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The Eyes Have It

Top of Mind

In case there was any doubt, Cisco Systems has come out with a study on service provider traffic trends indicating that online traffic continues to grow tremendously, in no small part due to video. The study, created during the third quarter, involved compiling and analyzing actual traffic information from more than 20 service providers' networks.

Doug Webster, director of market management for Cisco's service provider group, says the study reveals that 37 percent of overall traffic is video, or "visual networking" as Cisco likes to refer to it.

Video is now part of virtually any network experience and will become even more prevalent as more, new video-capable endpoints hit the market.

While many believe P2P traffic takes up the bulk of Internet bandwidth, Webster says that in fact it takes up just 38 percent. While that's still significant and continues to increase, it grew less in 2009 than it did in the past, he says, and it's increasingly less than the visual traffic. He points out that means the overall traffic mix is going to visual networking, which generates a lot more traffic on the network.

"We've been talking about how video is the killer application for the network, and this year has just proved that to be all the more the case," Webster says, noting that video is now part of virtually any network experience and will become even more prevalent as more, new video-capable endpoints hit the market.

According to the Cisco study, globally, the average broadband connection consumes about 4.3 gigabytes of visual networking applications – including advanced services such as video, social networking and collaboration – traffic per month.

And, globally, the average broadband generates approximately 11.4 gigabytes of Internet traffic per month. The top 1 percent of global subscribers generated more than 20 percent of all traffic. And the top 10 percent of global subscribers generated more than 60 percent of all traffic.

Webster also points out that peak traffic indicators have important implications for service providers.

Internet "prime time" spans from approximately 9 p.m to 1 a.m. around the world. (This contrasts with broadcast TV prime time, which is generally from 7 p.m. to 11 p.m. across most global markets.)

Also, 25 percent – or 93.3 megabytes per day per connection – of global Internet traffic is generated during the Internet "prime time" period. A peak Internet hour has 20 percent more traffic than a nonpeak Internet hour, and the peak Internet hour averages 18 megabytes of traffic per connection (per hour), while nonpeak Internet hours average 15 megabytes of traffic per connection (per hour).

While Cisco has forecast that Internet traffic will increase five-fold by 2013, Webster says service providers actually will need to plan for a seven-fold increase in Internet traffic to accommodate traffic peaks as seen above.



Publisher's Outlook



Ear to the Ground

t ITEXPO this month in Miami, the communications and technology markets will come together, and approximately 8,000 decision makers, thought leaders

and purchasers of products and services will gather to network, find new products and solutions and get a bead on where the markets are heading for the rest of the year. With a strong international audience, the event will be a single location where you can better understand global buying trends and, more importantly, opportunities.

To help you get a sense of some of the participants at the event, I interviewed a number of them and am happy to give you a roundup of what many in the industry think about 2010 and beyond.

For example, Cliff Rees, founder, CEO and president of XCast Labs Inc., expects easy-to-use and stable SIP dialers for smartphones will be a big hit this year.

When asked about HD voice, Jeff Szczepanski, co-founder, VP and CTO of Allworx, a subsidiary of PAETEC, explains that voice quality actually has decreased this past decade. He lauds the idea of HD, but wonders what customers are willing to pay and thinks there may need to be a killer app of some sort to get HD voice to reach its true potential.

Tim Whittington, SVP and GM of Aastra USA predicts, "Social media and other collaboration tools will continue to grow; however, enterprises will opt for in-house, secure solutions," he says. "For example, microblogging can be very useful within an organization to give quick status updates, but that's not the type of information you would want blasted on Twitter." He also believes that, "Desktop video will be more affordable and displace many of the low-quality, free solutions available today."

TMC columnist Doug Mohney will be participating in the show as a moderator and his thoughts on the markets are pretty interesting. He predicts Verizon will beat up AT&T some more in 2010 with more ads touting the even better Verizon Wireless network, which will leverage LTE. He is also bullish on HD Voice, and says it will grow significantly in 2010, becoming a part of many bid packages.

Meanwhile, Gregory Giagnocavo, CEO of CarrierCloud, predicts that in 2010 it will be more the norm to utilize the mobile device for Skype-In and -Out, and more calls to and from mobile devices will be VoIP.

Joel Maloff of Maloff NetResults, a TMC partner and a participant in ITEXPO, has a surprising prediction about the future. He predicts Google will merge with another company.

And Joe Schiavone, director of sales for FreedomVOICE, has a bullish prediction about 2010 – that hosted VoIP will grow by leaps and bounds. "It grew by 21 percent during 2009, and we were in a very difficult recession. Now that things are turning around to some extent, we expect there to be even more growth," he says. Indeed. Although the global economy has seen major problems this past year or so, the fundamentals of many parts of the communications market are sounder now than ever. SIP trunking, backhaul, mobility, broadband, M2M, smart grid, open source, cloud computing and virtualization are just a few areas expected to experience nice growth levels for the foreseeable future.

If you are a service provider, you need to be at ITEXPO to make sense of the massive convergence taking place in markets. If you are a reseller, developer or corporate buyer, you have to be at the show to keep up with all the technology, such as new developments in unified communications and collaboration, which are literally transforming business.

We have done our absolute best to have the most important aspects of technology covered in this year's ITEXPO. I hope to see you Jan. 20 to 22 in Miami.



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Gimme Shelter Cox Business Offers More Than Just Savings to O'Sullivan Creel

hen you're a company with operations on the Gulf Coast, it's a good idea to have a contingency plan in place so staff can communicate with one another and with customers, as well as access necessary data, in the event that they have to work remotely due to a storm. That was a driving force behind O'Sullivan Creel LLP's decision to move to Cox Communications' carrier Ethernet service and put its voice and data systems in a special, secure Cox data center.

O'Sullivan Creel is a CPA and consulting firm with nearly 140 employees and four offices in the Florida panhandle and Alabama. That includes headquarters in Pensacola, Fla., and remote branches in Destin and Forth Walton Beach, Fla., as well as in Foley, Ala. A fifth location in Fairhope, Ala. is expected to open shortly.

Before O'Sullivan Creel came on board with Cox, it was just starting to use VoIP, which it was running over point-to-point T1 lines, says Paul Winters, senior manager of information technology at the firm. However, because the T1s also were loaded up with data, the bandwidth for VoIP was limited, so O'Sullivan Creel likewise limited its use of VoIP, he says.

Today, however, O'Sullivan Creel uses 100mbps Cox metro Ethernet services at its Florida offices to support a wide range of voice, data and video applications, he says.

Bandwidth is now so plentiful, in fact, that O'Sullivan Creel also runs videoconferences using its Polycom room-based systems over the Ethernet connection. Winters says although the O'Sullivan Creel offices aren't all that far apart, traffic can be heavy in the area due to beach visitors, so videoconferencing is a very useful communications tool for the firm.

In addition to the added bandwidth O'Sullivan Creel gets through the Cox metro Ethernet service, the firm also now has a business continuity plan and is realizing larger savings with Cox for its telephone service, Winters says.

As noted, the firm has elected to locate some of its communications gear at a Cox data center in Pensacola through a collocation deal with the service provider. The data center is Cox's Category 3 hurricane resistant colocation facility and includes generator and battery back-up in the event of commercial power failure. O'Sullivan Creel's servers are backed up in real-time via a 100mbps fiber Cox Metro Ethernet connection, and the accounting firm can offer clients 24/7 access to personal account information through a secure client portal.

"Natural disasters are part of life in many parts of the country, including the Gulf Coast, and Cox Business data back-up solution gives us peace of mind the next time one occurs," says Winters. "The Cox Business solution perfectly complements the internal paperless initiatives we've implemented and ensures that we can more effectively serve our clients."

Located at the Cox data center are file servers, which support tax return processing, email and other applications, as well as the accounting firm's main PBX with integrated voicemail, email and fax, says Winters. And although each of O'Sullivan



Creel's remote offices has its own on-premises PBX, the firm has configured its distributed phone system in a way that enables it to be managed as a single system and operate like one in terms of DID and other functionality, he adds.

Winters says it's a huge advantage to locate the firm's most critical resources at the data center. If the company had to secure these resources through an on-premises solution, he adds, it would've been much more expensive. In addition to the secure aspects of the Cox data center, Winters notes that the fiber-based metro Ethernet connectivity from Cox offers fiber reroute capabilities in the case of a fiber cut or other outage.

As for the cost savings on voice, O'Sullivan Creel sees a benefit on that front because Cox has an extended calling footprint that covers all of the firm's offices, so a call from the O'Sullivan Creel office in Pensacola to a client in Destin, Fla., for example, is not billed as a long-distance call, Winters says. And because the firm's telephone system from Iwatsu Adix, which O'Sullivan Creel manages itself, is configured as a single unit, the company also can do smart routing to save money, Winters explains.

O'Sullivan Creel is just one of several Cox Business customers in the financial space, which along with education, government and healthcare are among the carrier's key vertical targets.

"Financial institutions process millions of transactions daily and the accuracy, reliability and security of the information impacts the market at large and the spending power of consumers," says Kristine Faulkner, vice president of product development and management at Cox Business. "Cox voice, data and video products are designed with carrier-class reliability to create a high level of trust with our finance customers, something they can confidently pass on to their clients."



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Next Wave Redux

By Brough Turner

Broadband Stimulus: A Tiny Step Forward



The February 2009 American Recovery and Reinvestment Act provides a total of \$7.2 billion to the USDA's Rural Utilities Service and the Commerce Department's National Telecommunications and Information Administration to fund projects that expand access to and adoption of broadband services.

First round award announcements began in late 2009.

As you might expect from a political process, stimulus money is funding a few gems and a lot of credible programs, but makes no fundamental change in policy or industry structure, thus the decline in our international position – at least with respect to broadband speeds, prices and availability – is likely to continue. Still, there are some rays of hope.

The broadband stimulus has focused attention on broadband policy issues, prompting U.S. powers-that-be to look (seemingly for the first time) at what's working in other parts of the world. Significantly, stimulus money has funded a highly credible study by the Berkman Center at Harvard on broadband services around the world, showing the relative position of the U.S. in speeds, costs and availability, and the impact of different countries' regulatory structures on broadband outcomes.

In the past, it's been difficult to get consensus on international broadband statistics. Readily available data, e.g. from the International Telecommunications Union or the Organization for Economic Cooperation and Development, came with various flaws. The Berkman team sought to understand the advantages and limitations of the available data, learn from it and then improve the dataset. Arguments are bound to continue, but at least the underlying data is now credible.

The policy implications are profound. The U.S. has, at most, two competitors building physical broadband infrastructure, i.e. a cable company and a telephone company. All of the many countries that now outperform the U.S. in broadband metrics have some form of open access to basic infrastructure. This results in many competitors delivering actual services at higher speeds and lower costs.

Forms of open access vary. Stockholm has "structural separation" where Stokab A.B. leases dark fiber to all comers. The U.K. has "functional separation," where British Telecom has separated its business into OpenReach, a wholesaler offering access to copper pairs, and the rest of BT, a full service communications company, buying access from OpenReach. Finally there's "bitstream" access in places like Japan where, for example, Nippon Telegraph and Telephone sells Layer 2 Ethernet access to competitors at regulated rates.

Funded stimulus projects include token open access provisions, but nothing that will change the way the U.S. broadband industry is structured. Indeed, considering the substantial vested interests, it may take decades to change course. But at least credible data is now available and some discussion has begun.

Brough Turner is co-founder of Ashtonbrooke Corp. (www.ashtonbrooke.com), a stealth mode startup involved in wireless infrastructure.

Enterprise View

By Max Schroeder



See You at ITEXPO East in Miami

Many organizations schedule their kick-off events in January or early February and industry experts are brought in to motivate and train employees. However, budget constraints usually limit the quantity and

quality of the speakers or restrict them to specific areas like sales or support. Maybe you should consider an alternative?

Personally, I have always considered ITEXPO East as my annual kick-off event. What could be better than sending key team players to Miami in January to see the latest technology and participate in training classes provided by a plethora of industry experts. Some courses require a conference registration, but several are free to all attendees.

Ingate's Free SIP Trunking Workshop series includes stepby-step interactive sessions, basic training on SIP trunk installations and a SIP Forum SIP connect workshop. The workshop is offered on all three conference days and has been a show favorite for every past event.

For your sales team, ITEXPO East brings back the very successful Reseller Live workshop. The focus will be on sales skills and best business practices for resellers. AXIOM Sales Force Development will present its highly acclaimed AXIOM selling process that not only addresses today's challenging market conditions but provides a comprehensive process for all market environments.

If technical certification is on your list, TMC University courses provide the latest in training for Microsoft OCS, including how SIP is used in OCS, OCS and IP-PSTN gateway integration plus other key elements. Following the five educational seminars, students will sit for a written exam. Students receiving a passing grade will receive a TMC University's Certificate of Achievement.

As a manager, I always wanted key team members in every department trained on the latest market trends, newest technology and to be fully re-energized for the start of each year. Certainly, I am not the only manager that considers ITEXPO East as their annual kick-off event, as ITEXPO East 2009 experienced a 15.5 percent increase over 2008. I hope to see you there – look me up in the show directory and stop by.

Max Schroeder is the senior vice president of FaxCore Inc. (www.faxcore.com).



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What to Consider in Modernizing Your Network Monitoring Solution

By Gus Bekdash

In the beginning, the monitoring infrastructure was the users. Troubleshooting was done by primitive tools and elimination. The network was the usual suspect for any degradation. Mean time to repair was quite long, but it was acceptable.

Not anymore.

The network is now critical for human as well as machine communication. Problems should really be detected and resolved before users notice them and even before they become problems. Time to identify and engage the proper resources should be zero, and some problems now can be resolved automatically in seconds.

Modern monitoring solutions come in many forms, all of which essentially trade capex and opex. At one end, an IT organization can deploy a number of specialized solutions. They range from free to mid-priced, and they are employed either because they are cheap or to meet special needs. However, maintaining many separate monitoring systems increases opex in the long run.

Somewhere in the middle, one can deploy a modular system (such as BMC, HP OpenView, IBM Tivoli or others) that monitors many classes of devices and applications either organically or by integration with other "south" systems. Modular systems provide broad coverage from one console, reduce opex and increase quality. However, they usually require considerable capex. At the other end, some IT organizations outsource monitoring to managed services providers, which have monitoring offers ranging from basic to sophisticated. Such services require little or no capital investment, but usually require long commitments. Many MSPs have a record of reducing total cost while increasing quality.

Organizations exploring monitoring solutions should do the following:

- work with a vendor that can provide consulting about tools, processes and people, as well as help them evaluate representative solutions from all the options above;
- define clear quality and financial objectives and use them to evaluate the options above;
- keep in mind that the goal is to improve service and application availability not to monitor boxes, as monitoring hardware is not enough; and
- consider integrating monitoring vertically with other operational functions such as asset, incident and configuration management, capacity planning and security and patch management.

Gus Bekdash is a managing consultant at Forsythe Solutions Group (www.forsythe.com).

