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VOLUME 13/NUMBER 3 MARCH 2010

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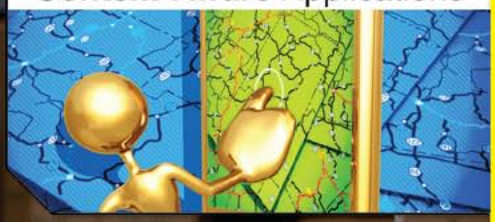

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Leading the Comeback

As you already know if you're among the legions of Paula Bernier fans, my first editor's letter for INTERNET TELEPHONY, way back in the September 2009 issue, was headlined "A Great Comeback Story." In it, I talked about the wild ride I personally experienced in 2009, during which I was laid off, and how I was just another example of the grim job and financial situation in our industry and the economy at large. More importantly, I noted that with my hiring at TMC and some other, more broad-based, developments, such as the decline of the GDP, strong tech performance in the stock markets, and relatively good news from such companies as Cisco, things were starting to look up, even if it was from a basement view.

As you probably also already know, to what extent – if any – things have improved since then is a matter of significant debate. However, on the upside, Cisco is once again telling a good-news story.

Cisco leader John Chambers last month made the pronouncement that the economy has entered a new "phase of the recovery." He backed that up by talking about Cisco's plans to add as many as 3,000 new employees in the coming quarters.

Announcing a 23 percent increase in quarterly profit and 8 percent improvement in revenue, Cisco leader John Chambers last month made the pronouncement that the economy has entered a new "phase of the recovery." He backed that up by talking about Cisco's plans to add as many as 3,000 new employees in the coming quarters.

Of course, Cisco was among the very few bright spots in business news on the week it made these announcements, as stocks took a drubbing the first week of February in the wake of faltering economies in Europe.

In any case, one thing Cisco's good news seems to illustrate is that tech tends to lead the comeback. Increasingly, we live in a world in which people, and just about everything else, are connected. And, as I note in my feature on energy savings and green ICT this issue, information and communications technology has ties to every other industry, and those ties are creating ever-greater opportunity for the communications space as we move into the age of the smart grid, machine-to-machine communications, more devices with communications capabilities, and more widely available wireless and broadband networks. **IT**

Tech, Telecom: The Energy is Back

Communications, wireless, consumer electronics, cloud computing, virtualization -- in a turbulent market, it is good to be in technology.

Monster.com was one of the companies I considered to have a natural monopoly in the U.S. job search market a decade ago. Amazingly, social media sites like LinkedIn and Craigslist are making job sites less relevant and, as a result, Monster just picked up HotJobs for $225 million in cash to shore up its decreasing market share.

A decade or so ago it was common knowledge that satellite radio would eventually make a huge dent in the business of traditional radio companies. While this was certainly the case, the rise of iPods and streaming radio stations like Pandora have changed the game, adding pressure to not only legacy radio stations but those of the satellite variety as well.

The success of Pandora shows how rapidly a smart idea with excellent execution can disrupt markets with billions of dollars of investments – virtually overnight. It is pretty well known that Pandora has had problems in past years because of its success and the amount it had to pay in licensing of the music it streams. So to me it is fascinating to read how the company is generating tens of millions of dollars in traditional advertising from large companies and is now reaching out to smaller advertisers as well.

Keeping up with the changes in media, communications and tech can be exhausting, but at the same time if you aren't up to date on the competitive landscape you can be wiped out by a company you never heard of.

Technology disrupts. It allows anyone with an idea and a dream to change almost instantly customer behavior. It is this fact that adds massive excitement to the industry. Keeping up with the changes in media, communications and tech can be exhausting, but at the same time if you aren't up to date on the competitive landscape you can be wiped out by a company you never heard of.

Recently Nick Bilton over at *The New York Times* devoted time and energy to beat up George Packer at The New Yorker for bashing Twitter without actually using it. Here's an excerpt: "Most importantly, Twitter is transforming the nature of news, the industry from which Mr. Packer reaps his paycheck. The news media are going through their most robust transformation since the dawn of the printing press, in large part due to the Internet and services like Twitter. After this metamorphosis takes place, everyone will benefit from the information moving swiftly around the globe."

I agree with Packer that the obsession with the service is excessive. But, then again, it has changed my business overnight. If TMC, a leading communications and technology media company, didn't not only embrace Twitter but become an expert in social media, it risked being drummed out of existence.

Feeding into this theme of innovation in communications, the excitement and energy of tech was evident at the recent ITEXPO EAST 2010, at which TMC hosted the world's first ever Startup Camp Telephony with Larry Lisser. Many people commented the conference was like Silicon Valley recreated in Miami.

Thanks to people like you, this launch event was a grand success. **IT**

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INTERNET TELEPHONY® magazine (ISSN: 1098-0008) is published monthly by Technology Marketing Corporation, River Park, 800 Connecticut Ave. 1st Fl., Norwalk, CT 06854-1628 U.S.A. Annual print subscriptions: free, U.S. qualifying readers; $29.00 U.S. nonqualifying, $39.00 Canada, $60.00, foreign qualifying and nonqualifying. Periodical postage paid at Norwalk, CT and at additional mailing offices. Postmaster: Send address changes to: **INTERNET TELEPHONY®**, Technology Marketing Corporation, River Park, 800 Connecticut Ave. 1st Fl., Norwalk, CT 06854-1628 USA.

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INTERNET TELEPHONY®

A Technology Marketing Publication,
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8x8, Inc.

Introducing the

Small Business VoIP Online Community

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.

On the Small Business VoIP Community, you'll find:

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TMCnet

By Paula Bernier

A Tale of Two Fires

How VoIP Came to the Rescue

When fire displaced Larry Anglin and his staff at Hometown Computing last August, they had a good understanding of what it felt like. That's because the equipment reseller/Internet service provider had been through a similar situation with its customer P and S Masonry around the same time the prior year. But thanks to the flexibility of VoIP and wireless technologies, both companies were able to continue operations despite these unpleasant events, which prevented them from conducting business at their original locations.


The Hometown Computing fire

Anglin, president of Hometown Computing, probably never thought he'd have to deal with a business emergency of this scale when he started the Hamilton, Texas-based company in 1996 after coming out of retirement. The company got its start as an Internet service provider; that part of its business still exists today. Hometown Computing provides wireless access to a couple thousand subscribers over its 10,000-square-mile Wi-Fi network; it also offers a dial-up option. And it was as a wireless ISP that Hometown Computing first made contact with P and S Masonry, which is also based in Hamilton, about a decade ago, explains Anglin.

P and S is an interesting company, he adds, because in addition to the dozen or so employees at its Hamilton office, it has about 200 employees that work at remote sites. That meant the customer had unique requirements around security and remote access, Anglin says, and Hometown Computing has worked closely with P and S to provide the needed secure connectivity and authentication that allows remote workers access to needed data. Hometown Computing, an ADTRAN reseller, also installed a NetVanta 7100 IP PBX for P and S.


The Hometown Computing fire

When the P and S offices burned to the ground, Hometown Computing came to the rescue by enabling the company to restore its communications via wireless connectivity within 24 hours. Anglin says P and S was able to relocate in a building in which Hometown Computing had an existing customer. That was convenient because the wireless ISP already had a tower there.

"So we were able to put on a radio for bandwidth and put down a VoIP switch and some phones, and it was up that day," he says, explaining Hometown Computing used a line-of-sight 2.4-GHz Wi-Fi radio connect to link its access point radio on the water tower in Hamilton with the building in which P and S is now located.

While the P and S fire was a total loss, the Hometown Computing fire didn't burn the building to the ground. However, the fire did destroy some vehicles and affected the building badly enough that the service provider had to vacate it.

Hometown Computing had an ADTRAN NetVanta 7100 at the location, so Anglin just picked it up and moved it to his home, out of which he is running his business today. The Anglin abode was already on the Hometown Computing wireless network, so he just plugged in the switch for bandwidth and dialtone, and got a POTS connection as well. And, voila, Hometown Computing was back in business. IT

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By Brough Turner

An Alternate Path to Global VoIP Interconnection

Internet telephony has made great strides, but only as islands of VoIP interconnected via the PSTN. VoIP technology cuts costs (e.g. long-distance or enterprise communications), but in a PSTN context. Thus VoIP advantages, like HD voice quality, are lost in the real world. Many solutions have been put forward, but none have gained significant traction.

