advanced services, either as standalone items or as part of a bundle of services.

The most advanced of those telephony services is the Cox Business VoiceManager. According to Cox Business, the introduction of this service made it the first cable provider in North America to deploy a fully hosted and managed IP telephony service.

Cox Business VoiceManager employs an application server in the Cox network to enable businesses to extend their in-house telephone systems and features to employees' cellular phones. It also includes features such as find me/follow me and simultaneous ring, and has a business continuity feature that allows a customer's telephone administrator to redirect calls to remote locations in the event of a natural disaster or other problem, explains Bill White, director of voice product management at Cox Business.

The service, which typically costs \$1 or \$2 a line in addition to the Cox POTS service, is available in several markets including Connecticut and Rhode Island, where it went live in November of 2007;

hidden fees or taxes, and 14 business calling features such as enhanced voice mail, find me, rollover hunting and three-way calling.

But perhaps the most aggressive MSO in terms of advancing telephony services has been [Cox Communications Inc.](#) The company

A Competitive Response?

By Paula Bernier

The large incumbent telcos have been outfitting small and medium businesses with telecommunications services for many moons, but some say it wasn't until the rise of the MSOs in this space that the big ILECs gave this customer set any tender loving care.

Whether it was motivated by MSO success in the SMB space won't be debated here, but [Verizon](#) last month reportedly introduced new price offerings for the voice, Internet and TV services it offers small businesses. According to the company, this effort could save small businesses up to 25 percent off their a la carte, month-to-month service pricing if they are willing to sign the three-year agreements.

Verizon's new Single Line Business PAK and Freedom for Business Expansion PAK triple-play options for voice, Internet and TV begin at \$119.98 per month with a three-year agreement. Bundles including both voice and Internet services begin at \$84.99 per month for those with a three-year agreement in most areas.

In commentary published online in May, [Current Analysis](#) talks about the Verizon VoIP offer that bundles Internet Dedicated Access

with the carrier's Hosted IP Centrex or IP Integrated Access, and a PRI bundle including [IDA](#) with ISDN and local/long-distance calling plans. The analyst firm says "the product line reflects a fundamental change in the carrier's go-to-market strategy toward SMBs.

According to the [Current Analysis](#) piece "Verizon previously held lower-end SMB accounts under Verizon Telecom, which focused on its own set of services to target mainly in-footprint opportunities. Verizon Business is now pushing its advanced products into lower-end SMBs, and the carrier has a national marketing and sales strategy for this segment." And the firm suggests that AT&T, [Qwest](#) and large CLECs like [PAETEC](#) would do well to take note of this strategy.

In addition to its PAK bundled service strategy targeting SMBs, Verizon is targeting this segment with a new website called the Small Business Center, which it launched this spring. The site allows users to set up profiles, get access to their Verizon products, find discounts on business products and services, participate in a Verizon rewards program akin to a credit card rewards program, and read business news aggregated from [The New York Times](#) and other sources.

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as well as Kansas, Las Vegas; Oklahoma; Omaha, Neb.; Phoenix, Ariz.; Orange County, Calif.; San Diego, Calif.; and Hampton Roads, Va. – where it launched this summer.

The non-profit behavioral health care organization [Gateway Health](#) is among the customers of this service.

The most advanced of those telephony services is the Cox Business VoiceManager. According to Cox Business, the introduction of this service made it the first cable provider in North America to deploy a fully hosted and managed IP telephony service.

“Cox Business accurately assessed our communications challenges and designed a solution that met our needs. As a result, we’ve gained additional capabilities and reduced our operational costs by 15 percent,” says Scott DiChristofero, chief financial officer of Gateway Healthcare. “Cox Business has relieved us of the responsibility of being telecommunications experts, allowing us to focus on our primary mission of assisting people in their recovery from mental health, substance abuse and behavioral and emotional disorders.”

As part of this Cox Business solution, Gateway can now send bulk voicemail and e-mail messages to large groups of employees, a critical tool during patient emergencies, winter storms or

other natural disasters. Gateway employees also can make internal calls using four-digit dialing. And the company can easily track phone usage data, such as long-distance calling from its facilities.

“Our Business VoiceManager is really the direction we’re heading,” says White, adding that Cox Business expects to introduce a SIP trunking service toward the middle of next year, and IP Centrex and hosted PBX offers late in 2010.

Of course, that’s the direction most folks believe the market is going. According to a Forrester Research Inc. survey released in August, nearly 20 percent of IT professionals are buying more managed services as a result of current economic conditions.

“While the down environment is making most technology areas suffer, managed services is getting a boost as firms look for more flexible payment models that limit capital expenditure but also can keep them current with technology changes that help their firm,” says Ellen Daley, vice president and research director at [Forrester](#). “This further accelerates an industry move to a more flexible services model for fulfillment of telecom, network, and IT technology changes.”