Packet Voice Over Wireless

By Michael Stanford HD Voice in the Real World



It's one thing to have HD voice capability in a device. It's another to use it on a call. All the major cell phone manufacturers have licensed the AMR-WB codec, and they have put it in the firmware of some phones to make the ringtones sound better, but it is still

almost never used for phone calls.

The wideband codec used in the most call minutes is either SILK or iSAC, since SILK is the primary codec for Skype, and iSAC is the primary codec for China's QQ VoIP network. In enterprises, the most widely used wideband codec is G.722, which is embedded in almost all business IP phones. Unfortunately, business wideband is used almost exclusively for in-house calls, since businesses still mainly use PSTN trunks, and even when they use VoIP trunks the trunking provider rarely supports wideband. And even if the trunking provider supports wideband, the chances are slim that at the remote end of the call the trunking provider, the PBX and the phone all support wideband.

Four things are happening to improve this situation.

First, Broadcom has followed Polycom and Skype in releasing its wideband voice codecs royalty-free. This makes it easy for phone manufacturers to embed multiple codecs in their devices, increasing the chances that two endpoints can negotiate a common wideband codec and avoid transcoding, thus connecting the islands of VoIP listed above.

Second, several VoIP service providers have gotten together to peer wideband VoIP traffic. This initiative, like the established peering operations at the VPF and Intelepeer, will allow wideband codecs between networks.

Third, several voice service providers are now promoting wideband as a differentiator. The ZipDX wideband conferencing service has been in operation for some time. More recently Ooma, Phone.com and Alteva have each announced wideband trunking services. There are probably many others – I have used OnSIP, which supports wideband, for many months.

Finally, wideband voice is getting more visibility at industry conferences. Jeff Pulver has initiated a series of conferences called HD Comm, and TMC, the publisher of this magazine, had an HD Voice track at the fall ITEXPO, and is having another at January's ITEXPO in Miami.

Michael Stanford has been an entrepreneur and strategist in VoIP for over a decade. Visit his blog at www.wirevolution.com.

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By Alan Murphy



VCE: A Real Candidate or Name Recognition?

In November, Cisco, EMC and VMware announced the creation of the Virtual Computing Environment coalition: a collaborative solution allowing IT depart-

ments to deploy a complete virtualized data center solution consisting of virtual servers, networking fabric and back-end storage. Although this isn't the first technology collaboration to offer a complete virtual data center deployment – VARs and larger platform providers such as HP and Sun also offer similarly packaged solutions – it is the first solution of its type from three primary players and leaders in their respective markets: VMware with virtual platforms; Cisco with Layer 2 network backbone connectivity; EMC with storage platforms.

In addition to offering a complete deployment solution, this announcement emphasizes the move of virtualization beyond the hypervisor to include infrastructure as part of that solution. One of the primary challenges of deploying a large-scale virtual solution is managing individual components – compute, network and storage – as one single unit. While it's always been the case that these components were managed discretely in a physical environment, virtualization enables IT departments to become more mobile and agile throughout the data center. To enable that agility, current mature virtual server offerings need to be managed as part of the larger data center solution, which includes network and storage as part of a holistic infrastructure deployment. By elevating the solution above the individual components, VCE may be the catalyst for extending virtualization's agility across data center silos.

VCE is an ecosystem of Vblocks that can be extended to other technology vendors, integrators and VARs.

Time will tell if VCE is a real contender in the virtual data center space. While this announcement runs the risk of being nothing more than a name alliance – as so many multi-vendor IT alliances have become in the past – VCE does include a legitimate technical solution nugget – Vblocks: reference architectures assembled into specific functional clusters, such as internal/external clouds, virtual desktops, etc.

In essence, VCE is a design solution that pieces together these Vblocks to achieve a specific deployment architecture. The idea with Vblocks is that an IT department can choose to deploy a VCE internal cloud, for example, and then pick and choose additional Vblock components to plug into its internal deployment, such as adding the external cloud Vblock component. The fact that VCE is itself built on top of Vblocks opens up future opportunities to extend VCE deployments into other solutions. VCE is an ecosystem of Vblocks that can be extended to other technology vendors, integrators and VARs. If a security VAR sells IAM solutions today it can theoretically bind those solutions to a VCE deployment using Vblocks, allowing that solution to be added on top of an existing deployment.

We're still in the theoretical stages of that architecture, and it will most likely take a good year before we know if the VCE ecosystem really is open and available to everyone. So far the signs are good that the VCE Vblock ecosystem is on the right path: many of the partners that helped VMware launch vCloud Express in August are also VCE Vblock partners. At the same time, however, it's possible that VCE could keep a very tight grip on Vblocks with its Acadia solutions company, a services group created as part of VCE to work with IT departments to design and deploy Vblock pieces. Acadia could be the single-point gateway for other vendors and partners to access Vblock tools like APIs, or Acadia could be the choke-point for those same tools, locking out vendors and partners that offer competitive technologies or solutions that don't align with VCE goals.

One of the more interesting underlying components of VCE is Cisco, which is providing core networking solutions - the Nexus line of physical and virtual switches for Layer 2 connectivity, and the server platform UCS. VCE moves Cisco squarely into the virtual server solution market, competing against other server platform providers such as Dell and HP. Today, most IT customers trust VMware for virtual platforms and EMC for storage; but are customers willing to trust Cisco with two critical components of the virtual infrastructure, networking and the physical server platform? Not only is VCE asking IT departments to put two very large virtual eggs in one basket with Cisco, but also if UCS is a mature enough platform to support critical virtualized applications. If so, then VCE may prove to be exactly what customers are looking for when building out new data centers. If not, VCE may end up being a solution with a good name and great lineage, but not worthy of production deployments, solely based on the physical server platform. VCE is a big gamble for Cisco in moving beyond Layer 2 networking.

Either way, the VCE announcement is definitely a step in the right direction for virtual infrastructure and integrated virtualization mindshare, a step that brings market awareness to virtualization in the data center beyond the hypervisor.

Alan Murphy is technical marketing manager of management and virtualization solutions with F5 Networks (www.f5.com), which provides solutions focused on ensuring the secure, reliable and fast delivery of applications.

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Implementing E911? Prepare Now for NG911

By Nick Maier

If your organization is currently implementing or considering an enhanced 911 solution for your multi-line telephone system don't back yourself into a standards corner by ignoring the industry movement toward what the National Emergency Number Association is calling NG911, or next generation 911.

The recent successful completion of the first round of interoperability testing represented a significant milestone toward NG911 and the industry's efforts to overhaul the nation's 911 systems – our literal lifeline to emergency services like police, fire and ambulance services. It stands to reason that any E911 solution that equips IP call servers, PBX and Centrex systems to manage and deliver the exact whereabouts of a distressed caller to emergency dispatchers will need to integrate seamlessly with these new 911 systems and standards.

NG911 solutions are no longer theoretical, but available today. These solutions future proof your organization by delivering location information management and 911 call routing capability through the deployment of methods and processes that are compliant with the new emerging standards. The use of open standards improves interoperability among multiple vendor systems, and a standards-based IP platform will enable receipt of emergency calls and subsequent sharing of information from communications channels other than traditional voice, such as native VoIP, video, pictures, automatic collision notifications and SMS text among networked public safety agencies.

If you're in the process of making a decision on an enterprise E911 solution for your organization, ask your vendor for details on how their solution is designed to meet the emerging NG911 standards. Probe their understanding of these standards. Find out if they are participating on the NENA and Internet Engineering Task Force committees that are crafting these critical new requirements and standards around NG911.

As an alternative, you can always start setting aside dollars to fund the replacement of your new E911 solution when NG911 becomes a reality.

Nick Maier is senior vice president of *RedSky* Technologies (www.redskyE911.com).

Ask the SIP Trunk Expert

By Steven Johnson



Interoperability and the Importance of SIPconnect

SIP trunk deployments can happen rather quickly when all the components – the IP PBX, ITSP and enterprise session border controller – are fully interoperable. There are ways to address interoperability at the start, to pave the

way for a faster, simplified deployment.

One problem with interoperability is the many flavors of SIP. Some manufacturers build their equipment, or bill their service, as SIP. But SIP is an inexact protocol, and vendors use different compliant methods to perform the same function within the protocol. These variations may be slight, but in the end they can prove to be a significant stumbling block in deployments.

They also impact security. Opportunities for hackers, spoofers, etc., are easy to come by when there are inconsistencies between the SIP-enabled PBX and the ITSP. Leading IP PBXs and ITSPs are aggressively conducting interoperability testing; making sure your equipment and service providers have demonstrated successful interoperability with one another will help address this issue.

Also, insist on strict adherence to SIP. There are a number of advantages vendors can leverage with SIP that benefit security, advantages that really come into play only when the protocol is strictly maintained. This also positions you well to build on your current SIP investments in planning your future network.

Specific to SIP trunking is the SIPconnect solution. SIPconnect is a set of technical recommendations or best practices for SIP trunking. SIPconnect was developed by the SIP Forum to provide a common method for enterprises to connect to a SIP trunking service provider using standard SIP messages consistently across all vendors.

SIP connect is a major step forward toward standardizing interoperability among all of the components of a SIP trunking implementation. Several service providers have adopted the SIP connect standard, and many more are expected to implement SIP connect in their networks soon.

However, not all IP PBXs are compliant with the requirements of SIPconnect. The solution is an E-SBC that normalizes the SIP signaling between the SIP-enabled PBX and the ITSP, allowing the enterprise to connect successfully to SIPconnect-compliant SIP trunking service providers quickly, easily and securely.

We, and our partners, will demonstrate the ease of SIP trunk installation at the January ITEXPO in Miami during Ingate's free SIP Trunk Summit. Stop by to watch us deploy a SIP trunk solution in 20 minutes or less.

Steven Johnson is president of Ingate Systems (www.ingate.com).

By Hunter Newby

Let There Be VolP



VoIP drives broadband demand, and broadband brings with it VoIP. These two components of the broader communications industry are inextricably

connected. It is no big mystery that VoIP penetration is higher in countries with a high broadband penetration and lower as a percentage in countries with low broadband penetration.

Talk is cheap though (no VoIP pun intended) and where the rubber meets the road is what the definition of broadband actually is. In truth, some authoritative body could say that what you have at your home today is technically broadband, but if you can't run a proper VoIP application on it, then is it really broadband?

Broadband has very loose definitions because it travels over different media types and is provided by different operators running different types and ages of network. The age of the network says a lot about the provider's predicament. Old networks are set in place and technological time mostly still running on legacy copper and TDM. Given the way finance is, these companies are largely stuck milking the network for all they can. They don't have the capex or ability to invest in new physical layer network infrastructure (fiber) that could bring about better broadband (DWDM/Ethernet), but they wish they did.

There are, of course, many network operators with old plant that do not want to invest in new infrastructure in those areas, but do invest in areas where they see competition. They do not want to lose their customers, but really only react when forced to. Service providers coming in to an area for the first time today prefer to do so over new fiber facilities they own or lease. This enables them to run much better optical equipment that generates more revenue at better margins than the incumbent. The new fiber optic gear also provides a much faster end-user service, something that could be truly considered broadband – something you can run VoIP on.

Getting VoIP out to the masses and really making a push for meaningful subscriber percentages comes down to getting dark fiber available for lease further out in to the field. The fiber brings the broadband that carries the VoIP. It may seem strange to connect what is essentially an application that is used as a service to a physical layer product, but the fiber is just as important as the device (mobile, laptop, etc.) in using the service.

Even wireless networks require fiber for backhaul. It wasn't that long ago that the wireless business was synonymous with voice calling. Ironically, as IP has pushed out TDM in the wireless business, voice has become VoIP with little effect on capacity requirements – but a major effect on revenues from the service.

However, the ability to carry IP (data) to the mobile device, specifically video, has caused an even larger requirement for fiber-based wireless backhaul. This further demonstrates the tremendous need to bring new dark fiber that is available for lease out into the field. Where there is broadband (wireline, or wireless) there will be VoIP.

Hunter Newby is the CEO of Allied Fiber (www.alliedfiber.com), a nationwide wireless tower and long-haul dark fiber provider.



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UC Unplugged

By Mike Sheridan



Readiness Assessments: Is Your Company UC-Ready?

Since implementing unified communications across Aspect, I get a lot of questions from customers on our deployment. One of the most common questions that I get

asked is: "How was the move over to Microsoft OCS?"

Many assume the transition was pretty rocky as we removed all of our PBXs and hard phones. On the contrary, for users it was a seamless process as employees moved to soft phones and headsets. Personally, I was easily able to start using the click-tocall, presence and conferencing functionality on day one.

However, I don't want to downplay that a lot of effort had to go into the planning to ensure that 1,700 employees had a smooth transition to using UC. That's why readiness assessments are so important in a UC rollout.

IT must do an in-depth assessment, usually aided by a thirdparty consulting partner, to define how UC capabilities fit into an existing environment and design a voice and data network to support business requirements. Assessments are critical because there are aspects of a UC deployment that must be considered before rolling out technology to an entire company. First, a company needs to look at the underlying network that is being utilized. IT pros will need to understand fully WAN and LAN structures to ensure there is adequate bandwidth to support business goals. In our case, we needed to beef up our network capacity in some of our offices, but also across the WAN.

Companies also will need to plan for compatibility with laptops and with e-mail environments. They also need to ensure that support personnel have the right tools and training to provide service to employees who have questions or run into any issues with their IM client or UC technology.

Readiness assessments and careful planning are essential to a smooth transition to UC. But don't just take it for me. Our IT team discussed the importance of readiness assessments in UC World, an interactive online community (www.ucworld.com).

Thanks to our IT department's due diligence, I've been able to jump from using a phone at my desk to a full UC experience seamlessly. Do you know whether your organization is UC-ready?

Mike Sheridan is executive vice president of worldwide sales at Aspect (www.aspect.com).

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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.

> The community presents a reliable resource for your business communications needs, with expert advice and the latest news from the VoIP industry.

http://voip-phone-systems.tmcnet.com

The community showcases:





By Peter Radizeski

Why Are You Going to Need the Channel? Hello VoIP providers, all 1,000-plus of you in the U.S. How are the sales going on your hosted PBX? Not so good, huh?

But you are selling that SIP trunking, right? Sure. PRI replacement sales lower the customers' bills. But you

forgot something: It is lower the customer's bins, but you forgot something: It is lowering your revenue as well. Quite a bit too. It's a commodity. Any panel I have heard about SIP trunking talks about cost savings (read that as less money for the carrier and the agent).

SIP trunking is the first step to hosted PBX. In the case of BroadSoft, there are 180-plus features on the softswitch. Add in the open API, XML on IP phones, the toolbar, and the Xtended App Marketplace, and that SIP trunk is the doorway to functionality for the customer. The SIP overlay on the trunk can add immeasurable value and productivity to businesses on top of their current PBXs.

Here's the rub: This isn't a T1 sale. It won't happen right away. It requires sales skills. No order-taker can sell it. It isn't price driven. It is driven by understanding how the business uses the phone system and is a solution to provide ways for the business to improve productivity or efficiency or add functionality (like remote workers or voicemail-to-e-mail or IVR or ACD). This sale won't happen until the salesperson has an interview with the business owner or manager to explore how the company uses the phone system. It will take about 90 days to close – in some cases longer.