A new approach, ViPR, is likely to succeed where previous schemes have failed. ViPR stands for the really awkward phrase: verification involving PSTN reachability.

ViPR bypasses the problems that have prevented large-scale federation of otherwise independent VoIP islands. VoIP islands are able to interface externally using either PSTN or SIP protocols. What's been lacking is an acceptable SIP federation scheme. SIP domain routing couldn't handle phone numbers, yet phone numbers are ubiquitous and some VoIP devices only have number pads.

ENUM was supposed to solve this by allowing phone numbers to be inserted into the domain name system. Unfortunately, public ENUM requires a chain of control that starts with the ITU-T and follows down to the operators that control each PSTN number block. There are too many entities and most have no incentive to participate, so, no public ENUM. Private ENUM schemes have been just that – private. Whether any could be scaled to serve the planet is unlikely but unknown as none have gained significant market share.

ViPR works with PSTN numbers. It's completely distributed (no central database, no central authority). It's highly scaleable. And it incorporates robust security and PSTN-level protection against spam. The protocol details were published in late 2009 in a set of IETF drafts authored by Jonathan Rosenberg and Cullen Jennings, both of Cisco (although Jonathan recently went to work at Skype).

How does it work? Those using ViPR store their phone numbers in a distributed peer-to-peer database. This is indefinitely scalable. Of course there is no proof this data is really true. ViPR leverages the PSTN to confirm who really owns specific PSTN numbers. The first call between any two endpoints is completed over the PSTN. As only the ViPR devices at either end know the details of this call, they use their knowledge to establish secure communications over the Internet and exchange credentials, which are used for subsequent calls (over the Internet). Elegant!

Cisco is supporting this protocol in its latest Communications Manager release (v.8.0). I'm sure there will be more action within the IETF, and we still need a second vendor to join (could that be Skype?), but ViPR can work both technically and politically. Expect second vendor support in 2010 and a tipping point two to three years thereafter. IT

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

By Max Schroeder

A Reseller Educational Series: ITEXPO East 2010

If you did not attend ITEXPO in Miami, you need to put future ITEXPO's on your calendar.

The exhibit floor had continual traffic, and there were a lot exciting products for resellers to evaluate. Reseller Day presented a choice of free conference sessions courtesy of Crexendo Inc., the day's sponsor. Personally, I participated in the Reseller Live sales training workshop with Jeanne Leckie of The Leckie Group – which brings us to the focus of this column.

Reseller Live examined the reseller sales cycle and reinforced the need to concentrate on basic skills to be successful in today's challenging market. During the session Jeanne and I asked the attendees to take part in an open discussion on what they required to be successful in 2010. Two areas were of most concern: a) An ample pipeline of prospects, and b) Increasing revenue by selling third-party services. Crexendo's suite of services met both requirements and provided Jeanne and I with an ideal model to review.

Most steps in the sales cycle (presentation, demo, close) have remained fairly static for decades, except lead generation. The Internet has altered the process entirely. Sales professionals no longer have to make hundreds of cold calls each month to identify qualified prospects. Now, companies can run Web marketing campaigns to churn out quality leads without a single cold call.

Many small companies, including resellers, think that Web campaigns are only for big national or international firms. However, Crexendo's suite of services is uniquely designed to target regional markets. Whether you are looking at regional search engine optimization, localized link building, paid search or Web design, Crexendo has a program to address your needs.

The Crexendo Business Partner Program enables resellers to offer Crexendo services to local businesses. Resellers can leverage Crexendo's Web marketing tools to target and sell to Internet telephony prospects plus sell Crexendo services to generate additional revenue – definitely a unique reseller opportunity and a perfect fit for today's fast-paced telecommunications market. IT

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

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Specifically focusing on Duxoft's IP call recording system, "MiaRec Business," the resource center highlights is an enterprise-level solution for recording calls inside an IP-based telephony network. With an IP call recording system, companies can increase customer satisfaction, improve agents' productivity, resolve disputes, increase security and comply with legal requirements, while simultaneously reducing costs in today's current economic environment.

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Integrator's Corner

By Bob Brewer

Quality of Service in Today's Enterprise Network

Today, enterprises across the globe have adopted network-based quality of service policies as a key component to their network infrastructures. The complexities of bandwidth-demanding applications such as IP telephony, business video, collaboration and more complex database applications have required network teams to deploy QoS across infrastructures as a standard practice.

QoS is the prioritization of traffic at the ingress of the network, by application or protocol. When implemented correctly, QoS can guarantee the appropriate response and delivery of application data. Mostly based on policies defined within the organization, a proper QoS strategy includes:

- application inventory and business priority;
- latency-sensitive applications; and
- implementation at the correct point(s) of ingress to the network.

Today, there is an emerging trend of fiber channel over Ethernet impacting an organization's network infrastructure and QoS capabilities. And, because unified fabric – all data traversing a single wire or fiber – puts excessive strain on the underlying network infrastructure if a holistic and strategic QoS plan is not implemented, QoS must be considered a key step in determining the correct and successful deployment of fiber channel over Ethernet.

As the networking world has learned, applications will increase the insatiable demand for bandwidth; the bottom line is that bandwidth is not the only mitigating component of the underlying infrastructure – latency is just as important.

The keys to understanding QoS in the unified fabric world are not just a matter of adequate bandwidth, but also considering the intricacies of the application latency sensitivities and payload expectations. With proper implementation, the enterprise can continue to deliver optimized performance to the constituents and eliminate the propensity of data congestion on the network due to the large number of data classes traversing the network.

So, even when a comprehensive QoS strategy has been deployed, the injection of FCoE onto the network mandates that the current enterprise QoS be revisited at a minimum and re-architected possibly to take into consideration the impact of FCoE. IT

Bob Brewer is a solution architect at Forsythe Solutions Group (www.forsythe.com).

Packet Voice Over Wireless

By Michael Stanford

How to Dial an HD Voice Call

Every server on the Internet has a unique address, kind of like a phone number. For example, Google's is 209.85.225.104. Short, simple and easy to enter on a phone keypad. So when you want to get to the Google Web site, all you need to do is punch that number into your browser address bar, and bingo, you're there. Try it now – you'll find it's much easier than all the complications of typing www.google.com.

You disagree? You think it's easier to type google.com? Then why are you so attached to the idea of phone numbers, when you could call people using their e-mail addresses? Especially considering that calls made using e-mail addresses are cheaper and sound better.

You probably already know that when a VoIP call is routed over IP from end to end, without traversing the PSTN at any point on its route, it can deliver HD voice audio quality by using a wideband codec. If you are under the impression that achieving this end-to-end connectivity requires network peering and ENUM databases, you are mistaken. It can be done far more simply. All you need to do is dial your calls using e-mail addresses rather than phone numbers. E-mail addresses used like this are called SIP URIs, which stands for session initiation protocol universal resource identifiers.

Try it now; call a friend using his or her e-mail address. OK, there are two reasons that didn't work. First, your friend neglected to add a SIP SRV record to his or her DNS entry; second, your phone doesn't give you a way to dial by SIP URI.

Both of these barriers are relatively easily remedied. IP desk phones like those from Polycom actually already allow you to dial by SIP URI, as do softphones like Counterpath's Bria or Google's Gizmo5. Soon we'll see add-ins for e-mail programs (including on smartphones) that give you the option of "call" along with "reply" and "forward." As for the DNS entry, that only takes a few minutes to do. I added a SRV record pointing my domain to my SIP service provider (OnSIP), and now calls made to my e-mail address ring on my desk phone, and complete in HD voice. IT

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

By Jeff Hicks

Why QoS is Critical to VoIP/UC in Enterprise Networks

IT organizations implement QoS policies to ensure that mission-critical applications receive the highest priority when they need to access network resources. For delay-sensitive applications such as VoIP and unified communications, QoS policies are especially critical and must be constantly fine-tuned to provide the right priority without impeding data applications.