According to survey results, 47 percent of enterprise respondents and 37 percent of SMB respondents have already purchased managed or outsourced telecommunication services, primarily as a result of their desire to focus on their core business competencies rather than on peripheral tasks such as networking and telecom services. **NGN**

How Wireless Fits In

By Paula Bernier

Wireless is increasingly being bundled and integrated into a variety of business and residential packages and services. But while the large incumbent telcos like AT&T and Verizon are among the largest players in a sea of wireless providers, the cablecos are just getting their feet wet.

As noted in NGN’s 4G story on page 28, cable companies Bright House Networks, [Comcast](#) Corp. and Time Warner Cable Inc. have partnered with Google, Intel and Sprint to provide funding for WiMAX operator Clearwire, whose network they will leverage to offer data-only wireless services.

Meanwhile, Cox Communications expects to get into mobile voice services this year through an MVNO agreement with Sprint.

At the same time, Cox plans to build its own 3G wireless network based on the spectrum on which it has spent \$550 million in FCC auctions over the years. Cox, which is also testing 4G LTE technology, expects to launch 3G wireless service this year.

“Wireless service will be a key driver to Cox’s future growth,” says Pat Esser, president of Cox Communications. “As wireless communications enters the new generation, we are uniquely positioned to deliver the entertainment and communications services our customers want, whenever, however and wherever they want them. Our bundled customers will become even ‘stickier’ as we offer them the best customer experience. To deliver the best customer experience, we will manage every aspect of the service, from product development to marketing and sales to back-office operations and customer support and billing.”

Bill White, director of voice product management at Cox Business – whose VoiceManager service, as noted in the main story here, already has a mobile component – says the residential side of Cox will lead the business side in the introduction of these new wireless services.



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Broadband Stimulus Applicants Hold On for a Long, Bumpy Ride

By the time this issue makes it to print the application deadline for the first round of Broadband Stimulus funds is expected to have passed. But don't quote me on that.

Amid much uncertainty around the broadband stimulus effort, even the application deadline has changed, as the National Telecommunications and Information Administration and the Rural Utilities Service in mid-August were forced to postpone the due date for online applications from Aug. 14 to Aug. 20. As the process drew toward a close, the agencies' servers became overloaded, which reportedly caused great worry for applicants, some of whom as a result submitted multiple requests for funding in hopes their applications wouldn't disappear into a black hole.

Whether one week would be enough time for these government agencies to dig out of this mess, address their technical difficulties and respond to applicants' filing concerns – should they choose to do that – remained in question as of last month.

Of course, the online filing problem is just one of many issues creating anxiety for both current and potential broadband stimulus applicants.

A document called the Notice of Funds Availability issued July 1 by the Federal Communications Commission was expected to answer many of the key questions folks have been asking relative to the broadband stimulus effort, including how the agencies managing the program define “broadband”, “unserved” and “underserved”; the requirements around interconnection and open networking – all of which were mentioned in the broadband part of the American Recovery and Reinvestment Act of 2009; and more. In fact, the NOFA does provide some of these key definitions (See glossary, page xx); explains what money will be available when during this first phase of the broadband stimulus; and lays out the process by which the government expects to review applications and award monies.

The NOFA made clear that the government expects to make available \$4 billion during the first round of funding. That includes \$2.4 billion for grants, loans and grant/loan combinations as part of the RUS Broadband Initiatives Program, and \$1.6 billion for grants through the NTIA's Broadband Technology Opportunities Program effort. The plan is to disperse all funds under this first round of the broadband stimulus by next fall, the formal deadline being Sept. 30, 2010.

Also laid out in the NOFA is the fact that applications will be assessed using a point system, and guidelines as to which items merit what number of points. For example, it says “for every 10,000 unserved households that will receive broadband service, one point will be awarded up to a maximum of five points.”

During the first part of broadband stimulus application reviews, at least three experts will review and independently score applications based on



how well they address NOFA criteria. Step two of the review process will require remaining applicants to submit additional information to substantiate their initial applications. Then the materials will be analyzed by NTIA staff as well as by engineering, business and other experts. States also will have a chance to weigh in on applications and how they should be prioritized. The NTIA staff will then assign each application a rating between one and five based on its consistency with the initial application.

When the NTIA recently put a notice on its Web site asking for volunteers with experience in the broadband space to help review broadband stimulus applications, some media outlets cried out in horror. But those who were alarmed may feel better knowing that peer review like that the NTIA sought are not uncommon and, in the end, it's the NTIA that will be making the final decisions about funding.

What is probably more troubling to many people with a real stake in the broadband stimulus effort is their view on how the rules seem to favor one type of geographic area over another, and set a higher bar for wireline than for wireless.