In many circumstances, the VAR or IT consultant will be the person who makes the recommendation to the business owner to look at SIP. Once the IT team gets a hold of the data on the hard drives for virus removal, software updates, whatever, the owner will listen to him about other IT topics. Telecom and IT are merging. The channel will be the avenue for most hosted PBX sales. It also will be the avenue for most SIP overlay sales.

Why? Because selling software and IT services is different than selling plug-and-play telecom services. VoIP is an application. Software sales people will do a better job selling it than traditional telecom people. Even some interconnects will have issues because they are moving from selling hardware to selling the invisible. Not the same mindset or sales skills.

Peter Radizeski is head of RAD-INFO, Inc., a consulting agency specializing in the telecom industry.

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IP COMMUNICATIONS



http://tmcnet.com/19710.1

OpSource Launches Trio of Cloud Partner Programs



OpSource, a company that provides cloud operations, infrastructure and services for companies of all sizes, has launched three OpSource Cloud partner programs. These partner programs offer incentives, discounts and technology on-ramps for individuals and companies of all sizes that are looking to enter the cloud computing space. OpSource is offering a referral plan, SI/developer/VAR discount program to take advantage of OpSource Cloud's power and speed up mass adoption of cloud computing. The referral partner plan is open to any individual or company who helps sign up new customers. The individual/company will earn 10 percent off their referral's first six month net fees while the referral receives 25 percent off their first month using OpSource Cloud.

www.opsource.net

http://tmcnet.com/19744.1

Alloy, Zultys Join Forces in Australia Zultys Inc. has entered into a distribution partnership with Alloy Computer Products of Melbourne, Australia. As part of the agreement, Alloy will distribute the complete range of Zultys Open Standards SIP-based MX30 and MX250 IP PBX phone systems, IP phones, MXIE unified communications software and MXmeeting Web conferencing platforms to the Australian market through its Australia-

wide network of resellers. Alloy Computer Products (Australia) Pty Ltd. is a wholly Australian owned manufacturer and



distributor of networking and communications products. The company operates in global markets and recently opened its Sunnyvale, Calif., office. The eco-system of complementary products represented by Alloy, such as SIP open standard conference phones, GSM gateways, wireless phones and paging systems, networking hardware and headsets work well with Zultys' open architecture.

www.alloy.com.au www.zultys.com

http://tmcnet.com/19746.1

Computerlinks to Sell Optenet Security Solutions to Channel, Enterprise Optenet, a global IT security company providing high-performance security to service providers and large enterprises worldwide, has entered into a distribution partnership with Computerlinks, a global distributor of IT security and Internet technology solutions, to deliver a comprehensive channel partner program worldwide. Computerlinks officials say that as part of the agreement, the company will offer Optenet's security solutions to its channel partners and enterprise customers. Optenet's solutions address Web filtering, anti-spam, anti-virus, e-mail and Web security. Computerlinks is helping the company to reach more security-focused resellers and deliver a higher level of service worldwide, and has already established distribution for Optenet in Europe. www.computerlinks.com

www.optenet.com

http://tmcnet.com/19612.1

Affiliate Partner Level Expands Digium Partner Program

Digium Inc. has added a new level to its Authorized Reseller Partner Program, the affiliate partner level. This

> will act as an entry-level tier for resellers that are interested in selling Digium unified communications and IP telephony solutions, without a required minimum annual revenue commitment. The

privileges being offered to the affiliate partners include access to Digium's ongoing partner communications, as well as the partner portal encompassing marketing toolkits, videos and sales and technical training. When

affiliate partners advance to the levels of Registered and Select partners they get additional benefits including discounts, demo kits, sales and marketing support and enhanced technical and sales training. Through this tiered approach partners grow their businesses with Digium's Switchvox VoIP phone system and Asterisk custom telephony solutions. "Digium is committed to providing our partners with an easy way to get started in the growing unified communications and IP telephony market," says Jim Butler, Digium's director of worldwide channel sales. "This new affiliate level gives us the opportunity to expand and grow our partner base and offer more flexibility within our program. This is the first of many enhancements we are making to our partner program, with our focus on making Digium the first choice for partners interested in growing a profitable business with our award-winning unified communications platform." www.digium.com

http://tmcnet.com/19965.1

DIRECT Extends Partnership with Sitel

Sitel, a business process outsourcing provider, has renewed its contract with DIRECTV, the nation's No. 1 satellite television service. As a result, Sitel will continue to provide customer care and technical support to DIRECTV's more than 18.4 million customers. Bert Quintana, global chief operations officer for Sitel, says that in today's competitive marketplace, strategic companies recognize the importance of creating customer loyalty through exceptional customer service and easy access to technical support. "For five years DIRECTV has entrusted Sitel with this critical component of their business and we look forward to continuing our relationship with DI-RECTV to provide first-class customer support as they continue to cement their position as the leader in satellite television," Quintana says. Ellen Filipiak, senior vice president of customer service at DIRECTV says: "Sitel has been a key partner in ensuring our customers' needs are met accurately, completely and on the first call." www.directv.com

www.sitel.com



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IBM, NextIO Cluster Together NextIO is collaborating with IBM to deliver an integrated set of cluster solutions that will provide reconfigurable and ondemand GPU compute technologies for IBM iDataPlex users. IBM and NextIO will provide modular hot plug sleds for clearing anomalies or upgrading GPUs without system downtime. www.ibm.com

www.nextio.com

http://tmcnet.com/19737.1

Rackspace Unleashes Flurry of Cloud-based Solutions

Rackspace Hosting has a set of new products to help businesses move IT applications into the cloud. The new offerings include Rackspace Cloud Drive, Rackspace Server Backup, and the upcoming release of Hosted Microsoft SharePoint. The new products help customers spend less time maintaining basic IT systems, such as file servers and data backup software, and instead focus on their core competencies that drive revenue and add business value. www.rackspace.com

http://tmcnet.com/19726.1

Radicati: E-mail Losing Ground to Other IP-based Communications

Business users surveyed by Radicati Group said they sent and received an average of 108 business e-mail messages per day in 2009, which is somewhat lower than the average of 140 business e-mail messages sent and received in 2008. 2009 was the first year that users report a decline in the amount of business e-mail sent and received, which is directly attributable to the growing use of other forms of communication in the workplace. www.radicati.com

http://tmcnet.com/19580.1

Polycom, BT Group Cooperate to Turbo Charge UC Growth

BT and Polycom have entered into a new three-year agreement designed to accelerate the growth of unified conferencing solutions within enterprises and public sector organizations. The global agreement will combine Polycom's voice and video communications and telepresence solutions with BT's managed services and global, high-speed MPLS network. www.btplc.com

www.polycom.com

Each NEWS snippet is more in-depth on our Web site. Point your browser to the URL above the story you wish to read.

http://tmcnet.com/19666.1

Worldwide Carrier Capex Declined Less than 6 Percent in 2009

Infonetics Research anticipated a year-end increase, which could bring the overall capex decline in 2009 to less than 6 percent, and expects investment by carriers to pick up in 2011. Optical network hardware is a bright spot, with expectations for singledigit percent spending growth expected in 2009. However, mobile infrastructure continues to dominate total global telecom and datacom spending, followed by voice equipment, according to the report. www.infonetics.com

http://tmcnet.com/19622.1

DirecTV, Liberty Merger Could Signal Green Light for Telcos

DirecTV Chairman John Malone has reportedly said he won't rule out a possible takeover by AT&T or Verizon, noting they will likely have closer ties to his company as they develop packages of phone and television service. Speculation about the ultimate ownership of both DirecTV and Dish Network has long included incorporation of both providers into telco ranks given the telcos' expansion to offer voice, data and video services. www.directv.com www.libertymedia.com

http://tmcnet.com/19660.1

NSN's Coherent PON Technology Fuels Interest A new approach to passive optical networking, known as Coherent PON, put forward by Nokia Siemens Networks, is creating some buzz. NSN says its NGOA, or next generation optical access, research is based on coherent lasers and is designed to provide 100km reach, a splitting factor of 1:1,000, 1GBit per subscriber and one wavelength per subscriber, allowing any distance of subscriber to the NGOA node www.calix.com

www.nokiasiemensnetworks.com http://tmcnet.com/19570.1

Verizon Business Helps Utilities Address Smart Grid Challenges

New professional IT security consulting

http://tmcnet.com/19689.1

Riverbed Plans Reflect Popularity of the Cloud

Riverbed Technology is launching new products and services that will help accelerate access to cloud services for enterprises and governments and extend the benefits of acceleration to applications and storage in the public cloud. Company officials say these new solutions will be made available by 2010, with the first among them being a software version of its flagship Steelhead WAN optimization controller.

http://tmcnet.com/19628.1

ScheduleSync from Glowpoint Helps End Users Manage Collaboration Glowpoint's new downloadable ScheduleSync synchronizes customer desktop calendaring and scheduling software with its customer Web portal. ScheduleSync integrates with Microsoft Exchange and provides what Glowpoint says is "a natural experience for customers to schedule and manage telepresence and video conferences from their desktop computers." www.glowpoint.com

SERVICE PROVIDER

services from Verizon Business aim to help electric utility and power companies meet reliability standards as well as cyber security challenges of adopting smart grid digital technology. In addition to the security services Verizon Business has been offering, this new offer includes assistance in meeting new critical infrastructure protection standards erected by The North American Electric Reliability Corp. for the nation's energy system. www.verizonbusiness.com

http://tmcnet.com/19568.1

TIA Tackles Smart

Device Interoperability

A new committee of the Telecommunications Industry Association is working to devise standards that will allow smart devices to interoperate with one another, with networks and with monitoring systems. The device communications engineering committee, also known as TR-50, aims to produce in short order a protocol for communicating with smart devices. www.tiaonline.org

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Jumbuck Picks BlackBerry for Power Chat



Jumbuck Entertainment now offers its mobile chat and flirt service, called Power Chat, for users of BlackBerry smartphones. In addition to allowing one-to-one chat, Power Chat helps users keep track of friends and see when favorite chatters are online. Also, users can upload photos

stored on the BlackBerry smartphone or take an instant photo for upload. www.jumbuck.com

http://tmcnet.com/19722.1

F5 Takes BIG-IP to the Next Level F5 Networks has released F5 BIG-IP 10.1, which allows service providers and system itegrators to benefit from Layer 7 traffic management for their authentication, authorization and accounting infrastructure, without replacing existing AAA servers. With the new version of BIG-IP, service providers can protect services from outages,



and maintain and scale existing services while preparing for increased traffic loads brought on by LTE and other 4G wireless network traffic. www.f5.com

http://tmcnet.com/19719.1

Gateway Supports Complete Mobile Payments

MasterCard Mobile Payments Gateway is a new mobile payments processing platform that lets financial institutions and mobile network operators deliver end-to-end mobile payments solutions through the MasterCard Worldwide Network. Itau Unibanco and Redecard, along with mobile network operator Vivo, will be the first to use the MasterCard Mobile Payments Gateway to deliver mobile payment solutions to the banks' customers in Brazil. According to company officials, the service will give consumers the ability to use their phones as mobile wallets and link their existing credit, debit or prepaid

MasterCard or Maestro card accounts to their mobile phones to fund mobile-initiated payments. http://ww13.itau.com.br www.mastercard.com www.redecard.com.br www.vivo.com.br

http://tmcnet.com/19582.1

Telstra Taps Amdocs for Mobile Personalization Tool

Australian incumbent service provider Telstra has deployed the Amdocs ChangingWorlds personalization technology to support its BigPond Mobile portal, which offers customers news and information services through mobile devices. Ross Fielding, product management executive director at Telstra, says the new mobile portal learns what customers like and personalizes content based on their interests. The new portal technology also gives the company the capability to publish new content in a fraction of the time that it used to take.

www.amdocs.com www.telstra.com.au

http://tmcnet.com/19687.1

Belgacom Tunes in to Huawei for Mobile Broadband

Huawei and Belgacom, the Belgian incumbent telecom operator, have signed a frame agreement enabling the progressive upgrade of Belgacom's radio access network. The objective is to roll out cost-effective, fast mobile data technology nationally, which will provide more than 5 million Belgacom subscribers with mobile broadband. The radio access network upgrade will

encompass GSM, UMTS and LTE air interfaces and Huawei's SingleRAN solution will provide a simplified, high-capacity, highperformance network. www.belgacom.be

http://tmcnet.com/19589.1 Sprint Appeals to Small Business Customers Sprint has launched a new approach to simplify the selection of mobile devices and plans by small businesses.

The Sprint

Everything Data Share plan and the Business Advantage Messaging and Data plan available as part of the new approach include the new Any Mobile, Anytime voice feature. This enables customers to have unlimited mobile-to-mobile calling from the Sprint network to and from any wireless phones on any U.S.



wireless carrier network at any time. Small businesses can enjoy additional monthly discounts by signing up for Sprint's Volume Discounts for Business or vertical and industry discount programs. The launch of the new approach follows Sprint's announcement of the formation of its Small Business specialty team. www.sprint.com

http://tmcnet.com/19686.1

Femtocells from Ubiquisys Promise New Savings

Ubiquisys has announced the commercial availability of a wide area femtocell solution that it says provides coverage of up to 12 km – or five square miles – at a fraction of the cost of existing solutions. This feature combination makes it ideal for rural areas with poor coverage, such as isolated villages, hamlets or farms, according to the company. The femtocells have a capacity of up to 16

calls and can be mounted within or outside buildings.

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http://tmcnet.com/19549.1

Rumors Persist about Google Phone Get ready for a branded Google Phone. Despite all denials from Google that such a thing is being built, rumors persist that such a device is in the works and is expected early this year. Presumably a Google-branded device would go the furthest yet in optimizing user experience for Google apps. www.google.com



Sprint

TELECOM EXPENSE MANAGEMENT

NEWS

Industry Survey Indicates CIOs Top Telecom Management Initiatives for 2010

http://tmcnet.com/20357.1

Telesoft, a leader in fixed and mobile telecom expense management software and services, announced results from a recent customer survey covering many of the biggest TEM challenges large enterprises are facing. While expense management remains a top priority for organizations, chief information officers and chief financial officers are also challenged – often with reduced budgets – to achieve new levels of visibility, inventory and service management and auditing of mobile and fixed telecom activity. www.telesoft.com

BST Partners with IPC to Promote FinOffice

http://tmcnet.com/20358.1

BST, provider of market data and telecom expense management solutions, has announced a partnership with IPC Systems, a provider of indispensable trading communications solutions, with an intention to distribute its FinOffice5 Cost Management Software. In a release, officials at BST said the new distribution agreement will extend its reach into new market territories and also allows IPC to provide a market proven, value added, cost management solution to complement its expanding portfolio of Electronic Connectivity Services for the world's leading financial services firms. www.bstamerica.com

www.ipc.com

Success of Telecom Lifecycle Management Relies on Senior Management: Report

http://tmcnet.com/20359.1

Convincing senior management of the effectiveness of a company-wide telecom expense management program is critical to the success of that program. The benefits of TEM extend beyond cost-savings by leveraging telecom assets, according to industry experts. However, according to a recent AOTMP research study, "Generating Internal Support for Telecom Expense Management," a lack of support by "key stakeholders" is a documented reason behind the failure of well-constructed TEM programs soon after implementation. Telecom lifecycle management providers – such as Cincinnati-based Spectrum, Inc. – can manage the complete telecom lifecycle, from benchmarking current services, service order management, asset management and expense management, invoice visibility and auditing, to customized analytical reporting of all wireless and wireline services. www.aotmp.com

www.3spectrum.com

Tangoe, Inc. Appoints Steve Shwartz as Chief Technology Officer

http://tmcnet.com/20360.1

Tangoe Inc., a leading global provider of enterprise communications lifecycle management software and technologyenabled services, announced Steve Shwartz has been appointed chief technology officer, effective Nov. 30. As Tangoe's solutions are increasingly utilized in global applications that span the entire lifecycle of communications expense management, Shwartz will be responsible for overseeing the continued development of the company's existing technology assets as well as spearheading continued innovation of additional globally capable TEM solutions. www.tangoe.com





ualcomm recently established a business to focus on open source mobile platforms. INTERNET TELE-PHONY Executive Editor Paula Bernier recently spoke with Rob Chandhok, senior vice president of software strategy for Qualcomm CDMA Technologies and president of Qualcomm Innovation Center, to get a better understanding of the work being done at the new open source center.