Implementing effective QoS policies requires an understanding of the network infrastructure, how well existing applications are performing across the network, and the idiosyncrasies of QoS in VoIP and UC environments.

To ensure consistent performance of converged voice and data networks, network teams need insight into the composition, volume, and performance of all network traffic before and after implementing QoS policies. The IT organization needs to be able to answer questions such as:

- What is the composition of traffic on each network link?
- Which hosts, conversations, and protocols are consuming the most bandwidth?
- Which users are experiencing poor application performance?
- Where is most of the latency occurring, and why?
- And, are our QoS policies helping us provide consistent, acceptable end-user response times for our critical applications?

Traffic profiling is a critical step in establishing QoS policies on network links. The IT organization needs to identify all applications consuming bandwidth (including who, what, when and where) to ensure adequate bandwidth provisioning. This raw data is available from devices supporting Internet Protocol Flow Information eXport or Cisco IOS NetFlow, which can be easily exported to network traffic analysis tools.

In addition, IT teams need to baseline the performance of business-critical applications to understand how any changes may impact them. IT organizations armed with the right network and application performance information beforehand can apply effective QoS policies that give higher priority to VoIP and other business-critical applications. Then, IT organizations need to monitor continuously with real-time visibility into how QoS is prioritizing network traffic to determine if applications are being classified appropriately.

Ongoing monitoring of QoS policies is especially crucial for VoIP. The PSTN did a great job of guaranteeing the resources needed for a call and maintaining them throughout that call. By contrast, in an IP network, the resources are shared by many different users. Congestion at a router caused by another user's large file download can impair the quality of a VoIP call.

Even with QoS prioritization, as the packet traverses the network, routers along the way may alter the marking of the packets. This is particularly true of MPLS networks, where a packet entering a carrier network with one type of QoS marking may leave the network with a different QoS marking. If the QoS marking is different at these ingress and egress points, the quality of a VoIP call is likely to suffer. This is typically a configuration problem that would not be solved by additional bandwidth. NetFlow information can be used to show the breakdown of QoS packet markings for packets passing through a router interface.

As with VoIP, QoS mechanisms are required to enable unified communications applications to run with acceptable quality. The real-time nature of UC applications and their strict latency and jitter requirements dictate the usage of QoS. Due to differences in the protocols and bandwidth consumption, IT teams will need multiple network traffic classes to represent SIP, audio, and video flows. Cisco's Class-Based QoS is an ideal mechanism to provide the traffic class mappings and queues that UC applications require.

Even with QoS prioritization, as the packet traverses the network, routers along the way may alter the marking of the packets.

CBQoS allows a network administrator to define application traffic classes that should receive different handling in the network. In a UC environment, IT teams could define separate voice, video, and SIP traffic classes. Each of these classes would be prioritized appropriately by intermediate network devices that carry the UC traffic. Different queues and bandwidth allocations can be used for each class so that the voice, video, or SIP traffic does not become stuck behind other data traffic.

Implementing QoS policies in today's complex network environments requires lots of care and feeding. To meet the challenge of voice, video and data convergence with effective QoS policies, IT personnel need to track performance before, during and after deployment with a unified view into critical network and application statistics, including traffic composition and application performance. IT

Jeff Hicks is senior software architect for NetQoS (www.netqos.com), a CA company.

Virtualization Reality

By Alan Murphy

Server and Storage Virtualization: The Enterprise Cloud Platform

It's impossible to talk about any technology in the data center without the topic of the cloud coming up in conversation. Since the cloud began making its way into common IT lexicon, virtualization has been in lockstep with cloud solutions, often thrown around as a requirement for cloud computing. In particular, server and storage virtualization solutions are typically considered to be the first step in moving any part of IT into the cloud.

The primary driver behind the explosive growth of cloud computing is to bring business agility to IT. More and more, IT services and processes are being dictated by a business need over a technical one. This "the business drives IT" model gave birth to software as a service, a model that's been widely adopted throughout enterprise IT. Virtualization extends that flexible model to IT infrastructure and enables cloud agility through scalability, adaptability, and management.

Newer cloud concepts, such as infrastructure as a service and platform as a service, rely heavily on underlying virtualized systems that provide that necessary mobility.

Virtualization can – and often should – be a key component of a successful cloud strategy, but it's not a hard and fast requirement. The only requirement for any cloud architecture is that it must be fluid, enabling services to be created and destroyed dynamically based on need. Server and storage virtualization contribute to a dynamic cloud environment by allowing computing, network, and storage resources to be allocated as needed. It becomes extremely difficult to manage a truly dynamic environment relying solely on physical resources, although it can be accomplished utilizing a very sophisticated matrix of monitoring, management, and near-limitless hardware resources. The physical model is not the norm, however; it is much more common and accessible for an enterprise to begin building a dynamic data center on top of server virtualization platforms such as those from VMware and Microsoft.

The long list of virtual platform benefits helps enable a dynamic cloud, be it one that's internal as an enterprise cloud or an external cloud with a cloud provider. Cloud computing has exploded throughout enterprise IT because it allows business agility, agility that's supported and provided by a strong virtualized infrastructure. While it may be possible to build a cloud solution – or outsource to an external cloud provider – in a purely physical environment, it's certainly not advisable to launch a cloud solution without first looking at how virtualization can make your own data center more dynamic. IT

Alan Murphy is technical marketing manager of management and virtualization solutions with F5 Networks (www.f5.com).

UC Unplugged

By Mike Sheridan

The Collaborative-Ready Enterprise

The word collaboration is vying to be 2010's most hyped term – but perhaps justifiably.

What is collaboration, and what does it have to do with unified communications? The truth is that collaboration tools, like Microsoft SharePoint, are playing an increasingly larger role in communications-enabling business processes for both the enterprise and the contact center as part of a larger UC deployment.

Collaboration, like UC, has various definitions. Gartner for example, looks at it as four segments – communication, coordination, communities and social interaction facilitation. The tools that support these segments include real-time (including conferencing, instant message, simple message syndication, Twitter) and non-real time (think wiki's, data management, enterprise search, blogs, e-mail) technology.

Integrating collaboration capabilities into enterprise and contact center business processes can yield a number of benefits for organizations including greater productivity, reduced costs and improved results within the enterprise, and between the enterprise and its customers.

Here are a few examples of how collaboration can provide benefits across the enterprise:

- by leveraging video and Web conferencing tools to create virtual meetings or virtual training sessions;
- by utilizing IM, presence, and screen sharing capabilities to resolve quickly issues across multiple locations or even across departments; and
- by creating a central repository for employees that enables easy access to information and provides presence on the expert associated with that information if more data is required.

Plus, collaboration tools can help businesses move from a transaction-based contact center to a customer collaboration enterprise by:

- tying results from post-call surveys or responses to e-mails and notifications to individual customer records;
- leveraging portals and enterprise search to bring additional enterprise content and analytics into the contact center; and
- using search capabilities to monitor customer conversations around key topics, such as "closing account", by linking into customer facing e-mails, IMs, SMSs, Web conversations and social networks.

While this is just the tip of the iceberg in terms of potential scenarios in which collaboration tools can be applied with UC, new applications are emerging all the time. It looks like there might be some validity to the hype this time. IT

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

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Building a Budget for E911 – One Size Doesn't Fit All

By Nick Maier

You've just been notified that you need to comply with state E911 regulations, or you've had an incident in which emergency responders arrived at the wrong place when a 911 call was made. You know you need to implement an E911 solution, but where do you start?

Fortunately, there are E911 solutions for every budget and every enterprise configuration. The best place to start is often the simplest. Consider the size of your business and the complexity of your phone network. In most cases, your requirements and budget will be driven by this analysis.

If you are a small business with multiple locations, you now have the option of using a Web-based hosted E911 solution. Hosted solutions take advantage of cloud computing to handle E911 location management and route 911 calls over the Internet without the need for on-premises equipment. After a small service initiation fee, you pay a monthly fee for E911 services. It's a simple, cost-effective, pay-as-you-go solution that doesn't require an investment of your hard-earned capital.