To the first point, those in the rural wireline camp are unhappy with the NOFA definition of remote rural, which is defined as those areas 50 miles away from a city or town of at least 20,000, or 50 miles away from an urban area next to a city of at least 50,000 inhabitants. The NOFA requires those seeking funds to build broadband infrastructure in areas defined as remote rural to forward their applications to RUS to be considered for the BIP. And if a service provider applicant operates in an area that is defined by the U.S. Census as at least 75 percent rural, that company must go through RUS for broadband funds.

Unless the service area is classified as remote rural, the RUS BIP program limits the grant funds for projects up to 50 percent, and the BIP program is weighted more heavily toward loans than grants. Meanwhile, the NTIA's BTOP will provide grant funds for up to 80 percent of project costs for non-rural areas. As rural telco proponents point out, that means suburban and urban populations



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Getting a Better Read on the First Round NOFA

Broadband: Consistent with the FCC's current line on broadband, the definition for broadband relative to the first round of broadband stimulus funding is at least 768 kbps downstream and at least 200 kbps upstream.

Nondiscrimination & Interconnection: As expected, the NOFA addresses the issue of nondiscrimination and interconnection, two terms when first mentioned within the broadband stimulus discussion raised the hackles of many large incumbent service providers. The NOFA's requirements around nondiscrimination and interconnection are vague, but pretty consistent with what the FCC has already said regarding these topics.

Unserved Area: An unserved area is "composed of one or more contiguous census blocks, where at least 90 percent of households in the proposed funded service area lack access to facilities-based, terrestrial broadband service, either fixed or mobile, at the minimum broadband transmission speed. A household has access to broadband service if the household can readily subscribe to that service upon request."

Underserved Area: An area is underserved for "last mile" projects if no more than 50 percent of the households in the area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed set forth in the definition of broadband above; no fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 Mbps downstream in the area; or the rate of household broadband subscribership is 40 percent or less. An area is considered underserved in terms of "middle mile" networking if one interconnection point terminates in a proposed funded service area that qualifies as unserved or underserved for last mile projects.

and providers are better positioned to benefit from the broadband stimulus than are those in rural areas.

"The problem with the remote rural definition is that it knocks out the business case for those that would benefit the most from the government infusion of stimulus – mainly rural, unserved Americans," says Kevin Morgan, director of product marketing for the **ADTRAN** carrier networks division, which supplies gear to many rural telcos, among other customers.

After the NOFA was issued, interested parties such as ADTRAN pointed out this potential problem to the involved government agencies. Following those conversations, many held the expectation that RUS would adjust the definition of remote rural. But it didn't work out that way. Now the hope is this definition will be adjusted in future NOFA documents tied to rounds two and three of the broadband stimulus.

At the same time some are arguing that the broadband stimulus rules favor urban and suburban areas, some large incumbent telcos and cable companies have said the rules favor remote areas over neighborhoods the markets in which they commonly serve. The large telcos also have been vocal about their distaste for net neutrality language related to the broadband stimulus and have indicated both of the above issues, paired the new scrutiny to their business

practices that government funding might bring, would likely result in them taking a pass on stimulus funding.

Meanwhile, some entities in the wireline space are nonplussed that wireline projects that promise to deliver a minimum of 20 mbps to the household (upstream plus downstream) will receive 10 points while wireless projects will get the same number of points to deliver just 2 mbps (upstream plus downstream). This language is taken directly from the NOFA and comes despite language in the same document saying that the broadband stimulus awards will be made on a "technologically neutral basis".

It's unfortunate that unserved and underserved consumers, some broadband stimulus applicants, their would-be suppliers and even government employers have to struggle with these issues. But the broadband stimulus and the larger National Broadband Plan are major undertakings and, really, unprecedented efforts that despite delays are moving forward at breakneck speeds. So it shouldn't come as a surprise that we are hitting some bumps along the way.

While some folks are not happy – and some are downright disappointed – with how this first round of funding is shaking out, the first round has yet to play out. And it's expected that one or more additional NOFAs will be issued for future broadband funding rounds. That means there's still time to make changes if interested parties can effectively make their cases to the agencies involved. And those that don't get the green light for funding in the first round can always try again in the second and third rounds. **NGN**

Sizing Up Our Future National Broadband Plan

By Paula Bernier

When the American Recovery and Reinvestment Act of 2009 became law in February it sent shock waves throughout the communications industry. At first it was shock that the broadband stimulus was only \$7.2 billion, a measly figure by some accounts considering various industry groups were looking for something closer to the \$40 billion range. But, as anyone who's been following the Obama administration's national broadband effort knows, the \$7.2 billion program is just the first chapter in this story. The plot thickens with the National Broadband Plan.