Why did Qualcomm create QuIC?

<u>)pen Source</u>

Chandhok: The Qualcomm Innovation Center Inc. is a wholly-owned Qualcomm subsidiary focused on enabling and optimizing open source software with Qualcomm technology. It was formed to bring focus to open source initiatives by bringing together a dedicated team of software programming experts.

Why launch this effort now?

Chandhok: Open source has become increasingly important to mobile, and QuIC was formed to bring increased focus to open source initiatives. Qualcomm is unique in its market reach, powering the vast majority of 3G handsets as a whole as well as smartphones that are commercially available today. This puts us into a very good position to drive innovation forward for the wireless industry.

Where is the center located?

Chandhok: QuIC is based primarily in San Diego.

How many and what types of employees work for the center?

Chandhok: We don't disclose staffing levels in our business unit, but it is a significant initiative being undertaken by Qualcomm – indicative of the company's commitment to enabling and optimizing open source software for use on Qualcomm technology. QuIC is comprised primarily of engineers.

Open source has become increasingly important to mobile, and QuIC was formed to bring increased focus to open source initiatives.

What are the specific projects and deliverables of Qualcomm Innovation Center?

Chandhok: QuIC will work on open source projects that serve our customers and for which there is market demand. The



Android, Chrome and Symbian platforms are top open source priorities. Additionally, open source activity based on Webkit to better enable mobile browser-based Web applications based on HTML5 is one key area.

Is Asterisk related to this in any way? Chandhok: No.

What is Qualcomm's view of open source and its role in the industry?

Chandhok: Qualcomm has been working with open source for some time, meeting its customers' demands for optimized performance of operating systems such as Android and Linux on its chipsets. We participate in the open source community to enhance the wireless and Internet ecosystems.

What's next for open source?

Chandhok: Open source will continue to grow as consumers select devices with the platform that best meets their needs. However, we also believe there is room to grow even beyond software just being open source, where software and hardware are tightly integrated to take full advantage of a technology platform's capabilities to optimize the mobile experience. This will be an integral part of the next-generation mobile experience.



http://tmcnet.com/19957.1



Lucid Imagination's new release of its LucidWorks Certified Distribution for Lucene 2.9 includes advanced numeric search; real-time search performance enhancements; and a new contrib module, Lucene Spatial, for geographic-based search. The free distribution will help the company, which is dedicated to Apache Lucene technology, to provide value-added software and services to the Lucene/Solr Open Source search community.

www.lucidimagination.com

http://tmcnet.com/19769.1

EUS, Digium Trade Up

Telephony integration partner EUS Networks has completed and deployed an Asterisk-powered IP telephony solution for trading room floors for a hedge fund client in the asset management space, Digium has announced. Digium's Asterisk Business Edition is part of this solution. "With the customer's previous system, the staff of 50 traders fielded nearly 200 calls daily with each trader managing an average of six to eight calls simultaneously," says Jeronimo Romero, CTO of EUS Networks. "It took one day for EUS Networks to configure the trade turrets over Asterisk and within one month of the deployment, the firm reported reduced operational costs, enhanced customer service and greater employee productivity."

www.digium.com

www.euscorp.com



http://tmcnet.com/19959.1

Khronos Focuses on OpenWF 1.0

The Khronos Group, an industry consortium, announced the release of the OpenWF 1.0 standard, an operating system-independent and hardware-neutral foundation for building Windows systems. It also provides display control functionality in accelerated mobile and embedded devices. www.khronos.org

Lucid Takes Search Forward

http://tmcnet.com/19963.1

OS Space is Overpopulated, says inCode Exec

InCode Telecom, an advisor to telecom companies, enterprises and private equity companies in North America, has announced its seventh annual "Top 10 Telecom Predictions" concerning emerging business, network, device and application trends likely to affect consumers and businesses. Highlights include the assertion that consumer adoption of netbooks is driving a "significant increase" in operator data plan sales, but could strain data networks and reveal device management and synching issues; that the FCC will "struggle with competing forces regarding net neutrality rules, but eventually permit wireless operators to prevent or limit specific types of traffic as long as operators don't discriminate"; and that the smartphone as a category will die by 2011. One other prediction of note: A device OS bites the dust. "A recession is still on, and there isn't enough device revenue to support seven (count 'em) different operating systems: BlackBerry, OS X, Windows Mobile, Web OS, Android, Symbian, and Linux Mobile," Rob Chimsky, inCode's telecom vice president and CTO, says. "While the 'Open' oasis attracts much support for Google and Android, expect that one OS drops in the desert."

www.incodetel.com

http://tmcnet.com/19961.1

Company Brings Wireless Option to MOTO

Option, a wireless technology company, has announced the deployment of its GTM501 in Android 2.0 Media Platform of MOTO Development Group. The AMP development platform launched by MOTO is meant for use in consumer and enterprise electronics devices intended to run and use Google's Android 2.0 mobile operating system.

http://www.moto.com

http://tmcnet.com/19604.1 Gizmox Opens Platform to Windows Azure

Gizmox is reportedly set to reveal its application platform atop Windows Azure and its development framework, Visual

WebGui. The Web and cloud platforms offer the only push-button .NET desktop legacy application migration path to Windows Azure. Visual WebGui is the first .NET open source Ajax empowered Web/Cloud application platform that provides, build, migrate, run and manage benefits. www.visualwebgui.com

http://tmcnet.com/19960.1

China Now Part of Actuate Open Source Survey

Actuate Corp. has made available for download five detailed open source reports featuring the results from the fourth annual Actuate Open Source Survey. For the first time, the survey includes results from China, in addition to North America, the U.K., Germany and France. It features the responses of almost 1,500 respondents spanning several verticals and features an overview of attitudes and trends in open source growth and adoption for each region. www.actuate.com

http://tmcnet.com/19770.1 Digium, SEN Partner for Integrated Solutions

Digium has partnered with Siemens Enterprise Communications Group, or SEN, in a bid to help organizations tightly integrate enterprise needs with the flexibility of open source in one communications ecosystem. This partnership will provide organizations with the benefits of Asterisk along with SEN Group's Open Communications approach and product portfolio. Together the companies are offering a tailored solution for LVM Landwirtschaftlicher Versicherungsverein Munster a.G., a German insurance group.

www.digium.com

www.enterprise-communications.siemens.com www.lvm.de

http://tmcnet.com/19701.1

Packt Opens the Book on Asterisk 1.6 Packt, a publishing company, has come out with a new book titled "Asterisk 1.6." The book, written by three Asterisk Professionals, provides simple to use directives in constructing a fully operable telephone system utilizing the Asterisk platform. Asterisk is a widely used opensource telephony software engine that can be used as a client or server. www.packtpub.com

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The Momentum Builds for Open Source Telephony

By Erik Linask

t seems like ages ago – and in today's telecom terms, it was – that Rich Tehrani wrote a column in the January 2004 issue of INTERNET TELEPHONY called, "Open Source Telephony... The Next Big Thing." For the column, Rich spoke to Digium's Greg Vance, who explained that, at the time, while interest was growing in Asterisk, the open source platform was not on the radar of the major PBX manufacturers.

How the Times Have Changed

To date, there have been nearly 1.5 million downloads of the Asterisk software, including a 33 percent increase in 2009. According to The Eastern Management Group, in 2008, open source PBX installations overtook any single proprietary PBX vendor's deployments, totaling 18 percent of the total PBX market. Digium CEO Danny Windham also noted at AstriCon 2009, that Asterisk-based endpoints make up 15 percent of the market in the United States, adding that developers are joining the Asterisk community at a rate of 60 percent per year.

Certainly, cost is a key consideration, particularly during these past years, with executives and IT departments having to consider more carefully than ever how they spend their budgets. But, according to Bill Miller, vice president of product management at Digium, the success of Asterisk – and open source solutions, in general – is even more importantly a function of product maturity and reliability. While businesses are looking for cost-effective solutions, where they previously might have looked past open source alternatives, today the focus is on getting a high- quality product at a good price – regardless of whether is comes with an "open source" label or not.

The adoption rate among SMBs continues to be high, and in the enterprise market, Miller says what he calls the consideration continues to climb.

"When it's time for an enterprise to upgrade or expand their solution, they are now considering open source as an option," he says. "Open source solutions are now very often included in enterprise RFPs. There are usually three options: the incumbent, one of the latest proprietary solutions, and an open source alternative."

It's clear that interest is growing, and Miller believes it will continue to do so, with more options, more applications being developed, and more full-fledged enterprise-class solutions, including contact center and speech applications, two of the biggest areas of discussion at AstriCon 2009.



In fact, as the economy stabilizes, Digium firmly believes that the momentum the open source community has gained will continue. After all, though the recession helped boost the open source space to its current market position, the growth of the open source community and the stability of open source platforms (Asterisk is a decade old now) have helped create a new market dynamic that is driving interest in alternative vendors, including those in the open source community, as well as Skype, Microsoft, and others.

Skype, in fact, recently officially introduced its Skype for Asterisk module, which allows businesses to connect Skype accounts to their Asterisk IP PBXs to enable both inbound and outbound Skype calls via the PBX. It's the first Skype-sanctioned development effort in collaboration with a PBX vendor. From a percentage standpoint, says Miller, Skype for Asterisk is the fastest growing individual item in the Asterisk inventory, and many competitive Asterisk-based solutions also are beginning to integrate it, recognizing the value of the variety of applications that can be developed leveraging Skype.

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More definitive recognition of open source as a viable communications technology comes from the handset vendors, which are increasingly looking to ensure interoperability with Asterisk and other open source platforms. Polycom, snom, and Aastra are already Digium partners, along with AudioCodes, which launched its line of HD VoIP handsets at ITEXPO East 2009.

Siemens recently announced an agreement to certify its phones with Asterisk; Panasonic and Cisco were both present at AstriCon; and Digium is in discussions with what Miller says is the only top-six independent phone vendor left, Grandstream.

In fact, wideband audio is one of the major trends of 2009 that will continue into 2010. "If you have HD on both sides, the connection is crystal clear, and that's what everyone wants," says Miller, and new wideband codecs are being added to the list of those supported by Asterisk regularly, including Skype's SILK, which he believes will have a significant impact in 2010.

"You are seeing more and more adoption and understanding that the major players need to leverage open source in some way; that is really legitimizing this business," adds Miller.

Other Open Source Projects

Of course, all this attention open source telephony is receiving, driven not only by Digium and the Asterisk community, but by the research conducted by The Eastern Management Group as well, has paved the way to success for other open source projects as well.

Back in 2004, Vance told Tehrani that there were no other serious open source companies that "keep him awake at night." While Windham, Miller, and other Digium executives may still not be losing sleep over them, there are certainly other open source solutions that have found success.

Asterisk has been the only game in town for a long time now, and it still maintains a growing developer and user base but, as is often the case, other players have been smart enough to leverage the marketing efforts put forth by Digium, The Eastern Management Group, and other sources, promoting open source telephony.

For instance, the FreeSWITCH platform was released back in 2006, the founders of which came from the Asterisk project. The company, a subsidiary of Barracuda Networks, has organized five ClueCon events, bringing together its own following of open source developers and users, and has produced its own commercial product, the Cudatel Communications Platform, a standalone appliance that features FreeSWITCH as the core platform, along with Sangoma hardware for both TDM-enabled and VoIP-only models.

FreeSWITCH Solutions president Anthony Minnesale explains that the idea behind the project was to offer an alternative open source solution to Asterisk. While he has contributed a number of features to Asterisk himself, Minnesale was looking to develop some features that he felt could not effectively be handled by the Asterisk platform. The basic difference between the two, he explains, is that FreeSWTICH is a softswitch, while Asterisk is a PBX. "We spent several years perfecting the first release," he says. "If we could build a stable core, then, as we build on top of that, we will be able to produce more and more features without having to go back to fix internal problems."

Another open source project – among those leveraging Asterisk as the core engine – is Elastix, which was designed to extend the capabilities of the Asterisk PBX to provide a complete unified communications solution, bolting communications products from other vendors onto the Asterisk platform, as well as several others developed by the Elastix team.

According to José Luis Landivar, founder and chairman of Elastix creator PaloSanto Solutions, the company has seen more than 600,000 downloads of its software in more than 150 countries (though it is only now beginning to engage the U.S. market).

"Asterisk is the core of the system," says Landivar. "We use it for doing the regular phone system functions and complement it with other features to get the best of the open source community and integrate it in a very easy to use and stable way to create a complete PBX solution."

These are only two of the open source projects on the market today, but they are indicative of the success of open source as an alternative to proprietary solutions and, as Minnesale wrote in his blog back in 2008, "There is plenty of room for both applications among the other open source telephony applications."

Continuing Momentum

Just as we saw in the proprietary space, the growth of the open source community will drive innovation and spawn more competitive solutions and more products that will offer greater choice in the communications market.

"Some of the other open source projects around the world are starting to pick up steam, and many are competitive to Digium. But that shows that, like in the traditional phone space, there is a lot of opportunity," says Miller. "We have picked up so much momentum that other projects, many of which are based on Asterisk, have as well."

For Digium, the momentum continues with Digium Asterisk World, collocated with ITEXPO East, which sold out its booth space not once, but twice, and will include three full days of conference sessions devoted to and building on the trends discussed at AstriCon in October. Miller also says that, along with announcements from many of its partners, Digium, itself, will be making several major announcements around its Switchvox product and Asterisk Exchange.

"There is always something exciting going on here, and none of us is afraid to say open source is ready for prime time," concludes Miller.