A medium-sized business (500 to 5,000 phones) generally has more complex requirements and has more options to meet those needs. On-premises software applications can completely automate the E911 process including tracking phones as they move, updating location databases and notifying security when 911 calls are made. Appliances (servers pre-loaded with E911 software) are a very-cost effective solution to automate E911 in a mid-sized business. Appliances are easy to install, easy to maintain and provide complete E911 automation. If an appliance is combined with an E911 network service, you then have a solution that can track phone locations inside and outside the enterprise and route 911 calls from any location to the right public safety answering point that dispatches emergency response.

Large (5,000 to 30,000 phones) and very large (30,000 to more than 100,000 phones) enterprises typically have multiple PBX/call servers, robust IP networks, and distributed operations. These enterprises are best served by a combination of on-premises software and an E911 network service for call routing. Highly scalable, highly redundant software solutions are available that can track thousands of phones, whether those phones are inside or outside the enterprise network, and include granular notification systems that will notify specific individuals when a 911 call is made from a particular building or location. An E911 network service can dramatically reduce costs by eliminating the need for local 911 trunking at remote locations by consolidating 911 traffic on IP trunks. IT

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

By Sean Rivers

Site vs. Cloud: The Line Continues to Blur

Recently telecom discussions have pitted on-site and cloud phone systems against one another. These two diverse environments have begun and will continue to move closer together. Some features should reside in the cloud, and others make sense to manage locally.

Cloud

Auto Attendant
Hosting the auto attendant makes sense for companies with multiple locations or mobile users. Imagine a multi-site company with many diverse phone systems. An auto-attendant in the cloud brings the locations together into one system. An outage at one location could not bring down others.

Voicemail
Voicemail is perfect for the cloud. Mobile and remote users would have the same procedure for checking voicemail and would not be affected by a single site outage. Administration is simplified as there is one location.

Advanced Call Routing
Routing calls is better left to the cloud. With outages, the cloud makes the decision to reroute to another location. Routing also can be based on time or geography.

On-Site

Paging & Facility Integration
Hardware is needed to integrate with overhead speakers for paging and to integrate with access management systems. Paging integration hardware options make this easier to do from the cloud, but they still require local intervention.

Local Music On-hold
Many companies want a local feel. Local radio for hold music requires an on-site system and is an untapped area for the cloud.

Local Call Management & Failover
A local PBX has its advantages when a data connection goes down and the local office needs to fail to the PSTN. Some cloud-enabling routers have the ability to take over call control and route calls over the PSTN, but these are still located on site.

In summary, with on-site PBXs moving toward the cloud and cloud-based applications using on-site hardware, the line will continue to blur. Over time they may even merge into a unified offering as service providers work to integrate their offerings. Hopefully in the future, phone service will be boiled down to simple, low-cost, high-value solutions.

"Some people say I am a dreamer, but I'm not the only one." IT

Sean Rivers is director of sales and product engineering at Bandwidth.com (www.bandwidth.com).

Is Network Downtime a Significant Challenge to your IT Strategy?

Without a reliable physical infrastructure, your network is vulnerable to downtime that can negatively impact customer service, sales, and employee productivity.

Real-time visibility and management of the physical infrastructure is critical to successfully navigate the demanding challenges of everyday business.

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By Hunter Newby

Voice Was a Business

I recently sat in on a presentation given by Stephan Beckert of Telegeography at PTC in Hawaii where he covered the topic of the international voice business. The presentation also included the global state of transport and IP transit. All of the information was fascinating, but what struck me most was the fading association between the term voice and the concept of it being a business in the traditional minutes sense for revenue generation. Clearly for some, such as Skype, voice is just an application that drives use.

There were many fantastic slides of data, but this is the one that captured the moment best in my opinion.

International voice phone traffic growth has slowed sharply and with it goes the cost to terminate, so it is a double negative. Alternatively, international Skype to Skype traffic is increasing at an amazing rate, and this is all peered VoIP traffic. VoIP peering has come alive, and it is wreaking havoc on a business model and companies that have been built on it for more than 100 years. Looking at the data, it is no wonder that AT&T recently declared the PSTN and POTS relics of the past and asked the FCC for a timeline to shut it down.

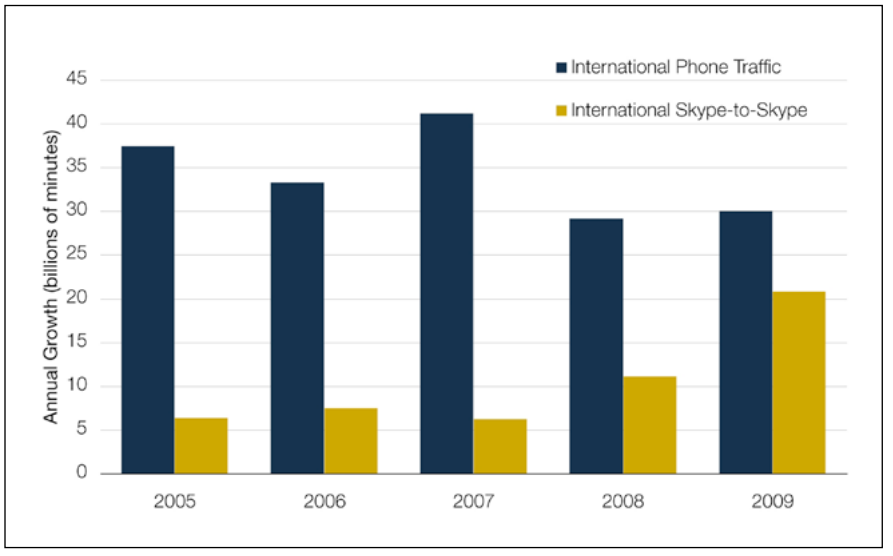
Aside from several obvious ironies in AT&T making this request – not the least of which is the fact that they and the other RBOCs have FCC protection for their investment in fiber, which they do not have to share with anyone – it is quite interesting to see them have to run fast to keep up with Skype and peered voice. They have no choice but to kill their own old model as fast as possible, and that means killing the old copper, design, operations, maintenance, everything and start new. That is a major undertaking for companies that never had to move fast for anything, or anyone.

It is not just about new fiber to the home, of course. It is also very much about the AT&T and Verizon wireless networks that will connect to and use their fiber to the home for backhaul to increase speeds and coverage. It may very well be that AT&T and Verizon do not care what VoIP app people use on their mobile devices in the not-too-distant future. This is a major change in strategy from just a few short months ago where AT&T blocked Skype and Google Talk on its wireless network. Now they allow those VoIP apps, but it comes with a price – the user must still pay for a traditional voice plan, even if they do not use it.

This will change as competition heats up and one of them allows access to the apps without this catch. Then the others will follow. But that may take a while.

It will all depend on how many wireless providers have data networks robust enough to support the apps. If there are only two, it will not be that competitive.

It may also make sense for the major wireless providers to create their own VoIP apps like Skype, but at the rate Skype is growing it may not make sense to try and duplicate it, but rather just provide access to it. In a sense Skype is a large private Internet for individual VoIP users, so the wireless providers are basically selling access to the VoIP Internet – and isn't that what it is all about anyway, paying for access. I have never seen a toll on a bridge or tunnel ever decrease in price, have you?



Those, like Telegeography, that continue to collect data on voice traffic and revenues will have to change their collection and analysis process going forward. No longer will it be necessary, or meaningful, to track the monetary value of a minute. This will necessarily change the psychology of those who believe the word voice implies a business model.

Clearly that way of thinking is as much of a relic as the PSTN and POTS itself. IT

Hunter Newby is CEO of Allied Fiber (www.alliedfiber.com).

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Evolving standards and speech technologies are driving the business case for companies to deploy new speech applications to create additional revenue streams, increase customer satisfaction, and trim costs. Voxeo's IVR Global Online Community on TMCnet is the industry destination for tools, information, and resources for building and deploying enhanced IVR and VoIP applications.