In remarks at the first National Broadband Plan public workshop on Aug. 6, FCC Chairman Julius Genachowski said "Here's the challenge: nearly 40 percent of all Americans do not have broadband in the home. And if you earn less than \$50,000 a year, or you are a minority or you live in a rural area, chances are better than 60 percent that you are on the wrong side of the digital divide. That is why President Obama and the Congress have taken two important actions to extend broadband's benefits to more Americans. First, they included \$7.2 billion for broadband deployment in the Recovery Act. Second, they have charged the FCC with developing a national broadband plan."

The FCC has less than a half a year left to put together the National Broadband Plan, which is supposed to be completed by February. The plan is expected to help make broadband more widely available in the U.S., particularly to the underprivileged, in an effort to improve efficiency, involvement and growth on a number of fronts. Service providers also hope this grand plan



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The screenshot shows a web browser window displaying the TMCnet website. The main headline reads "Zip. Nada. Nothing." with a sub-headline "That's what it costs to start building great IVR applications using Voxeo." Below this, there's a section titled "Global Online Communities" with a table listing various categories like SIP, IP TV, and VoIP. The main content area features a "Voxeo" logo and a "IVR Community" banner. A sidebar on the right contains a search bar and an advertisement that says "It's not rocket science. Offer a great IVR and VoIP platform. Make it exceptionally easy to try, buy and use. Provide amazing support. Try Voxeo now at www.voxeo.com/tree".

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will offer a clearer picture of how the FCC and others in government intend to regulate various aspects of broadband.

The commission this fall has held a series of workshops on various issues related to the National Broadband Plan effort. Each workshop has focused on a different topic, such as civic engagement, public safety and education.

A notice of inquiry issued by the FCC in April also offers some insight into what might be included in the National Broadband Plan. The NOI discusses a wide variety of issues and invites comment on how the National Broadband Plan should address them. It casts a wide net, seeking input on everything from how to define broadband, among other terms; to how to address universal service; to whether things like deep packet inspection and behavioral advertising might limit broadband usage.

“We certainly expect that the commission’s primary focus, which will follow on the heels of what President Obama had discussed greatly on the campaign trail, is the need to ensure that there is universal access to broadband services,” says Jonathan S. Marshlian, an attorney with Helein and Marshlian, LLC – the CommLawGroup, which represents Dash Carrier Services, a company providing wholesale carrier products and services for IP telephony rollouts. “And we believe the broadband agenda is going to drive changes in other programs [that] are fundamental to ensuring broadband access, whether that’s to traditional telephone services or, in this new environment, broadband.”

It would be virtually impossible to create a plan to ensure universal broadband without first addressing the problems with the Universal Service Fund, adds Marshlian.

Part of the problem with the USF is that it has seen a “seismic shift” in its revenue base in recent years, Marshlian continues. That, and the convergence that is now occurring between traditional and broadband, IP-based networks as well as the emergence of over-the-top application providers, were not foreseen several years ago when Congress created the universal service provisions of the Telecommunications Act of 1996, he notes.

“We’re on the side of advocating in favor of any regulatory scheme being in favor of the next-generation of technologies and not one that merely is imposed to [support] the status quo of the past 100 years of traditional telephony networks,” says the Dash Carrier Services’ attorney.

While some look forward to the National Broadband Plan to create – or at least lay the foundation for – specific rules and regulations in hopes there will be more certainty in the marketplace, others seem to have more of a race-against-the-clock mentality in terms of government involvement.

Mike Manzo, chief marketing officer of transactional intelligence outfit Openet, notes that government tends to only step in when there is a conflict of interests. From Manzo’s view, public policy never quite gets it right; so he believes it is to the advantage of warring parties to work together – without the involvement the government – to reach tenable solutions.

“Everyone loses when a fight occurs,” he says.

By way of example, Manzo mentions the recent row between BT and the BBC. The telecom operator throttled back the broadband connec-

tions of users who enjoyed online video services such as the BBC’s iPlayer and YouTube, spurring a quarrelsome back-and-forth in the press between BT and the BBC, and the possibility of regulatory involvement. Of course, similar arguments between network owners and over-the-top providers are taking place in the U.S. and elsewhere in the world. Given these discussions and the fact that we’re seeing bandwidth usage go through the roof due to new user additions and the introduction of devices like the iPhone (and new iterations of said devices with such capabilities as video recorders), Manzo believes the issue of net neutrality/fair use will come to a head later this year or early next.

Rather than looking at over-the-top players as threats, however, network operators should try to partner with them, Manzo suggests. For example, BT would probably have been better off had it asked the BBC if it could help promote the iPlayer service and possibly even suggested the two companies forge a revenue-share agreement and bundle the application and network connectivity to provide customers with a better experience.