The times have, indeed, changed. **IT**



Vendors Scurry to Buy, Build Solutions to Address the 4G Opportunity

The demand for mobile data booming and carriers moving to build 4G networks, everybody and their brother is hustling to get a piece of the pie. As of late, there's been a lot of activity relative to the packet core and mobile backhaul solutions.

Cover Story >>

The last few months have seen Cisco Systems Inc. snap up Starent Networks in a deal worth nearly \$3 billion, and Tellabs pick up WiChorus for about \$165 million. And just last month Hitachi Ltd. snagged Nortel LTE technology. All three acquisitions involve packet core technology.

Additionally, a host of other suppliers including ADTRAN Inc., Adva Optical Networking, Anda Networks, Transmode, Xelerated, and even service providers such as Level 3 Communications Inc., have unveiled new and improved mobile backhaul solutions targeting next-generation wireless networks.



The Core of the Matter

"The EPC plays a pivotal role in enabling operators who move to LTE to meet the significant market expectations for better service at lower cost," says Stéphane Téral, principal analyst of mobile and FMC infrastructure with Infonetics Research. "The industry is moving to IP, and ultimately to bridging the mobile and fixed networks...."

As Natasha Tamaskar, vice president of product marketing at Genband, notes in a white paper called "Changing Definitions of Mobility: Connecting Users and services in a Wireless World," a significant implication of moving to LTE will be that the throughput bottleneck starts shifting toward the core.

"To reduce bottlenecks in the networks, operators need to start considering flattening their network architectures to reduce latency for data applications, effectively reducing capital expenses and operational expenses," she writes. "This is fundamentally the rationale behind the architecture of evolved packet core for LTE access."

Worldwide mobile backhaul equipment sales to jump 60% to \$5.9 billion in 2009

Infonetics Research, Mobile Backhaul Equipment and Services Biannual Market Share, Size, and Forecasts, November 2009

According to Tamaskar, EPC is a few years away, and it is not clear at this point if this will replace the current core altogether or if it will coexist with it for a period of time.

However, in a SUPERCOMM panel on Oct. 21, Verizon publicly committed to delivering all of its next-generation network multimedia content over its IP-based core network. And Verizon Wireless, which last February at Mobile World Congress in Barcelona named its LTE vendors, has awarded EPC deals to Alcatel-Lucent, Ericsson and Starent.

"Working with our next-generation network infrastructure suppliers, Verizon has designed a transcoding architecture for our packet-based core network that supports Verizon's direction toward open networks by facilitating the introduction of media encoding technology while ensuring interoperability," said Tim Dwight, senior technologist at Verizon, during a SUPERCOMM panel discussion.

"For example, in the case of VoIP, our design resolves the 'tower of Babel' problem by allowing the sender and the receiver to negotiate a common encoding format, which, if successful, eliminates the need for media format conversion, or transcoding, and provides a network-based media conversion capability for use in cases where the end devices support no common codec," he said. "It does this all in the packet domain, avoiding reliance on the circuit-switched core. And where transcoding is necessary, it is performed directly between the media encoding formats required by each device, eliminating the double transcoding problem that plagues networks that elect to interwork disparate access technologies across a circuit-switched core."

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Historically, wireline and wireless voice networks have used different and incompatible media encoding formats, Dwight said, with UMTS and LTE using one encoding format, CDMA-based networks using another, and multimedia services offered via wireline broadband networks typically using yet another. To avoid that, an efficient, extensible all-IP solution is required. And that's precisely what Verizon is adopting, added Dwight, saying the company has begun integrating these capabilities into its next-generation network infrastructure, which it expects to go live in the second half of 2010.

It is this kind of migration from major carriers that is pushing companies like Cisco and Tellabs to buy packet core vendors.

Noting that service providers have been investing actively in this market as global mobile data traffic is expected to more than double every year through 2013, Cisco in mid-October 2009 announced the Starent deal, which is expected to close during the first half of 2010.

As noted above, Starent is an important company given it has been selected to provide core network gear for Verizon's LTE network. The vendor also addresses 2.5G and 3G mobile networks. According to Cisco, Starent has more than 100 customer deployments in 45 countries worldwide.

A week after Cisco's Starent news broke, Tellabs at SUPER-COMM in Chicago announced plans to acquire smart 4G packet core provider WiChorus.

Tellabs has 120 mobile backhaul deployments. WiChorus will help the company evolve those – and expand to other customers – with IP-based solutions.

The company says the WiChorus SmartCore platform, which it will add to its existing 3G/4G mobile backhaul solutions portfolio, offers eight times more throughput, and four times more simultaneous Internet connections and active users, compared with competitive platforms in gateway applications, according to Tellabs. It combines application analytics with a mobile core gateway for optimized traffic engineering and network optimization, such as enabling more efficient signaling to allow carriers to offload Internet traffic from the mobile core, says William Kautz, staff manager of global portfolio planning at Tellabs, who also talked about how the Tellabs' 8600 could potentially be used to cache local content at the edge of 4G networks.

But the WiChorus SmartCore is more than simply an underlying infrastructure solution. It also makes mobile networks content- and context-aware, with personalized application-awareness.

Kautz explains that the WiChorus technology allows service providers to see what applications are flowing over their networks and, thus, tailor and monetize services and messages based on that knowledge. He adds that Tellabs recently announced a network management service through which the company helps mobile service providers better understand what's happening on their networks and the customer experiences related to them. Kautz says marketing and customer care people at the carriers are "going gaga over this." But the Tellabs solution is a 3G one, he continues; WiChorus will allow the company to apply that to 4G.

Also on the packet core front, Ericsson announced its evolved packet core portfolio back in February. That includes SGSN/MME and Mobile Packet Gateway – software upgrades of the existing SGSN and GGSN products, respectively – and the new Converged Packet Gateway. The CPG is built on the company's SmartEdge platform and addresses both fixed and mobile traffic in the core network.

In April at the CTIA show, Alcatel-Lucent introduced its EPC solution for LTE. The company's EPC incorporates four elements: the Mobility Management Entity and Dynamic Services Controller, which manage dynamic mobility and policy; and the Serving Gateway and Packet Data Network Gateway, which are implemented as plug-in hardware and software modules for the Alcatel-Lucent 7750 Service Router, for which more than 30,000 nodes have been shipped to more than 260 operators. This design means operators can deploy a single router that supports 2G, 3G and LTE as well as wireline networks, reducing cost, complexity and space requirements, Alcatel-Lucent notes.

Juniper Networks Inc. also is reportedly developing packet core solutions and aims to leverage its Trio chips and universal edge vision in the effort.

What's New in Mobile Backhaul

Meanwhile, in the area of next-generation mobile backhaul, a wide variety of communications companies are coming to market with new solutions.

For example, mobile backhaul leader ADTRAN recently unveiled an Ethernet-based mobile backhaul solution that leverages its popular Total Access 5000 multiservice access product and lesser-known MX408e pseudowire box.

The new solution includes the addition of a fiber-based carrier Ethernet capability for the Total Access 5000, paired with timing capabilities from ADTRAN's existing MX408e product.

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"We're porting our timing over packet, our clock synchronization, our pseudowire solution, onto our TA 5000," explains Kurt Raaflaub, ADTRAN's product manager for carrier Ethernet and optical products. "In other words, we're taking it from our OPTI-6100 SONET-based platform – that's where it's been for the last several years – and we've now put it on to our carrier Ethernet platform, which is the TA 5000."

ADTRAN introduced the Total Access 5000 in March of 2006. It initially was positioned and has seen a great deal of success as a broadband digital loop carrier system and IP DSLAM, focused primarily at the tier 2 and 3 marketplace, says Kevin Morgan, director of marketing for ADTRAN's carrier networks division. A year later ADTRAN introduced Ethernet over copper and TDM capabilities for the TA 5000. The company then brought GPON to the product so it could support residential triple play services. Now it's added carrier Ethernet capability for mobile backhaul and business services to the TA 5000, which Morgan adds is an all-Ethernet platform designed for packet-based networks but also can support legacy services.

The ability to support both the old and the new is key given the move to an all IP-based network in which fiber access is widespread has been, and will continue to be, a gradual one. Indeed, only 5 percent of business services today are Ethernet services, notes Raaflaub. Similarly, wireless network operators have been cautious in their move to IP-based backhaul.

"There's been some hesitation on the part of the mobile operators to migrate to all packet because they're not comfortable yet with the way the synchronization is delivered over an Ethernet network," says Morgan.

However, as noted, ADTRAN is addressing that synchronization issue with the mobile backhaul solution.

"I've taken the same good, old-fashioned bit clock that's in any central office, and I'm transporting that quality clock and keeping that same quality over packet," says Raaflaub. "And I'm sending that up the base station. And the base station is just fat, dumb and happy. It thinks it's getting the bits input directly from the CO. It doesn't know the difference."

In this mobile backhaul scenario, the TA 5000 interfaces with a NetVanta 8044 Ethernet access device at the cell site.

As for Adva, the company this fall debuted to the North American market a gigabit Ethernet mobile backhaul solution called the FSP 150CC-GE206.

The product, which targets mobile backhaul applications, supports both SynchE, for frequency synchronization, and the 1588v2 spec, which does phase and time-of-day synchronization as well as frequency synchronization.

Anda also recently launched an Ethernet-based mobile backhaul device. The EtherEdge 4300 was in trials with 4G/ WiMAX base station equipment partners late in 2009 and was slated for general availability this quarter. It provides load balancing, performs WAN optimization and reallocates bandwidth directly at the base station without the need for additional devices or deep packet inspection. It also supports pseudowire-based circuit emulation for voice, and BITS, SynchE and 1588 v2 timing and synchronization.

"Real-time OAM monitoring capabilities in the EtherEdge 4300 increases mobile network visibility for new converged voice, data, and multimedia traffic flows," notes Greg Gum, chief marketing officer of Anda. "Using the EtherEdge 4300, mobile operators gain pay-as-you-grow capex savings without a forklift upgrade as different generations of radio backhaul architectures can be accommodated with an easy card insert. Pay-as-you-know generated opex savings with the automated EtherProbe flow and EtherStream sub-flow monitoring, dynamically optimizes bandwidth while providing proactive, automated protection switching thus, saving operator intervention and truck rolls to remote base stations."

Transmode also was promoting its mobile backhaul solution on the fall trade show circuit. The company's Multi-Service Mobile Backhaul Solution is a WDM over fiber solution supporting both TDM and Ethernet traffic and offering multiple synchronization streams per wavelength.

A differentiator for this solution, according to Transmode, is its support for multiple synchronization signals, enabling backhaul of multiple wireless technologies and multiple operators on the same fiber infrastructure.

"Transmode has already enjoyed much success in the U.S. including our recent big win at KDL," says Paul Harrison, vice president of sales for North America. "Besides offering an ideal solution for mobile operators seeking to extend fiber to their cell sites, the new Multi-Service Backhaul Solution will also empower MSOs and other U.S. carriers that provide fiber access on a wholesale basis."

Service providers are moving to get a piece of the 4G mobile backhaul action as well.

Level 3 Communications Inc., for example, recently launched Level 3 Tower Access, which offers the capabilities to place wireless towers on or near existing Level 3 network facilities. Primarily located in rural areas, Level 3 says the service offers wireless operators an alternative to incumbent providers.

The carrier has identified more than 300 tower-ready network sites with the geography and right-of-way access to support the addition of wireless towers and is working with multiple partners to erect wireless carrier-neutral towers directly on the Level 3 network in these locations.

"Mobile data traffic will grow by an order of magnitude between 2009 and 2012," says Jennifer Pigg, vice president of enabling technologies for Yankee Group. "Mobile operators are scrambling to meet this capacity demand cost effectively in their wireless backhaul networks. Direct wireless tower access to the Level 3 network offers a unique service for wireless carriers to optimize network performance and capacity."

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By Paula Bernier

Carrier Ethernet Gets Friendlier

Providers of carrier Ethernet services can now expand their footprints and/or sell their services wholesale via two – soon to be three – new carrier Ethernet exchanges brought to you by startup CENX and data center outfits Equinix and Telx.

The worldwide Ethernet services market was \$22 billion in 2008, but it is positioned to get a big bump from this new interconnection capability, according to analyst Michael Howard of Infonetics Research.

"I believe the ability for service providers to quickly and economically interconnect with their peers could add as much as \$4.7 billion in 2013 in global Ethernet services revenues to help reach almost \$39 billion total in that year," Howard says.

CENX is a new company run by Nan Chen that has launched a handful of new carrier Ethernet exchanges. In addition to being the president and CEO of CENX, Chen is well known for his position as president and board director of the Metro Ethernet Forum. In fact, it was the MEF that suggested the need for an independently-owned carrier Ethernet exchange such as the one CENX now delivers within the large carrier hotels in Chicago, Los Angeles and New York.

Chen tells INTERNET TELEPHONY that when the MEF defined carrier Ethernet about five years ago, it understood that interconnect would be a key challenge to enable the service to become widespread. He explains that interconnect is especially challenging with carrier

Ethernet given its range of speeds, and its flexibility to support various SLAs and levels of delay, jitter and other performance parameters. As a result, the forum created a committee to look at interconnect issues, he says, and that committee decided the best way to address carrier Ethernet interconnect was to form an independent company.

So that's exactly what Chen, and some of the other founding MEF officers who still work in the MEF, did. But while CENX has some management crossover with the MEF, and the exchange is fully aligned with the MEF strategy and mission, Chen emphasizes that it is an independent company funded by private investors. CENX Marketplace is a portal that shows members what services, including their speeds and other performance parameters, are available. Chen says in some cases CENX will do translation mapping between different tags or classes of service, but he wouldn't elaborate on the details on that front.

Buyers of CENX member services are charged on a per

connection basis, with CENX receiving a cut of each transaction. All connections to the CENX exchange – which are at 350 E. Cermak and 427 Lasalle in Chicago, 1 Wilshire in Los Angeles, and 60 Hudson in New York – are fiber based at either 1gigE or 10gigE, and can be in protected or unprotected mode, says Chen.

Equinix, meanwhile, is offering carrier Ethernet exchanges through its own data centers in Chicago, London, New York and Silicon Valley, says Jarrett Appleby, chief marketing officer at the company. Carriers can connect to them through 1mbps or 10gbps ports.

In fact, Appleby says Equinix has had this environment running for about two years, during which time it used

the capability internationally. Equinix late last year announced seven carrier customers of the service. That includes AboveNet, Exponential-e, Hibernia Atlantic, Level 3, PCCW Global, Reliance Globalcom and Tinet. The exchange was in preproduction late last year, with plans to go live in the first quarter.

"As a leading international provider of fiber-based communications services, Level 3 is helping our customers keep pace with the demands of an increasingly networked world. Our customers are turning to Ethernet to support applications like server virtualization, cloud computing, and data center consolidation," says Russell Shriver, Level 3's vice president of Internet and

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"The ability for service providers to quickly and economically interconnect with their peers could add as much as \$4.7 billion in 2013 in global Ethernet services revenues."

Telx, which today offers a video exchange that enables service providers with enterprise video the ability to connect Ethernet networks to support this traffic, plans to make available a direct Ethernet exchange in the first quarter of this year. This will be offered in key carrier-dense Telx facilities in the U.S. Pricing had not been determined at press time.