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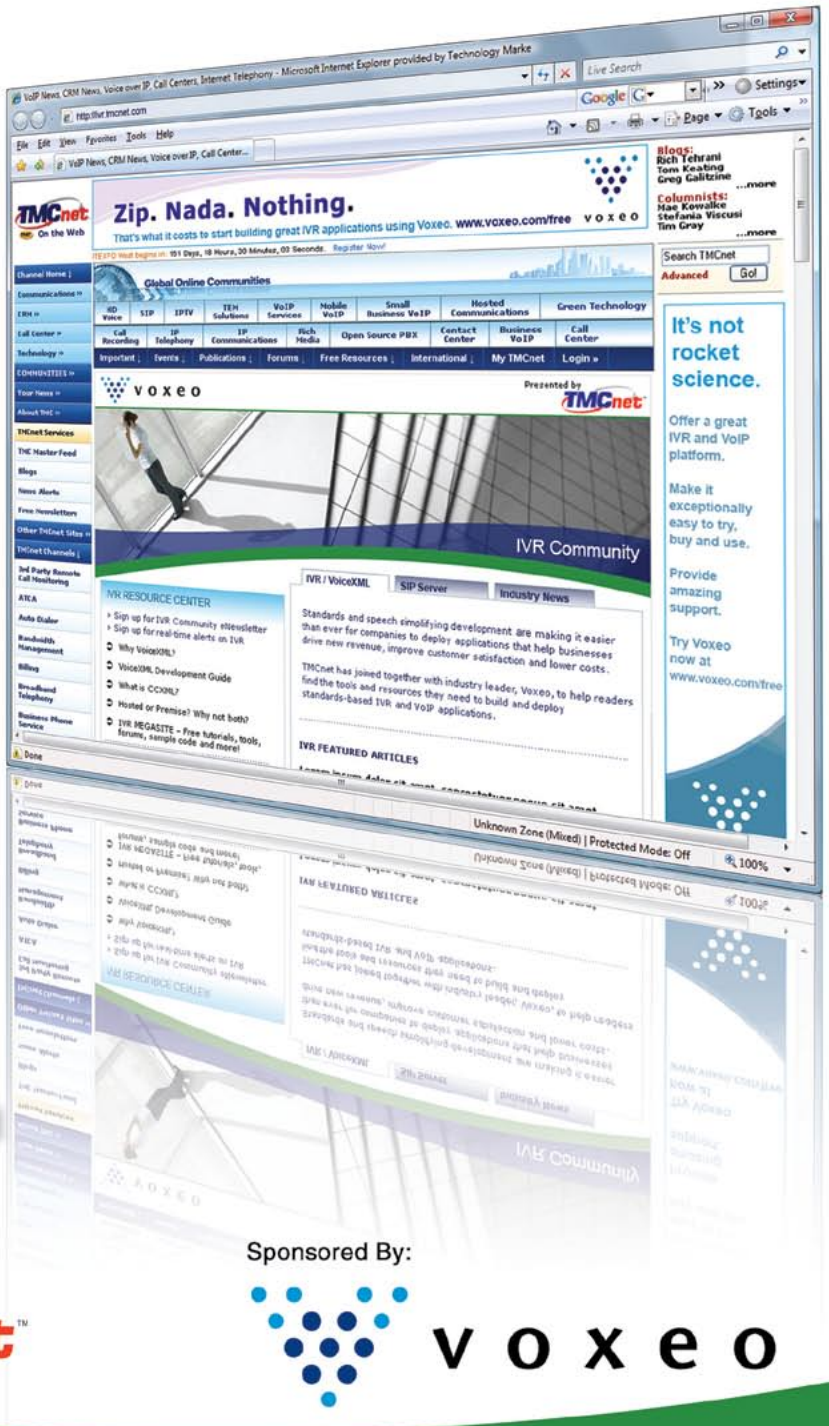

http://ivr.tmcnet.com

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By Peter Radizeski

Why are Carriers in Trouble?

A customer has a PRI at $600 per month. The agent hears the client mention IP PBX. He immediately offers up the "I can save you money and move you to a SIP trunk." The SIP Trunk is less than $500. The client is happy. The agent is happy that they made a sale. But what have they really done?

They lowered the overall telecom spending. They dropped margin. I would argue that it costs roughly the same to provide a PRI as it does to provide a SIP trunk, except that a PRI is standard, generally more reliable with better call quality. I know. I know. You will argue. Go ahead.

Panel after panel on SIP trunking talks about PRI replacement, not value add, just how to get the PRI business. Nevermind that a SIP trunk is a specification that comes in numerous flavors that may or may not work with a customer IP PBX. Think about the overall mentality in this industry: drive down retail pricing at every turn.

Wholesale Internet bandwidth is down to as low as $1.50. Wavelengths are down to $6K. How does an agent make a living with even big ticket items driving down cost? How does the carrier make money? Hardware, interface cards, collocation, power, ILEC rental, admin costs and the cost of sale have not gone down significantly in the last five years, but the cost of services has. That's why margins are so low in telecom and why debt is so high.

And it's not just the agent. Direct sales people have competed with me and other agents for business using inside promotions to drive the contract rate down even lower. It's a race to the bottom, and no one wins. As I explain to my consulting clients, if you want a raise or more benefits, your firm has to make more money. But they also have to make more margin. You can't do that selling $400 T1 services – PRI, trunks, or whatever. IT

Peter Radizeski is head of telecom consulting agency RAD-INFO Inc. (http://rad-info.net/).

The Channel & AGENT NEWS

http://tmcnet.com/23179.1

WorldGate Signs New Agreement with Zurvita

WorldGate, a provider of digital voice and video phone services and next generation video phones, has signed a new service provider agreement with marketing company Zurvita Inc. to sell its digital video communication services. The official launch of this new initiative is planned for March 6, 2010, as part of Zurvita's Business Leadership conference, to be held in Houston, Texas.

www.worldgate.com
www.zurvita.com

http://tmcnet.com/23180.1

1nService Joins XO Communications Partner Program

XO Communications, a nationwide provider of advanced communications services and solutions for businesses, enterprises, government, carriers and service providers, has announced that 1nService, an international community of advanced technology delivering high-value technology systems and solutions, has joined XO Communications Business Partner Channel Program to offer communications solutions, including voice, VoIP, network and hosted IT solutions to its customers.

www.1nService.com
www.xo.com

http://tmcnet.com/23182.1

PREDAN, IHMAN Tune In to Integrated Radio Applications

IHMAN and PREDAN will market together a radio communication module that integrates applications requiring a reliable radio link in the 868 MHz and 915 MHz bands. PREDAN, a subsidiary of PREMO GROUP, defines itself as a technology leader in the development of RFID components.

www.ihman.com
www.predan.com

http://tmcnet.com/23181.1

Dot Hill Strikes OEM Deal with Kyocera

Dot Hill Systems Corp., a provider of storage solutions and software for OEMs, open storage partners and system integrators, has entered into an OEM agreement with Kyocera Communication Systems Co., Ltd., Kyocera's information technology subsidiary. Under the terms of the agreement, KCCS will use Dot Hill RAID storage solutions, based on the R/Evolution architecture, for its data center service.

www.dothill.com
www.kccs.co.jp

http://tmcnet.com/23183.1

Chicago-based Master Agent Joins Partners on the Slopes

TBI President Geoffrey Shepstone and Senior Vice President Ken Mercer were joined by agents and vendors alike recently for TBI's annual ski trip. This year's event took place in Breckenridge, Colo., at a luxurious retreat with views of the Rocky Mountains. The Chicago-based company represents more than 60 industry providers and more than 800 independent channel partner agencies.

www.tbicom.com

Announcing The IP Telephony Community On TMCnet

IP Telephony has grown in the recent years to become one of the most prevalent ways to communicate. Benefits including cost savings, improved productivity, flexibility and advanced integration capabilities make IP telephony an absolute must!

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By Larry Levenberg

Appliance vs. Software Voice Architectures: Two Paths to a More Unified Business

As the global business market evolves, enterprises are forced to fight for competitive advantage. Converging information and communications technologies help to create differentiation while laying the foundation for a more efficient, unified business. Unifying infrastructure over IP networks to accommodate voice and data is the technology foundation of a unified business.