Manzo says network operators and others with an interest in online advertising should also take a proactive approach to prevent further elevation of consumer and government privacy concerns relative to targeted advertising.

They can do that by giving consumers control over what advertising they receive, he says, noting that studies have shown more than 80 percent of people will probably opt in and provide “pretty deep” profile information for online advertising programs if they’re given ample control.

Creating these kinds of alliances and having such studies at the ready as regulators decide on the direction of communications policy going forward could help interested parties more effectively steer things in the right direction for the future.

Editor’s Note: Richard “Zippy” Grigonis contributed to this article.

Workshops on the National Broadband Plan

The FCC is hosting a series of 22 workshops on various aspects of the National Broadband Plan. It held the majority of these events, which can be attended in person or online, in August. But there are still a handful of workshops planned for early this month.

To get the most recent information on these workshops and to register for them, go to <http://www.broadband.gov/workshops.html>

Here’s what’s on tap for September:

DATE	TOPIC
Sept. 2	Benchmarks
Sept. 3	Best Practices/Big Ideas
Sept. 9	Broadband Consumer Context
Sept. 15	Health Care

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The Race to 4G: WiMAX has a Jump on the Market, but LTE May Sprint Ahead

The debate over which 4G technology is best rages on. But, at this point, most service providers have made their selections. **LTE** has become the 4G technology of choice for many of the big, established carriers with facilities-based plays. Upstarts have gravitated toward **WiMAX**, which is being used primarily in deployments involving remote locations and/or developing countries.

Several sources have told NGN that although WiMAX has a head start in terms of time-to-market LTE should quickly make great strides, eventually taking the lead in market share.

LTE is expected to gain steam quickly because those that are adopting it will be able to leverage existing 3G infrastructure to get their new 4G builds up and running quickly. Perhaps more important, though, is that economies of scale expected from LTE as a result of large carrier adoption are expected to accelerate the pace of LTE adoption – potentially even by those that are now in the WiMAX camp.

“If you’re looking for the 4G technology winner, it’s going to be LTE,” says Adam Fowler, vice president of product management for the wireless line at converged IP testing outfit Ixia, noting that Verizon, Japan’s NTT DOCOMO and China Mobile have all hitched their wagons to the long-term evolution technology.



BridgeWave’s Amir Makleff

“If LTE was available, I don’t think WiMAX really would have a chance,” says Amir Makleff, president and CEO of BridgeWave Communications Inc., which is selling backhaul solutions to both LTE- and WiMAX-based 4G providers.

“I think everybody believes WiMAX in five to ten years will be a much smaller market than LTE,” he adds.

As Hakan Eriksson says in an August GigaOm piece: “There are 400 million people using 3G (HSDPA/WCDMA) technologies today. There will be 70 million people using WiMAX in five years.” By then, LTE will be the de facto standard due to adoption by large companies including Verizon, **Vodafone** and AT&T, says the CTO of Ericsson, which is one of two vendors (the other being Alcatel-Lucent) selected by Verizon to provide the radio access network portion of its LTE network.

Also last month, Alcatel-Lucent CEO Ben Verwaayen indicated LTE could be the key to help restore ALU to health. He was quoted as saying: “A lot is happening in LTE around the world, and not all of it is announced. We are extremely well-positioned.”

However, while all that may well play out over time, we’re still awaiting the first commercial launches of LTE. Meanwhile, WiMAX is a reality today. And although Clearwire – the service provider probably most closely associated with WiMAX – is technically a startup, the company has an impressive slate of high-profile partner investors and is targeting some of the nation’s largest markets.

“People who are looking to get into the mobile business are trying to get an advantage over incumbents,” says Taylor Salman, director of solutions marketing for Ciena. “WiMAX provides them the advantage of getting them 4G rates today as a mobile service, so they’re using that technology to get in early to gain market share.”



Ciena’s Taylor Salman

The Clearwire Camp

Clearwire took on the role of WiMAX poster child last year after Sprint – which early on was a strong advocate of WiMAX and had grand plans to implement its own network based on the technology – announced a deal with Clearwire to create a new version of that company. This new Clearwire, which is the company we know today, was expected to bring together the next-generation wireless assets of the earlier Clearwire with those of Sprint-Nextel. As part of the deal, Sprint; cable companies Bright House Networks, Comcast Corp. and Time Warner Cable Inc.; as well as **Google** Inc. and Intel Corp. made a combined \$3.2 billion investment in Clearwire.

That has given Clearwire the capital to begin building what it expects to be a nationwide 4G network. Assisting the company in the job are Huawei, which Clearwire recently added as a supplier, as well as Samsung and Motorola. Clearwire has tapped Ciena for base station switching, Cisco Systems for core IP infrastructure and DragonWave for microwave backhaul transport.