Of course, the alternative to using these carrier Ethernet exchanges or something like them is to interconnect on a one-on-one basis with other providers. As Chen notes, that method has proven uneconomical, unprofitable and painfully slow – typically taking between four and eight months per interconnection deal.

For buyers, Chen says, the CENX can help increase revenues by 90 percent or more, realize up to 55 percent on the cost of sales and up to 95 percent in new service startup costs. Sellers, he adds, will be able to see 50 to 100 percent increased revenue by leveraging their existing footprints at minimal cost.

"For sellers this is an amazingly revenue rich opportunity," adds Chen, noting that if a seller has 1,000 lit buildings in its footprint and uses CENX to sell just one additional connection to each of those buildings, it could see a \$20 million annual increase in revenue.

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Feature Story

ew business models based on Web 2.0 and cloud computing have brought with them unprecedented challenges by externalizing business processes and moving them to cyberspace where there is less control of private data, and the traditional enterprise perimeter can no longer provide a sufficient defense.

With all certainty, outages across various government agencies in the summer of 2009 were a shot across the bow for the U.S. to step up its security efforts. In the U.S., the Treasury Department, Secret Service, Federal Trade Commission and Transportation Department Web sites all were paralyzed at numerous points over the July 4, 2009, holiday weekend and into the following weeks.

Following the domestic attacks, seven sites – one belonging to the South Korean government and the others to private entities – were attacked in the third round of cyber assaults, Ku Kyo-young, an official from the state-run Korea Communications Commission, told the Associated Press. U.S. and South Korean officials have said they believe North Korea is behind the cyber attacks, while security experts in the industry maintain they were not state-sponsored. In either case, in an interview with INTERNET TELEPHONY, James Lewis, director and senior fellow at the Center for Strategic and International studies in Washington, D.C., says the outages were a "wake-up call" to the U.S. to focus its efforts on maximizing cyber security across all government agencies.

"This was the most primitive kind of attack, and it was less of an attack and more of a demonstration," Lewis says. "The fact that our response was uneven and disorganized should worry us. The fact that some of the [U.S. government sites] did crash makes you wonder how well prepared we are to respond to a more sophisticated attack, if one were to occur."

According to an Alcatel-Lucent white paper, "Creating the Trusted, Dynamic Enterprise," early in 2009 industry experts presenting to the U.S. Senate committee hearing on improving cyber security estimated profits from the cybercrime economy totaled close to \$1 trillion – more than the cash generated by drug crime. A report issued by Symantec in April 2009 noted there was a 265 percent increase in malicious code threats in 2008 compared to 2007.

Rodney Joffe, senior vice president and senior technologist with Neustar, is part of a federal task force trying to deal with the affects of confickers – worms targeting Microsoft Windows operating systems. He has testified publicly in front of the Committee on Energy and Commerce Subcommittee on Communications, Technology and the Internet, and has briefed a number of Senate and House committee members and their staffs, including those from the Senate Committee on Commerce, Science, and Transportation; the House Committee on Homeland Security; and the Senate Select Committee on Intelligence. He also

has briefed members of The White House.

"At any given time, we're facing 200 or 300 [cyber crime] groups, and it's all about financial crime," says Joffe. The most rampant cyber assaults against enterprises are financial fraud targeting corporate banking accounts, specifically botnets Zeus/JabberZeus, Clampi and Torpig.

As Joffe explains, carriers ultimately become collateral damage, because it is their networks that are navigated by the malicious packets, which creates a domino-effect scenario with the customers of those providers.

"The carriers are the ones that bear the brunt of the attack. ... In the middle of any kind of cyber event, (whether as part of a DDoS or targeting attacks like in the one above) the pathways taken by malicious packets traverse the carriers. So, in many cases, the retaliation is aimed at taking down the carriers, who appear to be the sources of the attacks. Of course, they are not, but the criminals and miscreants don't think about that, or care about it," he says. "With DDoS [attacks] the attackers have learned to actually exhaust and overrun the resources of the target. In many cases this means the exhaustion of the resources of the target ISPs and providers. As a result,

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all of the other customers of the providers are victimized because their access is overrun."

Another technique used by cyber criminals involves applications advertised on social networking sites. They appear legitimate; however, some of these applications install malicious code or rogue anti-virus software, according to the Internet Complaint Center, a partnership between the Federal Bureau of Investigation and the National White Collar Crime Center. Other malicious software gives fraudsters access to users' profiles and personal information. These programs will automatically send messages to "friends" lists, instructing them to download the new application too.

A report issued by the Internet Complaint Center states that complaints of online crime hit a record high in 2008. IC3 received a total of 275,284 complaints, a 33.1 percent increase over the previous year. The total dollar loss linked to online fraud was \$265 million. Joffe's estimate was \$275 million, \$100 million of which is linked to phishing scams.

In early 2009, cyber security experts estimated profits from the cybercrime economy totaled close to \$1 trillion... more than the cash generated by drug crime.

Looking ahead at the next 12 months, Joffe believes the U.S. is somewhat better prepared to deal with cyber assaults given the lessons learned in 2009, but there is a lot that still needs to be done, and he says enterprises are better prepared than the public sector.

"I think there is much better realization in government that the private sector is vital to the security and stability of the country. Attacks against the private sector affect the country. And in many cases, the private sector is much better prepared to identify and react to cyber attacks," says Joffe. "So the administration is making significant attempts to involve the private sector in the cyber security process, including using successes in the private sector (such as the Conficker Working group) as models. In the private sector, we're recognizing the strength in collaboration and real information sharing."

According to a Neustar white paper released in November 2009, small and medium-sized commercial, educational and state and local government organizations in the U.S. are losing, on average, \$100,000 to \$200,000 per day to criminals who steal using various forms of malware designed to leverage weaknesses in both the wire transfer and ACH (Automated Clearing House) process – "the rather mundane mechanism that lets banks and other financial institutions process checks and other forms of payments on a daily basis."

But Joffe says organizations can prepare themselves to sustain cyber attacks by reaching out to other companies in their field as well as unrelated domains, and establish collaborative relationships to provide resources, share data and exercise response to attacks.

"To this end, I am seeing industry collaboratives being established, and joint cyber exercises with competitors," he says.

According to experts at Alcatel-Lucent, the rapid development in communications technology has been accompanied by a similarly swift increase in security threats, cybercrime and the introduction of correlated security regulations.

"We believe our philosophy around security is to really help our customers focus on leveraging new collaborative business models such as the cloud and Web 2.0, and it's really about managing risks, controlling data and controlling costs, and understanding how to use security as a positive business enabler...rather than a detractor," says Cliff Grossner of security solutions marketing at Alcatel-Lucent.

However, there is no silver bullet to the cyber assault problem.

"There is no such thing as immunity to cyber-attacks. Even sophisticated organizations with heavy investments into defensive security measures can be hit with these and other advanced and persistent attacks," says Amit Yoran, CEO of NetWitness, an IT risk management firm.

"This is yet another example of why organizations need to be adaptive and able to respond to, analyze and address new attack methods as they unfold. We need to take a more sophisticated approach to our protective measures – moving beyond the current generation of technologies – because the threats we are facing have evolved beyond the ability of many technologies to address them...and all indications are that they will continue to do so."

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Verne Global Aims to Put Iceland on the Data Center Map

ost people would probably have a tough time finding Iceland on a map. Yet entrepreneur Jeff Monroe is trying to get businesses to locate their data center operations there.

Monroe, CEO of Verne Global, says Iceland is an ideal place to house select IT applications due to its unique location and environmental features, not to mention a handful of other benefits. Iceland is impacted from cold in the Northern Hemisphere, he notes, but it's also impacted by the Gulf Stream.

"It creates an environment that allows us to do free cooling 100 percent of the year, which is extremely unique," says the leader of Verne Global, aka Verne Holdings, which in 2007 was formed as a joint venture of Cambridge-based venture capital firm General Catalyst Partners and Icelandic private equity outfit Novator.

Free cooling means the ability to capture outside air to cool the servers. Basically, it involves exchanging heat between servers with cool air from outside the data center. While free cooling may seem a small matter, it actually can add up to huge savings

given between 30 and 80 percent of data center energy costs involve cooling the servers, says Monroe.

Perhaps more important, however, is that Verne Global's data centers will employ 100 percent renewal energy sources and thus have a zero-carbon footprint, he says, adding all energy used at the sites will be geothermal and hydroelectric. Those sources are affordable and accessible, he adds, and the fact that

More About The Site

By Paula Bernier

Feature Story

Verne Global expects to go live with one of its two Icelandic data centers sometime this year. The launch will depend upon when the first customer is ready to roll, says CEO Jeff Monroe.

The company has purchased two shell buildings (pictured on the previous page) on a former NATO air base in Keflavik, which is on the Reykjanes Peninsula. The buildings, used during the Cold War to store munitions, were decommissioned in 2006 by the government of Iceland. Monroe says the buildings have passed a variety of tests that showed they are secure, so they are a good match for Verne Global's data center application.

According to the Verne Global Web site, the facility as well as the company's design and construction program also are centered on LEED "gold" standards. Verne will follow and encourage its customers to follow these best practices:

 efficient system design, including proper floor layout (e.g., hot-aisle/cold-aisle configurations), proper server software configuration and vented flooring;

- rightsizing physical infrastructure to the IT load and reducing underutilized hardware infrastructure;
- installation of power efficient equipment, including the use of technologies such as the latest generation of UPS systems, which are up to 70 percent more efficient;
- adoption of server virtualization; and
- use of close-coupled cooling solutions when it is necessary to augment natural cooling.

While Verne Global has two buildings, it is currently focused on just one and has broken it down into six customer suites, which will give each of the six tenants economies of scale, says Monroe.

The company had yet to sign its first data center customer as of mid-November, but Monroe said at that time it was close to sealing a deal with a customer, which it expected to announce shortly. Iceland has a relatively new utility grid means less maintenance and thus lower costs.

"So you've got an extremely inexpensive power source," he says. "You've got an abundant power source. You've got a utility industry that has the ability to provide 20-year visibility into your power pricing. Think about how powerful that is when you compare it to any other city on Earth that you can find, and the volatility you can find with that power pricing anywhere else."

For companies in the U.K., where energy costs are high, Verne Global's data center in Iceland could deliver \$100 million in savings over a 10-year contract.

"It's huge, huge savings in a market like the U.K. You compare it to a market like New York, New Jersey, and it can come in around \$50 million to \$60 million U.S. dollars," he says, adding power costs in Iceland are half to a third of the cost in major Northeastern U.S. cities.

And although Iceland may seem like a strange and far-flung location at which to locate a data center, he says, it has an educated and English-speaking populace, and the redundant, resilient multiterabit subsea fiber optic cable in which the country's government invested before the economic crash provides more than adequate connectivity to multiple points in Europe as well as North America. He declined to detail how the added connectivity costs would affect customers' overall cost savings.

"Iceland for years has been trying to figure out how they can shift the power out to other places," he says, "and there's no better way or more efficient way to shift power as information over a fiber optic cable."

That said, not all applications are ideal candidates for the Iceland data center, Monroe adds.

"For example, if you have an application that requires a ton of bandwidth, but which uses almost no power ... Iceland starts to look less attractive," he says.

Verne Global's sweet spot is providing outsourced data center services for companies' computationally-intense, mid-range bandwidth applications. Monroe says every major company, whether it's in financial services, oil and gas exploration or whatever other field, tends to run batch jobs that fit that description.

Streaming media applications would work as well, he says, adding "once that connection is made it doesn't matter whether you're 10 milliseconds or 80 milliseconds away from the source."

Policy Management Keeps on Truckin'

espite FCC Chairman Julius Genachowski's recent pronouncement that he supports net neutrality for both wireline and wireless networks, deep packet inspection vendors and operation support system outfits continue to evangelize the message that service providers both need and want tools to control which subscribers get what in the way of bandwidth and other services.

Policy management, the practice of allowing or denying subscribers the ability to enjoy various services and capabilities on the network, has been around for some time and has its roots in the prepaid mobile space, says Olivier Suard, marketing director at Comptel Corp., which offers a range of OSS solutions to 280 tier 1 and smaller service providers in 85 countries. Today, he adds, policy management is seen as a key enabler in broadband, especially for mobile broadband.

"You want to allow services for customers, but control what they do and how they do it," says Suard.

Service providers don't want to use policy management exclusively to deny services, he adds, they want to use it in positive ways as well. For example, a Comptel customer that offers live TV over its mobile network in Hong Kong uses policy management to ensure adequate bandwidth so the service is delivered at a consistently high level. Vikas Trehan, vice president of product management and marketing at service assurance company InfoVista, says that two years ago his company acquired Accellent whose tools it now sells under the 5View brand. That includes probes that can monitor IP traffic and look into the packets to see what applications live inside.

These tools can enable enterprise network

operators to understand who's consuming what kind of bandwidth for which applications. That can allow businesses to better architect their networks and, if needed, warn employees who might be hogging corporate bandwidth for non-work-related applications to cut it out. Services providers can employ the 5View to offer these same capabilities to corporations, but as managed services, says Trehan.

He adds that given the globalization of the workforce and the consolidation of data centers into fewer locations in an effort to become more eco-friendly, service providers can

Telcordia Fuels the Drive to Efficiency

By Paula Bernier

Whatever happens with net neutrality – and whether a particular business within a service provider falls under any particular regulation – it's clear that networks aren't free. That said, network operators need to focus on efficiency in managing their networks, note Adan Pope, chief strategy officer, and Peter Buonfiglio, director of solutions marketing, at Telcordia.

Says Pope: If you look at the deployment rate for next-generation video services like U-verse and FiOS, you see that a technician can only deploy one home a day, and that one turn up may involve two to three truck rolls and between \$2,000 and \$3,000 in related costs. With better network efficiencies, however, service providers could expedite provisioning to get more homes up-and-running on their broadband-based services more quickly and lower their costs in the process.

This is the type of solutions-based messaging Telcordia has been pushing, says Pope, who explains that rather than marketing its products the company offers solutions around order-to-service, plan-to-provision, service-to-cash, trouble-toresolution and idea-to-implementation processes.

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use network management to help enterprise customers do WAN optimization.

These same tools, he adds, can help service providers understand experiences on the network of their key customers, whether those customers are on wireline or wireless connections.

Jonathon Gordon, director of marketing at Allot Communications, which provides

deep packet inspection gear, gives a similar example of how his company's technology can be used to recognize whether certain traffic on the network is video, for example, and direct that to a gateway blade handling video traffic with storage attached to that for local caching.

Allot's gear can also be used to enable service providers to offer different packages around applications like VoIP, for example, he adds.

Doing this kind of thing, he says, provides for new opportunities around usage-based billing and various levels of service, and makes for a much richer experience on the network, says Gordon.

But it's not always premium services at issue, he adds. A service provider could also use the Allot technology to offer a basic package that only enables Web access and e-mail access, possibly with a certain cap. "So we create an opportunity for people to move down," he says.

So, to what extent are service providers already offering these tailored kinds of services?