Companies can build a solid path to convergence in one of two ways: using traditional communications appliances, or with a software-based architecture approach. Increasingly, I've been getting questions from our dealers asking which path is best for their customers. The answer is simple: it just depends.

Both approaches ultimately can deliver equally robust IP telephony and unified communications functionality, so the advice I give is enterprises should select the most appropriate path based on current technology, budget requirements and future business goals.

The appliance-based approach employs proprietary hardware components commonly used within a traditional voice network. For many, this is a tried-and-true approach that allows enterprises to migrate over time and as business dictates. Companies can use a phased approach and implement smaller projects to reduce risk and costs. It also makes possible the deployment of advanced unified communications and mobility applications to targeted or broad groups. Since the hardware-based approach also supports TDM, digital and IP environments, companies can use existing equipment and phones over the duration of the migration, thus extending the lifespan of current investments.

The hardware-based approach is still preferred by a number of telecommunications and IT managers familiar with the wide variety of these solutions on the market. For this reason, appliance-based solutions are ideal for technology migrations, such as companies that already have a large amount of hardware invested in an existing solution, and organizations that require minimal disruption to normal business (like hospitals) as well as those needing to spread deployment over several budget cycles.

The software-based communications approach involves installing an enterprise-class softswitch on industry-standard servers, which support voice and unified communications services from a virtualized or traditional data center over the IT network as if they were any other business applications. This approach is ideal for companies seeking flexible management, easy deployment, full redundancy and failover capability with state-of-the-art business communications features. It also requires a willingness to make a comprehensive change from their existing proprietary hardware infrastructure.

Because some software-based solutions operate on open standards, companies can integrate the solutions with other applications on the network to communications-enable business applications (i.e. ERP, CRM, or customer Web portals) to shorten or otherwise improve business processes for greater efficiency and profitability.

Because software-based communications runs on industry-standard servers, many IT managers unfamiliar with appliance-based telephony prefer this solution because the deployment and management is similar to that of other applications on the network.

The software-based approach is ideal for enterprises that need to replace outdated equipment and wiring. It is also a viable solution for reducing monthly telecom costs via SIP trunking, but can also work with analog and digital handsets using gateways.

Software-based convergence is currently gaining popularity as more companies embrace service-oriented architectures. SOA enables companies to share and reuse application technology easily. It also allows software-based communications solutions to fit easily within SOA environments.

IDC estimates that roughly half of all large U.S. enterprises either have deployed or are piloting SOA projects. The report reveals most respondents report keeping up with new business dynamics as their organization's primary motivation.

In summary, enterprises should select either the hardware-based or software-based approach based on company-specific goals and needs. Companies should map their convergence strategies to best facilitate their organization's overall business goals. What's more, becoming well acquainted with financial implications of the project (e.g. return on investment and total cost of ownership) should be contributing factors in determining whether a complete overhaul or migration approach is best for a particular environment.

Best practices also include becoming thoroughly familiar with existing infrastructure and equipment. By understanding each of the key components within infrastructure, companies can better assess what elements perform well and which ones could use improvement.

As always, offering services as a trusted technology partner, dealer or consultant is another key to helping customers choose the appropriate convergence path. A knowledgeable partner is committed to the most viable solutions to meet customer needs, as well as its continual development and forward migration path. **IT**

Larry Levenberg is vice president and general manager of national channels at NEC Corp. of America (www.necam.com).

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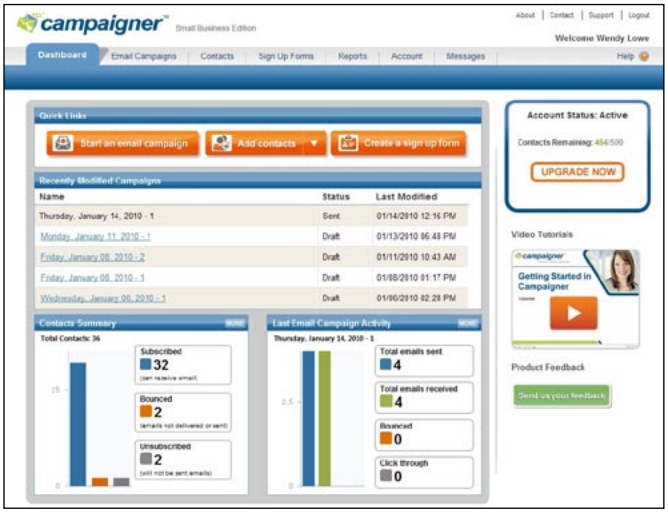
http://tmcnet.com/23032.1

Finding, Keeping Customers is Small Businesses' No. 1 Goal



While small business owners have many concerns heading into 2010, finding ways to attract and retain customers is by far their top priority. That is the message drawn from a survey of small businesses by research firm Hurwitz & Associates and sponsored by Protus, provider of Web-based communication tools Campaigner, MyFax and my1voice for businesses.

www.hurwitz.com

www.protus.com

http://tmcnet.com/23023.1

IDC: U.S. IT Spend Recovery Will Lag Those in China, India

U.S. IT spending will have a slower recovery than its market counterparts in China and India, according to a recent industry report, but is expected to rebound by as much as 6.6 percent in 2010. IDC forecasts that worldwide IT spending will reach $1.48 trillion in 2010, below the $1.5 trillion recorded in 2008.

www.idc.com

http://tmcnet.com/23024.1

AVTECH Room Alert Signal Towers Monitor Temps

In the face of an unplanned event or disaster, a simple warning is not enough. Temperature monitoring provider AVTECH offers Room Alert Signal Towers that are designed specifically to assist with monitoring computer room temperature and environment monitoring in multiple locations – up to 900 feet away – while visually and audibly alerting staff when issues or events occur.

www.avtech.com

http://tmcnet.com/23025.1

Gartner Reports Shifting CIO Priorities

If Gartner's most recent survey of enterprise CIOs is correct, there has been a fairly significant shift of priorities from 2009. Where the top priority in 2009 was business process improvement, the top 2010 priority is virtualization. Where the No. 2 priority in 2009 was reducing cost, the No. 2 priority for 2010 is cloud computing.

www.gartner.com

http://tmcnet.com/23033.1

Web Hosting Outfit Hostway Bundles Up

Hostway recently bundled its Instant Business Broadcast, a service that submits a business profile to 10 of the most popular online directories plus Newsletter Broadcast, a "robust" e-mail marketing platform, into its Web hosting plans. The goal, as explained by Hostway's John Lee, senior vice president of small business hosting, is to help SMBs attract new customers and keep them coming back.

www.hostway.com

http://tmcnet.com/23026.1

Businesses Opposed to Net Neutrality Employ 10x More Workers

If you added up all the employees working at firms that have filed comments with the Federal Communications Commission that opposed network neutrality, compared to the number of employees of firms that say they favor such rules, you would find that firms opposed to net neutrality directly employ 1,440,021 workers while supporters directly employ 148,936 workers.
In other words, looked at strictly from a current jobs perspective, private businesses that oppose net neutrality employ an order of magnitude (10 times) more workers than firms that favor it.

http://tmcnet.com/23027.1

RADVISION to Buy Aethra

RADVISION Ltd. has reached an agreement to acquire selected assets of Aethra S.p.A., an Italy-based designer, developer and producer of videoconferencing systems for telecommunications and video communications, for approximately EUR10 million.

www.radvision.com

http://tmcnet.com/23028.