As of press time, Clearwire was offering data-only commercial WiMAX services under its own CLEAR brand in Atlanta and Las Vegas, both of which went live late this summer, and Portland, Ore., its initial commercial market.

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“The next wave of CLEAR launches in 2009 is on track to extend our 4G network to over 30 million people in more than 25 markets by the end of 2009, bringing Clearwire’s total network coverage in both legacy and 4G markets to over 40 million people,” CEO Bill Morrow announced in August. “With the 2009 addition of new markets like Chicago, Dallas/Ft. Worth and Philadelphia, and the migration of pre-WiMAX markets like Seattle, Charlotte and Honolulu, CLEAR’s super fast mobile Internet service is poised to achieve a critical mass of coverage and customers that will help propel the company forward into next year.”

In addition to the aforementioned markets, Clearwire – whose dual-mode modems support nationwide roaming – this year is planning commercial WiMAX turn ups in Baltimore; Boise; Raleigh and Greensboro, N.C.; Maui; Bellingham, Wash.; Salem, Ore.; San Antonio, Austin, Abilene, Amarillo, Corpus Christi, Killen/Temple, Lubbock, Midland/Odesa, Waco and Wichita Falls, Texas. By the end of 2010, the company expects to reach as many as 120 million people in 80 markets with mobile WiMAX.

As it posted a \$73 million loss on revenue of \$64 million, Clearwire in the second quarter reported what some considered an anemic 12,000 subscriber additions. That compares to 25,000 additions in the first quarter. But Morrow said that following the Las Vegas launch, average daily WiMAX subscriber uptake in July outpaced that in June by more than 75 percent. However, he also pointed out that the company, as expected, saw customer attrition in its large base of 46 U.S. pre-WiMAX markets, which he said was a result of seasonality and minimal sales and marketing in advance of migrating those markets to CLEAR 4G in the coming months. In any case, Clearwire maintains its business outlook for 2009 and 2010, expecting ARPU to be generally sustained at current levels.

Still, some believe Clearwire’s wholesale strategy could be its saving grace. To date, that effort has consisted of providing mobile WiMAX services to Sprint and its cable company investors.

Comcast today leverages the Clearwire WiMAX assets in both Atlanta and Portland, where it sells wireless broadband cards that can access those networks at various speeds and with varying functionality. The cable company expects to make similar offers in Chicago, Philadelphia and Washington state later in 2009. Time Warner Cable reportedly plans to unveil a mobile WiMAX offer based on the Clearwire network beginning this fall in Charlotte, N.C., Dallas and two additional markets.

Sprint 4G, powered by Clearwire (in which Sprint holds a 51 percent stake), is available in Atlanta, Baltimore, Las Vegas and Portland. Plans are to expand the offer to something like 27 markets – including Chicago, Dallas, Philadelphia and Seattle – later this year. In 2010 Sprint expects to do additional launches in several areas, which are likely to include Boston, Houston, New York, San Francisco and Washington, D.C.

“As the industry’s wireless 4G pioneer, Sprint is committed to WiMAX deployment, which allows us to deliver 4G services to customers today,” says Stephanie Vinge-Walsh, a spokeswoman for Sprint Nextel. “There are over 484 global commercial deployments of WiMAX in 135 countries worldwide and currently 435 million pops covered on standards-based WiMAX.”

Widespread WiMAX

As Vinge-Walsh quite rightly points out, WiMAX has had more than ample acceptance by service providers.

In addition to the Clearwire contingent, you may have heard about Towerstream, which delivers fixed WiMAX services to businesses in Boston, Chicago, Dallas-Fort Worth, Los Angeles, Miami, New York City, the San Francisco Bay Area, Seattle and the greater Providence area, in which it is based.

WiMAX is also expected to make an appearance in some rural locales in the U.S. For example, a Colorado-based outfit known as Open Range Communications plans to bring a dual-mode solution using WiMAX to more than six million people in 546 underserved and rural U.S. communities within the five years. Open Range will lease mobile satellite spectrum from Globalstar Inc. for the build, which is being

funded through a \$100 million investment from One Equity Partners, the private equity arm of JPMorgan Chase & Co., and a \$267 million broadband access loan granted in March 2008 by the U.S. Department of Agriculture’s Rural Development Utilities Program. Considering the U.S. government is now in the process of handing out more than \$7 billion through its broadband stimulus effort, we could see more of this type of thing in the not-too-distant future.

WiMAX has been even bigger abroad.

According to Ashish Sharma, vice president of corporate communications at Alvarion, a broadband wireless equipment supplier that has outfitted more than 250 WiMAX deployments, KT of Korea has a large-scale WiMAX deployment in place, with 200,000 to 300,000 subscribers – and growing -- already on the system.