It's still early days, but Gordon says we're starting to see more of this, particularly on the mobile side. "The mobile market has really come out of nowhere in last 12 to 18 months in having to start managing the traffic on their networks," he says.

Given the globalization of the workforce and the consolidation of data centers into fewer locations, service providers can use network management to help enterprise customers do WAN optimization.

He notes that these providers used to have lots of spare capacity, but since the iPhone and other smartphones came on the scene, they are now faced with new capacity challenges.

Trevor Dyke, director of product management at service delivery router supplier Zeugma Systems, says whether you're looking at wireline or wireless broadband, metering is a big new area in networking. Of course, a lot of carrier efforts to manage their networks have been met with a wrap on the knuckle by the FCC, he says. Perhaps what service providers should do instead around their wireline broadband offers is implement packages akin to cellular offers that measure usage based on time of day, with no caps on usage during off hours, he says.

Putting Telcos on the AppStore Map

By Paula Bernier

Everybody loves the AppStore model. And, as Fergus O'Reilly, chief solution expert at SAP, notes, it's not just Apple's smartphone competitors who are jumping on the bandwagon. Cloud-based service providers, including telcos like Verizon, are trying to figure out how they fit into this model as well.

"That train has not yet left the station, but given some of the deals we're seeing" there is real potential for this to take off, says O'Reilly.

Despite some in the industry who have indicated the opportunity for telcos to handle billing and settlement for application ecosystems has passed, O'Reilly says telcos have not "missed the boat."

In fact, he says, SAP is working with a tier 1 telco in the EMEA region to do billing and settlement for third-party application developers and other content providers. There's lots of interest in this model from U.S. tier 1 telcos as well, he says.

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Interoperability and management are not particularly sexy, but they are very important to make unified communications more integrated into the processes of an organization, ubiquitous, easy to use and compliant with enterprise and regulatory requirements.

Feature Story 🔀

Laurent Philonenko, vice president and general manager of the unified communications business unit at Cisco, says one barrier to ubiquitous unified communications is that when users collaborate with those outside their organizations they lose some of their capabilities. To address that, Cisco late in 2009 introduced a gateway, called the Cisco Intercompany Media Engine, which sits at the edge of enterprise networks to establish peer-to-peer relationships with similar gateways at other enterprises.

Cisco also recently unveiled the Intercompany Cisco Tele-Presence Directory, a Cisco-hosted directory of endpoints, organizations and people with access to Cisco TelePresence endpoints. The directory features a virtual assistant to help schedule meetings across the more than 1,200 rooms at more than 80 customers using intercompany Cisco TelePresence.

In yet another move to allow for interoperability, Cisco introduced Session Management Edition of Cisco Unified Communications Manager, which provides SIP session management at the call control level so PBXs from different suppliers can work together, share the same features, operate under a single management umbrella and enjoy the benefits of SIP trunking.

Adobe also recently expanded the PBX integration capabilities of its Acrobat Connect Pro Web conferencing solution.

Peter Ryce, technical evangelist for Acrobat Connect Pro, says the Web conferencing solution has had telephony integration with solutions from such companies as Avaya, Cisco and Premiere Global Services, but that Adobe has expanded on that by also doing "tight integration" with InterCall. This integration outfits meeting participants with such capabilities as the ability to dial out to individuals, see who's talking, mute people and put them on hold – all through a visual user interface using XML Web services on the back end talking to InterCall (or other telephony integration partner) servers, Ryce explains.

Additionally, Adobe now offers a new feature called Universal Voice that allows the Connect meeting to dial a 1-800 number to bring conferencing service providers into the mix. Adobe added media gateway functionality to its server, which acts as a

Cisco's TelePresence IP Phone with Unified Call Manager - Concierge

bridge for transport protocols, using SIP and RTP to make the outbound communication with the conferencing service provider. That service provider then returns something like G.711 audio, and the Adobe server converts that to Flash audio, and broadcasts it within the meeting room.

"We recognize there are hundreds of audio-conferencing service providers, so there's no way we could have that integration and relationship with all of them," says Ryce. "And yet for many customers, they are more wedded to their audio conferencing than they are to any particular Web conferencing. So for those customers we have a new thing that's called Universal Voice."

Alan Baratz, senior vice president and president of global communications solutions at Avaya, says what businesses need are solutions that take the control aspect of e-mail and infuse it into the real-time world of communications. That means solutions that easily allow people to set up meetings and easily store, index, retrieve, thread and, within the application, share documents.

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"That gluing together of different communications mechanisms to get things done we think is very powerful," he says. "It's not about everything, it's about the right set with the right control," he adds.

Baratz says Avaya is doing that through the real-time Avaya Aura infrastructure product it introduced in the spring. It's a SIP-based platform that is completely based on sessions. It allows for a quick ROI, third-party and sequenced applications, and more. MorganStanley is among the customers currently using this solution. Late in 2009 Avaya delivered the second release of Aura, adding more ROI-related features as well as user registration so devices automatically register, and so the users' profiles follow them despite what devices they are using.

Steve Hardy, director of global product marketing for unified communications solutions at Avaya, adds that enabling businesses to manage multiple PBXs and UC applications from a single system can also significantly lower their communications costs. "For large enterprises there's a lot of savings potential," he says, adding Avaya's Aura platform also can enable a company to use a single feature server to support multiple locations.

Another important aspect of making unified communications more widespread is as seemingly simple as doing codec mapping.

Given the wide range of codecs in use and the cornucopia of endpoints and user applications now available, there's a need for normalization so end users don't need to concern themselves with such issues, says Matthew Krueger, vice president of marketing and business development at Network Equipment Technologies.

"The codec should be the least of anyone's concern," says Krueger, adding that NET is focused on delivering solutions that allow everything to work together in the network so customers can continue buying best-of-breed products.

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ADTRAN Adds UC to Its Slate of Next-Gen, Converged Communications Solutions

DTRAN has expanded into the unified communications space, having last month introduced a handful of new UC products to complement its existing voice over IP solutions.

"We've had excellent momentum on our IP telephony solutions," says Gary Bolton, vice president of global marketing at ADTRAN, adding the company recently expanded its 7100 product from 50 users to 100 users. "Our NetVanta 7000 series is getting some really strong traction from not only end users and resellers, but also from our service provider market. So we're very, very excited."

The NetVanta Unified Communications Solution Suite of products deliver voice mail, unified messaging, fax server and auto attendant. ADTRAN says the solutions are notable due to their ease of use, interoperability with legacy equipment, user-defined functionalities and tie-ins to communications-enabled business processes.

The first four members of the suite are the NetVanta UC Server, which works with any existing PBX; the NetVanta Business Communications System, a solution that includes ADTRAN's existing VoIP solution with UC integrated; the NetVanta Enterprise Communications Server, a solution for 75 to 2,000 users; and the NetVanta Business Application Server. All of the above can be delivered as individual solutions or as part of a broader solution that may also entail ADTRAN routers, switches and/or IP telephony phones.

The Business Application Server allows businesses to tie their existing communications systems in with their databases. There are a variety of business verticals – including banking, education, health care, hospitality, real estate and retail – for which this makes sense, but Bolton provides an example of

The NetVanta UC Solutions Suite

NetVanta UC Server

This software-based UC application is designed for customers with an existing PBX. This solution allows customers to leverage their investment in legacy business communications systems and transition to IP telephony at their own pace.

It's designed for Microsoft Windows platforms and can accommodate 2,000 or more users per server. It can support UC on one or more different types of PBXs from various vendors. Features include unified messaging, fax server, auto-attendants, personal assistants, graphical drag-and drop non-programmatic service creation, response (IVR) for inbound and outbound calling services, integration with

how the solution might work in a real estate application.

With the Business Application Server a real estate office could implement a solution whereby potential buyers could come up to a house and dial a number on a real estate sign on the lawn of an available home, and if a person wasn't available to take their call the call could go straight to a database and using text-to-speech functionality it could provide the caller with more details about the home. The system could also be configured to allow callers to use their phone touchpads to request additional information be sent to them via email or fax, he says. ADTRAN's find me/follow me feature, he continues, could help callers track down realtors. Conversely, Bolton explains, realtors would be able to use the solution to get information on who's been inquiring about which homes.

"As you look at communications going forward, they become more and more integrated," says Bolton, adding that UC can enable people to do things like update Web sites, notifying patients of their appointments, checking messages and much more from wherever they are.

ODBC databases, text to speech, one number services, call redirection services, notifications and more.

NetVanta Business Communications System

This solution combines ADTRAN's NetVanta 7000 Series IP-PBXs with the NetVanta UC Server enhanced with click-to-dial capabilities and an integrated conference server. The solution also includes NetVanta UC Server's database connectivity option as an added bonus.

Targeted at small to medium-sized enterprises requiring an IP-based voice system with full UC capabilities, this solution supports up to 100 users per platform and is designed for new installations or remote locations where a complete voice/data/security platform is needed.

The Voice Peering Fabric ("VPF") is a private Internet that expands to major U.S. cities and abroad, uniting domestic and international telecom providers to bring the most secure and quality experience for the exchange of voice, video and data. It is a unique environment for enterprises and carriers to buy, sell and peer communications services on their own terms. Businesses now have control over and choices about their communications needs.

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The bulk of the technology underlying these new UC offers comes from Objectworld Communications Corp., a unified communications solution provider that ADTRAN bought for approximately \$1.5 million in cash back in September, according to a 10-Q filing. The deal enabled ADTRAN to advance quickly its position in the UC space and allows Objectworld to be part of a company that is able to get a bigger share of customer spends. Objectworld's one dozen employees are now part of ADTRAN and the former Objectworld CEO Dave Levy is now an ADTRAN consultant.

NetVanta Enterprise Communications Server

This software-only solution provides a complete IP-based voice system for larger enterprises, scaling from 5 to 2,000 users on a single server. Designed for use with Microsoft Windows and Active Directory, this SIP-based platform offers a full soft IP-PBX that is complemented with all the UC features of NetVanta UC Server, plus click-to-dial, an integrated conference server, a paging server for overhead paging. It addresses businesses of all sizes and brings together voice, email, fax, paging, emergency notification, corporate data and more together in phone-based applications that streamline and automate business processes and customer service.

NetVanta Business Application Server Scalable to more than 200 concurrent calls, this Microsoft Windows-based software solution allows businesses of all stripes to implement cost-effective CEBP.

It leverages a graphical drag-and-drop non-programmatic service creation environment found on all NetVanta UC solutions to allow IT and telecom professionals to create tailored communications services quickly and easily.

Its database capabilities enable queries to leverage data in Line of Business (LOB) application databases using built-in functions such as dial-for-data, retrieve, update, add, and delete database fields. It also provides fax capabilities to integrate fax reception and transmission into communications services, a paging server to integrate overhead paging, and on-the-fly email creation capabilities, all of which operate in conjunction with ODBC databases.

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- Greg Hamburg, Director of Sales, Voipswitch

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TMC

Cesare's Way Ericsson's New Brand Guru Talks Shop

Ticsson management has tapped Cesare Avenia to drive the implementation of the company's new brand strategy. INTERNET TELEPHO-NY Executive Editor Paula Bernier recently spoke with Avenia, who retains his post as head of market unit South East Europe, about his new position as chief brand officer, which he assumed Nov. 9.

Tell us a bit about your professional background and what past experiences you can leverage as you implement Ericsson's new brand strategy.

Avenia: In addition to my different marketing positions in Ericsson both in mobile and wireless communications, I have taught industrial marketing at the university level here in Rome. Before joining Ericsson in 1994, I have had several positions dedicated to the telecommunications industry, working in companies like Italtel and Alcatel. Since I have been heading our operations in different markets I have a good understanding of both operators' and consumer needs.

A year-and-a-half ago we initiated the work to revisit the company's brand strategy to better mirror the company of today, at the same time giving us the opportunity to better position ourselves for future business growth.

How would you describe Ericsson's overall strategy?

Avenia: Our strategy is very much to build on our leading portfolio in mobile and converged networks, services and multimedia. It's the entirety of our strategy that is our strength, in particular the synergies to combine products and services. We can play a leading role in leading the development in tomorrow's communicating world – where IP, broadband and multimedia create the possibilities for everyone to communicate, and on top of that all devices, machines, etc. [can communicate and be used to enable people to communicate]. And we can all contribute to a sustainable society.

Ericsson's Cesare Avenia

Describe Ericsson's branding strategy.

Avenia: A year-and-a-half ago we initiated the work to revisit the company's brand strategy to better mirror the company of today, at the same time giving us the opportunity to better position ourselves for future business growth.

Both Ericsson, the telecom industry, as well as the world around us, are changing fast. Broadband is becoming part of our primary infrastructure and is paving the way for the intelligent society. Here, Ericsson's vision of an 'all-communicating world' will be a reality.

Today we are in the middle of a technology shift to IP, our service business stands for approximately one-third of the total sales, and we have introduced multimedia as a business on its own merit. All together this creates new business opportunities. These changes require a revised brand strategy.

The branding strategy is very much [about] our innovation capabilities and our ability to bring sustainable value to all our stakeholders through the expertise of our employees. We believe that the outcome of what we do greatly improves people's lives around the world, the way we all do business, and society at large... within four or five years maybe six to seven billion people [will] have a mobile phone, and three billion will have mobile Internet. Then you [have] tremendous coverage, and that will change our way of using communications – between people as well as machine to machine. All this will have a positive impact on sustainable development in the world.

Ericsson is one of the best known names in telecom. What are the company's specific goals around branding?

Avenia: The goal of the branding strategy is very much to add value to the company's core business, to support us to reap the potential of future business opportunities and create growth when our businesses are changing and renewing.

You mentioned the move from legacy technologies to IP. And in the release announcing your new title, Ericsson noted it is moving from being a hardware to a software business. These are two trends we're seeing from major telecom and datacom vendors pretty much across the board. So what is Ericsson doing that's unique on these fronts and how is/will the company communicate that through its branding strategy?

Avenia: Over the past few years Ericsson has further strengthened its position in IP and broadband by acquiring leading IP companies, headquartered in Silicon Valley. Ericsson in Silicon Valley has become the center of the company's important IP business. We will continue to drive the convergence of fixed, mobile and Internet from Silicon Valley and to focus on strengthened partnerships in the areas of both hardware and software, Internet applications as well as in the PC industry.

Today the service area stands for 30 percent of Ericsson's total turnover. Ericsson is No. 1 in this area, with a market share somewhat over 10 percent.

Are there plans to change the Ericsson name or logo?

Avenia: Today's introduction of Ericsson's new visual identity, including a new version of our logotype, should be seen as symbolic gesture. The visual identity will create the base for how we communicate - it's clearer, more colorful and points out the benefits we are creating together with our customers.

It's a new but also additional logo that will live alongside the company logo we are all used to seeing. We are introducing a whole new visual identity, where the logo is ONE component. Introducing a new platform is an iterative process that will run over a long period of time. In the end of the journey we hope to have almost 80,000 brand ambassadors in [the] shape of our employees, to carry the brand....