SMB, Government, Enterprises Contribute to 8x8 Success

Hosted VoIP provider 8x8 had, by all accounts, as successful a year as it could have hoped for in 2009. That included moving into new corporate headquarters in Sunnyvale, Calif. Much of 8x8's growth came from its traditional SMB market, but as Vice President of Business Development Huw Rees recently told INTERNET TELEPHONY, interest from government entities and large enterprises has increased significantly.

www.8x8.com

http://tmcnet.com/23034.1

F&S Recognizes West for Contact Center Outsourcing Success

West Corp. has received the 2010 Frost & Sullivan North American Contact Center Outsourcing Company of the Year Award. Frost & Sullivan evaluated providers on their growth strategy and implementation, their degree of innovation in business processes, products and/or technologies, and their leadership in customer value and market penetration.

www.frost.com

www.west.com

http://tmcnet.com/23035.1

UC Revenues to Grow Faster Than Overall Enterprise Voice

According to a recent report by Dell'Oro Group, annual UC market revenues will expand faster than the overall enterprise voice market through 2014. The report also indicates that the total PBX market is forecast to exceed $6 billion in 2014, but will not return to its peak of more than $7 billion, reached in 2007.

www.delloro.com

http://tmcnet.com/23038.1

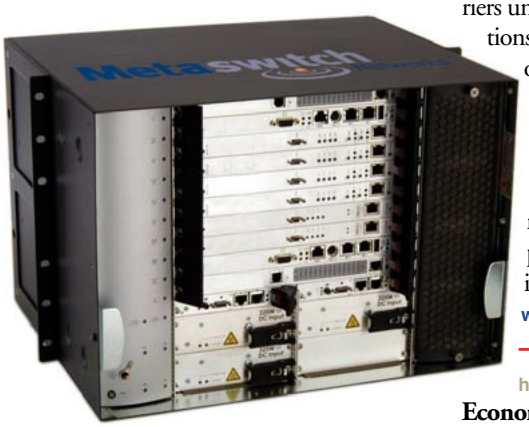
Survey: Loyalty Not Necessarily Linked to Customer Satisfaction

Customer satisfaction is not a terribly good predictor of customer loyalty, a new study again points out. About 71 percent of respondents to a recent Strategy Analytics survey reported "high satisfaction" with their current digital television provider, with 71 percent claiming to be "somewhat" or "very" satisfied. Still, about 67 percent of those "satisfied" multi-channel video subscribers say they would be willing to switch providers if offered a price discount of 20 percent.

www.strategyanalytics.com

http://tmcnet.com/23039.1

DeNuccio Named Metaswitch CEO



Metaswitch Networks has appointed Kevin DeNuccio as CEO, and promoted CEO John Lazar to chairman. A veteran of Redback Networks (now Ericsson), Cisco Systems and Bell Atlantic (now Verizon), DeNuccio is known for his ability to turn promising early and mid-stage businesses into multi-billion dollar global players, according to Metaswitch.

www.metaswitch.com

http://tmcnet.com/23040.1

New Broadband Stimulus Rules May Appeal to Qwest

Qwest seems to be taking another look at applying for broadband stimulus funds after a significant change of rules by the Rural Utilities Service and National Telecommunications and Information Administration, the Denver Business Journal reports. It appears that the rules changes, which originally barred "rural" projects within 60 miles of a city or town, have been amended in ways that could provide Qwest with what it needs to apply.

www.qwest.com

http://tmcnet.com/23041.1

Broadband Common Carrier Discussion Concerns FCC's McDowell

Federal Communications Commissioner Robert McDowell says he is concerned that the FCC is considering classifying providers of broadband infrastructure as common carriers under Title II of the Telecommunications Act. That would make any number of contestants within the broadband ecosystem happy, but might choke off investment in higher-speed facilities, either because providers would not be able to raise enough investment capital to do so, or because providers would simply decide there is not enough profit in doing so.

www.fcc.gov

http://tmcnet.com/23042.1

Economies of Scale, Viewership Concerns are Driving Comcast, NBC Deal

Whatever one thinks about the wisdom of or prospects for Comcast's proposed deal to take a controlling interest in NBC Universal, the motivations are different from what they would have been a couple of decades ago. At one time, there was some logic to vertical integration of content and distribution assets. However, economies of scale, ability to drive viewership and participation in the highest-growth part of the video content business have been the recent drivers.

www.comcast.com

www.nbcuni.com

http://tmcnet.com/23044.1

Nielsen: Online Video No Threat to Traditional TV

Online video viewing competes with time-shifted digital video recorder viewing, not with live broadcast TV, Nielsen suggests. Nielsen's online panel data of U.S. visitors to online TV sites (ABC.com, CBS.com, CWTV.com, Hulu.com or NBC.com) over 30 days found more differences than similarities when it came to viewing behavior, demographics and even ad effectiveness -- between broadcast and cable viewing and online viewing.

www.nielsen.com

http://tmcnet.com/23045.1

ALU Brings PON to Germany's Ruhr Area

Alcatel-Lucent has installed fast-fiber Internet service to Germany's Ruhr area. Since this past October, residents of Gelsenkirchen's area Wohnen am Bachlauf have had access to fiber optic Internet-based telephone and TV service that reaches speeds of 100mbps downstream and as fast as 10mbps upstream. The new optical network – one of the first next-generation access networks in the Ruhr area – is based on GPON.

www.alcatel-lucent.com

http://tmcnet.com/23043.1

Manpower Analyzes Verizon Layoff Decision

A number of key trends identified by Manpower likely have something to do with Verizon's recent 13,000-person layoff. First, we're in the midst of an economic environment in which organizations are pressured to do more with less, the study points out. Also, there is new "pressure to find the right skills in the right place at the right time, a shift in the nature of work and skills."

www.manpower.com

www.verizon.com

http://tmcnet.com/23046.1

Hacker of VoIP Providers Pleads Guilty

Edwin Pena of Miami has admitted to hacking into the networks of a number of VoIP providers between 2004 and 2006 to steal minutes that could be resold to unsuspecting customers. Pena pleaded guilty in federal court to one count of conspiracy to commit computer hacking and wire fraud and one count of wire fraud. He is scheduled to be sentenced by U.S. District Judge Susan D. Wigenton on May 14.

http://tmcnet.com/23005.1

Japan's No. 2 Operator Selects Vendors for Femtocell Trial

KDDI, Japan's second biggest operator, has selected Airvana and Hitachi gear for femtocell trials, which will commence this month. This is Airvana's second big CDMA femtocell win within the last nine months.

www.airvana.com
www.hitachi.com
www.kddi.com/english/

http://tmcnet.com/23003.1

There's a Sports App for That

An Olympic- and World Cup-focused iPhone App called iCheer Country last month hit the No.3 spot of the top paid apps in the sports category on iTunes. The purpose of the app is to allow fans to cheer for their countries. Find it on iTunes by searching for iCheer Country or by visiting the Rocky Mountain Mobile Software Website.

www.rm-mobile.com

http://tmcnet.com/23004.1

Virtual Office Mobile Now Available on iTunes

8x8 Inc., a provider of business communications solutions, has announced that an update to its 8x8 Virtual Office Mobile application which supports business voice services over 3G data connections, is now available in the Apple iTunes application store for iPhone and iPod Touch models. The update to the 8x8 software application follows Apple's recent removal of restrictions preventing VoIP applications from running on 3G networks.

www.8x8.com

http://tmcnet.com/23006.1

ABI: Stimulus Package Helped Save Mobile Handset Industry

According to ABI Research's "Mobile Devices Market Sizing and Share" and "Mobile Devices Market Forecast Analysis" reports, an estimated 336.5 million handsets were shipped in Q4, up 15.1 percent from same quarter one year ago. "Obama's stimulus package certainly helped save the mobile handset industry," says Jake Saunders, vice president for forecasting at ABI Research, which forecasts shipments to expand to 1.2 billion handsets in 2010.

www.abiresearch.com

http://tmcnet.com/23007.1

Sprint Tangos with Abrazo

Sprint has announced its support of Tango Networks' mobile UC solution, Abrazo. This latest move is expected to enhance its Mobile Integration solution and will enable business customers to leverage the productivity and cost benefits of IP telephony, unified communications and wireless mobility.

www.sprint.com
www.tango-networks.com

http://tmcnet.com/23022.1

Pundit: Apple Should Better Define its iPad

The widely-anticipated iPad is expected to be available this month. But, as one pundit notes, it isn't clear what problem it actually solves. To get most people, or at least lots of people, to start carrying another device around with them, that question must be answered.