Alvarion’s Ashish Sharma

In Japan, startup UQ Communications – whose investors include Intel and KDDI Corp. – claims to provide nationwide mobile services based on the WiMAX global technology standard. This February, UQ started its full mobile WiMAX service in the 23 Tokyo wards, Yokohama and Kawasaki.

Alvarion’s Sharma says all the big carriers in India also are talking about WiMAX. Although an auction for WiMAX spectrum had been delayed, he adds, it is expected this year. And Sharma notes it will certainly be worth the wait given India is one of the world’s most populous countries, yet has less than five million broadband connections. A wireless technology like WiMAX could help quickly bring broadband to masses of new customers.

Indeed. Sanjiv Ahula, the former CEO of France Telecom’s Orange mobile business, is looking to use WiMAX to bring broadband to the 80 percent of the world’s population that doesn’t have it. His new company, Augere, which at last check had

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tied up \$125 million in funding from New Silk Route and Vedanta Capital, plans to move forward with the service in Asia this fall and Africa early next year. The company is reportedly now doing trials of the service in Bangladesh.

BridgeWave's Makleff says WiMAX is seeing best success in developing markets without DSL or cable, and that in such cases tends to be used to support fixed applications.

The Long-Term Evolution

Meanwhile on the LTE front, China Mobile is active driving its TDD-based variant of the 4G technology to its base of subscribers, while NTT DOCOMO is in the midst of LTE network trials and plans to deploy the technology in Japan next year, Ixia's Fowler says. Back in the states, he adds, Verizon is on a similar timeline.

That timeline points to early deployments of LTE in 2010, with mass market availability likely in 2011 and beyond.

"So all three of these operators are working to more or less the same schedule, and it's not that far away," Fowler says. "There's a lot of work going on in the labs right now. There are some small network trials going on, but it is with very preliminary equipment. And we are very active with our customers, both the equipment manufacturers and the operators in their labs to validate, functionally mainly, the implementation of this new technology."

In an August press release announcing it had completed successfully its first LTE data calls in Boston and Seattle, Verizon Wireless said it expects to commercially launch its LTE 4G network in up to 30 markets in 2010, covering 100 million people. The carrier went on to say that it expects to have full nationwide coverage in 2013.

Meanwhile, spokeswoman Jenny Bridges tells NGN that AT&T currently plans to begin trials of LTE equipment next year, with limited deployment to begin in 2011.

"What we're finding here, especially in the U.S. with Clearwire, is the WiMAX deployment with Clearwire



GENBAND's Fred Kemmerer

has forced both Verizon and AT&T to try to accelerate their LTE deployments, or at least publicly announce that they're accelerating their LTE deployments," says Ciena's Salman.

However, demand created by the iPhone and other smartphones and mobile devices for broadband have already given AT&T, Verizon and others a strong push to expand their broadband mobile offers. As Natasha Tamaskar, vice president of product marketing at GENBAND, notes in her white paper "Changing Definitions of Mobility", while the iPhone represents only 2 percent of the smartphone market, it drives 70 percent of mobile Internet usage. Of course, the iPhone is just one of many smartphones, mobile gaming devices and laptops out there, and end users with all types of devices are clamoring for higher and more widely available mobile broadband.

"For somebody like Verizon it makes a great deal of sense to build a 4G network because the data requirements that they're facing with smartphones and laptops have reached that point where they're untenable with 3G," notes Raj Singh, CEO of chipset supplier Wavesat.

"There's another interesting issue that is driving the adoption of 4G networks," he adds. "That is AT&T and Verizon own 40 to 50 percent each of the U.S. market, but they don't own 40 percent in their own markets." In some cases they're in markets where another company owns the copper to the home, so they have to pay for that, he continues. So one of Verizon's goals is to replace lease payments in the non-facilities-based markets it's currently serving by using LTE through the last mile, he says.

While the desire to move to 4G is clear, a large part of LTE's appeal to major operators is its ability to enable them to leverage their existing investments in next-generation wireless technology and to move to 4G where and when they see fit.

Fred Kemmerer, CTO at GENBAND Inc., explains that if a carrier has already invested in 3G, LTE lets that operator build a higher capacity core network and use it for both LTE and 3G, which can result in serious savings, par-

ticularly if you look at the rate at which traffic is increasing on today's mobile networks.

Andy Capener, vice president of marketing communications and Jon Morgan, senior director of product marketing, are with Starent Networks Corp., which sells multimedia core equipment to such customers as Verizon Wireless. Noting there's still a lot of upside for 3G in the next few years, these gentlemen say they expect a lot of 3G service providers to select products that are software-upgradeable to 4G so they can support their existing 3G deployments initially and do 4G when they decide it's the right time.