Outsourcing service provider networks has become an important new trend. What is Ericsson doing on this front and what is its messaging around that?

Avenia: Today our service business is our fastest growing business unit with several large managed services contracts, like the recent

contract with Sprint, as well as with three Italian and three U.K. [customers]. But to manage customers' networks is just one area. Services is an area also [including] consulting services, monitoring of networks, 24/7 support, integration of systems and new services, design, planning and network rollout. Today the service area stands for 30 percent of Ericsson's total turnover.

Ericsson is No. 1 in this area, with a market share somewhat over 10 percent. Today we have around 37,000 employees working in the service area.

Still several operators continue to manage much of what we identify as services, so we have a potential here. Everyone is looking for efficiency improvements and business growth, and that is where our service offering can contribute. In the fast-moving telecom environment, it becomes harder to secure competence levels, but here we have a good platform since we are developing hardware and software as well as services.

Also the service business creates additional network infrastructure business and vice versa.

Low-cost solutions from some of the new infrastructure solution providers out of Asia have garnered a lot of attention recently. Can you comment on how Ericsson is combating these competitors?

Avenia: We have been facing competition since we started the company back in 1876. It's nothing new for us, and it keeps us on our toes. We continue to build on the strengths with have in our global presence; with operations in over 175 countries; our technology leadership with approximately 20,000 granted patents worldwide; and [our] No. 1 position in services. Then we always have to be efficient in everything we do and drive innovation in both business and technology dimension.

Through what mediums will Ericsson relay its branding message?

Avenia: Our focus is very much on [continuing] to create enthusiasm in the company around the change and brand drivers in all parts of the organization. [We] are working to create awareness and engagement in the new brand strategy. We are a large company with well-identified customers that we interact with on a daily basis, especially within the services organization, and it is a key insight for us that a strong brand is built from the inside and that our employees are the main brand carriers toward our customers.

Then also our marketing communications strategy is to continue to build on digital activation, and we will focus even more on exploring the possibilities with digital media instead of working with traditional channels like TV commercials.

Then there are a few key industry events that we will continue to invest in.

Positron Telecommunication's V114 PCI Card Review

e've officially seen it all when it comes to Asterisk. We've seen Asterisk on a PC, in small boxes or small appliance form, and we've seen it in 1U rack-mountable pizza boxes. But never have we seen Asterisk running on a PCI card – that is until now. Positron Telecom offers several Asterisk-on-a-card products, including the V114 (4 analog FXO), the V214 (4 ISDN BRI), and the V310 (E1/T1). Positron Telecom sent TMC Labs the analog V114 to test. Not only does this card have Asterisk integrated, it also has four integrated FXO ports to support up to four analog trunk lines as well as a single FXS port for connecting a phone or fax machine. It also supports fax pass through as well.

TMC Labs spoke with Positron's President Richard McGravie to get some further insights into this product. One of the questions we were curious about was the target market for this product. Richard McGravie explained, "We are approaching vendors like Vyatta. We have a neat application for them because we're an Ethernet adaptor and they're just like a firewall/routing type appliance. They've got line interfaces from Sangoma and others, but it's not an application -- it's just another interface. So it doesn't generate incremental sales for them. By installing one of our cards in their system you can then add secure VoIP routing and firewalling. So it becomes more for the reseller base to easily sell." He added that companies like their solution since they don't have to rewrite code or learn a new API interface to a card since Positron's solution is 100 percent SIP-based.

TMC Labs then inquired about their support for virtualization. McGravie explained, "VMware was a fluke to be honest with you. We didn't design it intentionally, but because we install as an Ethernet adaptor, you go into your VMware session, you configure your virtual Ethernet adaptor, you configure as the default gateway and all of a sudden you've got the simplest, easiest solution to work inside of VM ware environment that nobody else can do." He added, "In a VM ware environment you have to configure an external switch and a router. You quickly end up with latency issues or [with] a typical problem in VMware [which] is timing due to clock drift. None of that happens in the VMware session anymore. It all happens on our card, so you don't have those issues." In fact, because the VM session communicates directly to the PCI bus and to the 'virtual' network card as opposed to across an IP network infrastructure, there is less latency and less chance of a network issue causing a problem.

Interestingly, McGravie told TMC Labs he has at least one company working on integration with Microsoft's popular unified communications platform – OCS 2007 R2. Positron is currently

Positron Telecommunications Systems Inc.

www.positrontelecom.com (514) 345-2220

Editor's Choice Award - YES

Ratings: Installation: 5 Documentation:4 Features:4.5 Overall: A-

Price: \$630 USD MSRP

shipping with Asterisk 1.4.22 loaded; however, they have ported over Asterisk 1.6, but they haven't ported over the GUI yet.

Installation

Installing the V114 was a breeze. When you install any Positron PCI card, you do not require a driver. The PCI card can therefore be installed in any host PCI slot running any operating system (Linux, Windows, etc.) and will simply communicate over Ethernet. Essentially, the card installs as an Ethernet network adaptor. Rather than using the full Asterisk IP-PBX functionality you can just send SIP traffic to the card and it will do SIP to TDM or SIP trunking, making it a simple plug-and-play VoIP gateway. Because it is an Ethernet-based solution you can also use it with HMP applications as an IP-based TDM blade.

We installed the V114 into an old Windows XP machine and turned the PC on. Next, we browsed to 192.168.1.2, the default IP address for the Asterisk Web management tool (See Screenshot 1). From here we added a couple SIP phones to the extensions list. It does support auto-provisioning, but currently it only supports the older Aastra series and some Polycom phones. We manually added a couple of SIP phones, including a Yealink and an Aastra 67i IP phone and they registered with no problem.

Operational Testing

Next, we made an extension-to-extension test call. The voice quality was perfect. After our successful extension-to-extension call, we then tested the two built-in conference bridges. The bridges are PIN protected and feature your typical Asterisk moderator features, such as announcing your name when you join, increasing/ decreasing volume, booting the last participant, and more. It also features music-on-hold if there is only one participant in the conference. All in all the conference bridges performed very well with excellent echo cancellation. A big part of that reason is because it uses Zarlink's ASIC hardware-based G.168 echo cancellation chip-

Status Diagno	ostics System	Users	PBX		
		Extensi	ons		
	Extension	Name	Ac	tion	ě.
	6000	Sample IVR	Edit	Delete	
	6002	Analog User	Edit	Delete	
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	6007	Support	Edit	Delete	
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	6080	Conference 1	Edit	Delete	
	6081	Conference 2	Edit	Delete	
		Incl			

We wanted to know how well Positron's E1/T1 cards scaled. McGravie responded: "If you take eight Digium or Sangoma E1/T1 cards and put them into a PC and you run those channels, it creates over a thousand interrupts per second since that's how Zap or DUNDi does its channel timing. That will bring any PC to its knees. So what Sangoma did is they went with Woomera [protocol]. It sticks all of the cards in a different PC and they have a protocol that talks from the host PC to the other PC. It has a TCP control channel and a UDP data channel." He then pointed out that debugging in this scenario is very difficult. He added, "With my cards you can put as many as you want into the system because the SIP overhead is so small that it doesn't really affect the processing power." The cards can intercommunicate via SIP or the IAX protocol.

You have full console access to the Linux operating system. We SSH'ed into the card . using an SSH client and the default root 'uClinux' password. Once logged in we were able to tool around the Linux shell, run various Linux commands, check out the default mounts and partitions, check out the tftpboot directory and modify some files, as well as peruse the /etc/asterisk/ directory, which contains all the important Asterisk config files. The root level access is key to truly leverage the flexibility of Asterisk.

Of course, you can use the easy-to-use Web-based admin tool to configure it as a SIP gateway or a full-fledged Asterisk-based IP-PBX. While using the Web tool we initially thought that the changes we made were being applied as we did them. However, what was actually happening is that the configuration changes were being made to Positron's configuration files. We had to hover our mouse over System and then click Create Configuration. This would then write the changes to the Asterisk configuration files. We suggest a "Save Changes" button on the home page to make it clear you have to save the changes, but also it should be in a more prominent position for quickly saving configuration changes.

The main status screen shows import stats such as SIP peers, available disk space, trunk line statuses and more. Importantly, out of the box it supports call recording and you can choose to save the recording to the removable CompactFlash memory on the PCI card. Additionally, you can configure the voicemail system to send your voicemails to your email as a .wav file.

Specifications:

- Blackfin ADSP-BF537 @600MHz
- Runs UClinux
- Asterisk v1.4.22 (v1.6 is coming)
- 4 FXO, 1 FXS
- Supports ring groups
- Two built-in conference bridges
- Call forwarding
- IVR/auto-attendant
- Personalize greeting schedules and follow-me support
- Caller ID support
- Supervised and unsupervised transfers
- Single Compact Flash port
- PCI 2.2 compliant Ethernet interface
- 10/100Mbps auto MDIX Ethernet port
- G.711 ulaw & alaw, G.729 a/b, GSM, Speex
- LED indicators: Power, fault, network, link speed

Pros:

- Hardware echo cancellation
- Supports 40-50 simultaneous SIP calls
- Low cost, highly scalable
- Works with VMware
- Supports large CompactFlash memory sizes
- · Supports call parking, conferencing, and conference bridges
- Supports fax pass-through.
- Failover support to identical card
- No CPU load all processing happens on the card
- Operating system independent
- If the host PC crashes, our systems keeps on running

Cons:

- Uses its own front-end Asterisk GUI
- Limited space for permanent NAND Flash memory
- Web GUI is for admins only, thus users can't access their recordings or personal settings from the Web.

Conclusion

Although it only has 256MB of permanent NAND Flash memory to hold the OS and various Asterisk files, this is enough for most Asterisk deployments and certainly enough when using this as a SIP-based TDM and SIP-trunking blade. Still, it might be nice to have a 512MB option in case power Asterisk developers want to load up a large custom application. The fact that it is OS-independent and can even run under virtualized environments is a huge competitive advantage. Another winning element Positron has over their competitors is that they've made it easy to order. There is no need to figure out SKU numbers to add an additional echo canceller, FXS or FXO clip on cards -- it is an all-in-one solution that comes with everything. Overall, we liked the versatility of their solutions and were very pleased with the feature-set of the Positron V114 4-port analog PCI card. We found it very easy to manage – even with yet another Asterisk GUI we had to learn. TMC Labs highly recommends VoIP developers, VoIP solution providers, and Asterisk users to check out Positron's PCI-based "Asterisk-on-a-card" solutions.

Tom Keating is vice president, CTO and executive technology editor/SEO director of TMC.

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Please contact: Greg Manhoff • 224-805-6294 • gmanhoff@att.net My Profile and a few recommendations can also be found on the "LinkedIn" network.

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Small business VoIP adoption is growing, largely because of the cost benefits, but the fact is that hosted VoIP services for small business, like Packet8's Virtual Office, provide much more than cost savings. The greater versatility of hosted VoIP system allows businesses to customize their telecommunications packages to meet their unique needs, but without requiring large up-front expenditures for equipment,installation, maintenance, or IT staff. For the latest news and information on VoIP services specifically designed for the small business market, visit the Small Business VoIP community on TMCnet, sponsored by 8x8. Packet8 Virtual Office is an affordable, robust and easy-to-manage phone solution with all the premium PBX features and functionality of a traditional telecom system.

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Mobile Video Leading the Charge into 2010

By Erik Linask

Ye always found the end of the year to be uniquely interesting. The holiday season always comes with a calmness that goes against the very nature of the rapid pace of evolution in our industry, but it offers a chance to look back at some of the trends that have kept us busy all year, and what lies ahead. Of course, it's that unfaltering change and evolution that makes our space the most interesting to be in, and the innovation we have witnessed over the past decade doesn't slow down for the changing of the years.

Two of the trends that remained strong all through 2009 – and will undoubtedly be in the spotlight for the foreseeable future in the new decade – are the mobile and video communications segments. In fact, a year ago, at ITEXPO East 2009, the overwhelming notion among the attendees and exhibitors I spoke with was that anyone not exploring one or both of these opportunities is missing a tremendous opportunity.

At TMC, we've witnessed firsthand the interest in the video market, through the rapid growth of the new Business Video site on TMCnet (business-video.tmcnet.com), as well as increased viewership of the TMC newsroom – not to mention the tremendous interest in participation in our video interviews at industry events, both large and small, as well as in our own studio.

Just a few weeks ago, we added a new mobile aspect to our videos, taking the TMC Newsroom "On the Road" to Boston (see the new On the Road section on the TMCnet Videos site (www.tmcnet.com/tmc/videos), where Rich Tehrani and I had a chance to talk to a number of Beantown-area industry insiders...with a gorgeous view of the Charles River.

The one common – and overwhelmingly positive theme – among all the people we spoke with that day was that 2009 was a successful year by all accounts, and 2010 promises to bring even greater successes.

One of the people I spoke with was Jeff Whatcott, senior vice president of marketing at Brightcove, which has a successful online video platform and (with its recent Brightcove 4 release) has made significant strides in enabling mobile video content with its Brightcove iPhone SDK.

Today's smartphones are truly changing the computing landscape. As Brightcove CEO Jeremy Allaire says, the iPhone is "the world's first true personal computer." While that may not yet be the prevalent theory among mainstream users given the availability of mobile broadband services, the power of today's smartphones (not to mention the next generation of devices) and the personalized content delivered to mobile devices, it's not far from the truth. After all, "mobile" is quickly becoming a requisite element of "personal."

"I really believe that because it's a computer you can carry with you everywhere, you can experience all your applications and all you entertainment, right in the palm of your hand," says Whatcott. "Brightcove iPhone SDK allows people to create persistent applications that can be installed through the iTunes App Store to actually allow users to experience content on the iPhone."

What it effectively means is that content providers will now be able to stream all the content they have been delivering to the desktop directly to iPhones. Presumably, this capability will also eventually be extended to Blackberry, Android and other smartphone platforms as well.

The other important development in the mobile video space is Adobe's work with Flash. Desktop users have been able to experience Flash-based video for years, but the capability has not been able to be delivered to mobile devices. By delivering the full power of Flash video to mobile platforms – and this is something Brightcove has been working closely with Adobe to deliver – any Web site that leverages Flash technology will be able to be rendered on a mobile device with the full Flash capabilities. That means that black box users see now will be replaced by the video content.

Anyone who has experienced mobile video over the years knows that today's mobile video is a vast improvement over its predecessors. As Whatcott notes, the entire mobile browsing experience, including video, is much better today than a year or two ago, and it will continue to improve as networks evolve from 3G to 4G and as new, more powerful smartphones are developed.

By delivering full-featured mobile video, content providers will be able to provide a high-quality video experience wherever their audience may be, allowing them to develop deeper relationships and loyalty with those users. Of course, the final piece of that puzzle is the bringing that same content to the living room – which is still in the early adopter phase, though Whatcott says he is hearing more and more people cutting ties with their traditional video services providers and moving to an all-Internet service delivery.

Check out all of the content from TMC Newsroom On the Road, and visit the Business Video site for the latest news and content from this exciting segment of our industry. And of course, be sure to bookmark TMCnet.com on your mobile device for all the latest communications news.

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