Starent's Jon Morgan

"This is going to be another costly build out, and clearly they're going to be looking quite hard at the economics of the build out to target the areas where they will see their subscriber base," says Ixia's Fowler of the LTE service providers. "So it's going to be put in side by side with 3G and service in the U.S. and, of course, elsewhere."

Wavesat's Singh adds that while the deployment of 3G networks was a long process because carriers had to go out and build new towers and forge new license agreements, as well as buy new gear, LTE will enable network operators to leverage many of those existing assets and deals. "You use the same boxes, many of the same chassis. I can see a very rapid deployment of LTE," says Singh. "I can see the accelerated pace of LTE coming at a breakneck speed."

"If you look at all the WiMAX deployments and all the operators who raised their hands to deploy WiMAX, with the exception of the Koreans, every single one was a brand new company and a greenfield site," Singh says. "Just look around. These are all startups, which had to raise money, do licensing with tower companies, work out contracts, do deployments, and figure out how to build a network from scratch. For the LTE, without exception, everybody that's deploying LTE is an existing carrier." **NGN**

Editor's Note: Richard "Zippy" Grigonis contributed to this piece.



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by Michael Khalilian

NGN Forum / IMS Forum Launches Plugfest 8 and New Technical Working Groups

We are pleased to announce that our eighth NGN and IMS Plugfest will be held October 5-9, 2009 at the InterOperability Lab (UNH IOL) in Durham, NH. The NGN and IMS Forums' Plugfests are the industry's only interoperability events covering NGN services over wireless 3G, 4G, LTE, WiMAX, wireline xDSL, cable, fiber optics broadband and IMS architectures.

Plugfest 8 will focus on Interoperability for voice and multimedia applications, IP BSS/OSS and Security inter- and intra-networks including the following:

- End-to-end interoperability testing for IMS and NGN applications and services
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- Charging functions impacts on BSS
- Examples of test topics for Plugfest 8 include:

IMS/NGN Plugfest 8 is a cooperative effort between a number of our most important working groups.

- Application and Feature Testing across the Control Plane
- Online & offline charging (Billing) scenarios for IMS events and sessions
- Interface Compliance testing; The 3GPP standard interfaces that use Diameter
- Topology hiding scenarios; IMS/NGN Control Plane interoperability including border controllers, legacy network gateways, service location function, and policy control elements

- Multi-domain scenarios covering user-to-network and network-to-network IMS interoperability
- Further study of IPsec on the Gm interface
- Inclusion of IPv6 within the core network
- Reliability and Availability Network Security

Plugfest 8 participants will include such companies as: Comverse, HP, Mu Dynamics, Radvision, Tech Mahindra, Tekelec and NTT. Sponsors of Plugfest 8 include T-Mobile, Intel and Radvision.

IMS/NGN Plugfest 8 is a cooperative effort between a number of our most important working groups, including the Diameter and Control Plane, InterOperability and Test, and BSS/OSS and Security Working Groups. It will showcase the great progress that these groups have made in advancing NGN and IMS architectures. The Plugfest 7 Diameter and Control Plane test plan will be incorporated into the first part of Plugfest 8.

We are excited about the recent creation of the IMS BSS/OSS & Security Technical Working Group. This working group will help guide industry momentum for an integrated IP BSS/OSS framework to enable cost-effective transition to IMS/NGN environments. It will focus on the billing and charging, policy control and security functions required by service providers to capture the value promised by NGN networks.

Participation in NGN IMS Plugfests and Technical working Groups is open to all companies. We look forward to your participation in our Working Groups and in Plugfests. For more information please contact info@ngnforum.org or visit www.NGNForum.org, www.IMSForum.org.

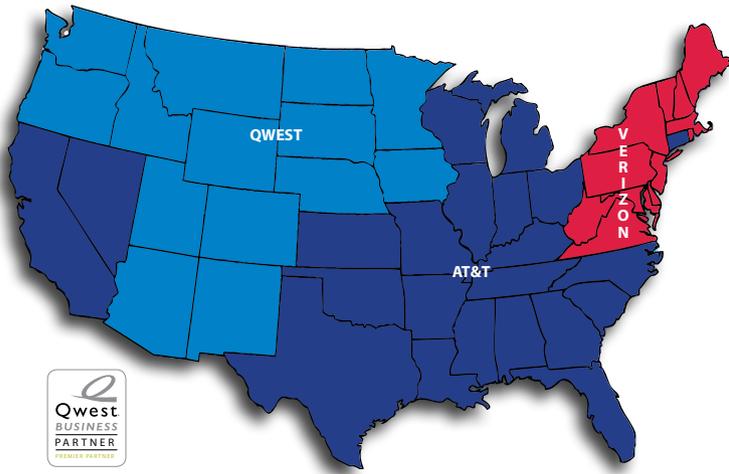
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