www.apple.com

http://tmcnet.com/23009.1

Harris Stratex Now Called Aviat

Harris Stratex Networks Inc. has changed its name to Aviat Networks Inc. and touted its ability to help operators migrate to all-IP broadband services. The company – the result of a 2007 merger between the Microwave Communications Division of Harris Corp. and Stratex Networks Inc. – says it's addressing a need among carriers that have had a hard time harnessing the power of wireless network capacity upgrades due to high costs and a lack of innovative IP migration solutions.

www.aviatnetworks.com

http://tmcnet.com/23010.1

Berg: 22M Security Modules to Ship by 2014

According to forecasts by Berg Insight, shipments of wireless M2M modules for security applications will grow from 2.3 million in 2009 to nearly 22 million in 2014 in the European market. The number of alarm systems and tracking devices monitored from an alarm receiving center is expected to grow from 10 million in 2009 to 34 million by the end of 2014.

www.berginsight.com

http://tmcnet.com/23011.1

Electronic Readers Contribute to AT&T Wireless Additions

AT&T added 2.7 million wireless customers in the last quarter, making it close to a record quarter for additions. Its success on this front, according to reports, is in large part due to its deals with Amazon.com for the Kindle, Barnes & Noble with its Nook, and Sony Corp. for its Reader.

www.wireless.att.com

http://tmcnet.com/23012.1

Spectrum Auctions Could Mean Big Bucks for FCC

The FCC stands to collect approximately $6.4 billion in funds in the next decade related to the use of airwaves. According to the President's 2011 budget proposal, the FCC – for which Obama wants to extend indefinitely authority to auction spectrum -- could get $1.6 billion from spectrum auctions through 2020 alone.

www.fcc.gov

http://tmcnet.com/23363.1

Quickcomm Founder to Lead European Expansion

Quickcomm Software Solutions, a leading provider of telecom management solutions for large multinational corporations, is expanding its operations in the European market. As part of this strategy, Quickcomm has re-aligned its management team to address the strong demand for its TEM and managed mobility solutions. Founder Mark Evans will be heading up the company's European operations from Quickcomm's London office as managing director-EMEA.

www.quickcomm.com

http://tmcnet.com/23359.

In-Stat: Cost Savings Draw Business to VoIP

At least one research firm now predicts U.S.-based businesses will rapidly adopt VoIP technology over the next few years – largely because of the cost savings associated with the technology. According to Scottsdale, Ariz.-based In-Stat , VoIP penetration in U.S. businesses will reach 79 percent by 2013, compared with 42 percent today. The numbers, part of the "U.S. Business VoIP Overview: Optimization Trumps Expansion" report, is based on companies that have VoIP solutions deployed in at least one location.

www.in-stat.com

ttp://tmcnet.com/23360.1

VoIP Adds Value, Lowers Costs of Call Recording

According to industry experts, VoIP-based call recording offers a significant opportunity to lower operating costs associated with call recording, while providing an easier path to increasing service quality and regulatory compliance. The VoIP call recording platforms available today leverage centralization, consolidation, virtualization and standardization strategies that allow IT departments to lower their total ownerships costs while maintaining, or even improving, the levels of service they provide.

http://tmcnet.com/23361.1

Paper Offers Tips on Call Center Cost Cutting

A new white paper called "Cost-Cutting Insurance for Customer Service," from Knowlagent, offers five call center cost-cutting methods that have the potential to drive customers to the competition if done incorrectly and without the right safeguards. The paper also outlines simple methods to ensure the best processes around such methods as work at home agents and reducing headcount.

www.knowlagent.com

http://tmcnet.com/23364.1

TEM Outfit Veramark Reports on 4Q2009

Veramark Technologies Inc., a provider of telecom expense management solutions, recently announced financial results for its fourth quarter, which ended Dec. 31, 2009. For the quarter, Veramark reported a net loss of $68,000, or $0.01 per share, on revenues of $2,634,000. For the same quarter of 2008, the company reported a profit of $59,000 on revenues of $2,740,000.

www.veramark.com

http://tmcnet.com/23367.1

Clearview from Valicom Lets Companies Do It Themselves

Valicom, a provider of telecom expense management services, announced the official launch of its new software as a service, Clearview, in North America. Companies using Clearview can perform bill audit, bill payment, and contract negotiation as well as changes to telecom inventory without the need for outside assistance.

www.valicomcorp.com

http://tmcnet.com/23365.1

Tangoe Given Highest Marks from Gartner

Gartner has acknowledged Tangoe's significant growth in enterprise communications lifecycle management software and related technology-enabled services. The global market research company has given Tangoe a "strong positive" rating in the Gartner MarketScope for Telecom Expense Management Report. That's the highest possible rating in the report.

www.gartner.com
www.tangoe.com

http://tmcnet.com/23366.1

Packet Power Wins CoSentry Business

CoSentry, a Midwest data center and colocation provider, has selected Packet Power to monitor data center power consumption. Brian Driscoll, site manager at at CoSentry, Sioux Falls Facility, says that they chose Packet Power because of the low capital outlay and less intrusive installation. Packet Power technology helps companies reduce power consumption by monitoring the power flowing through the data center in detail and analyzing the resulting information.

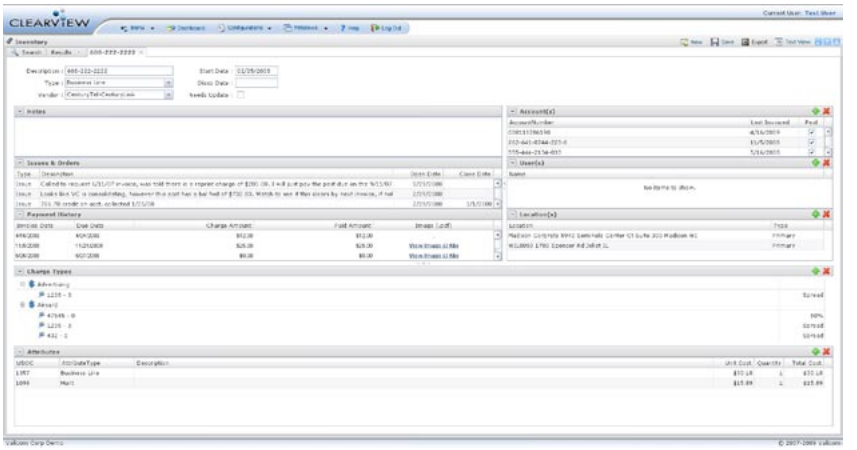
www.cosentry.com
www.packetpower.com

http://tmcnet.com/23368.1

Paper Offers BPO Tips

Telesoft has published a new white paper entitled "Maximize Telecom Savings with TEM Business Process Outsourcing." It highlights the options for business process outsourcing, offers strategies for selecting an outsourcing partner, and suggests ways to make BPO more effective. Case studies also are provided, giving examples of how enterprises have saved time, money and human capital by effectively outsourcing their TEM activities.

www.telesoft.com



http://tmcnet.com/23184.1

Aksys Networks Unveils VoIP Phones for Asterisk

Last year, business communications solutions provider Aksys Networks introduced its KONNECT Office Phone System – a server-less VoIP phone system geared for small businesses that requires no PBX or hosted service. At the recent ITEXPO EAST 2010 in Miami, Aksys Networks upped the ante by introducing KONNECT Phones for Asterisk, which offer the tightest integration with Asterisk, and cleanly deliver both KTS and PBX feature sets.

http://konnectoffice.com/products

http://tmcnet.com/23185.1

Digium Deems Teledynamic Switchvox Select Dealer

Teledynamic Communications has been named a Digium Switchvox Select Dealer. Becoming a select dealer allows Teledynamic to receive the highest level of sales and technical support from Digium. Switchvox is Digium's family of VoIP systems for small and medium businesses.

www.digium.com

www.teledynamic.com

http://tmcnet.com/23187.1

ALU: Application Opportunity is $100B-Plus

While the total size of the application enablement opportunity is not yet known, Alcatel-Lucent's research indicates significant revenue potential. Alcatel-Lucent Bell Labs quantitative research in 15 developed countries shows that the five-year cumulative value of end users' willingness to pay for services that include high-value network capabilities is at least $100 billion.

www.alcatel-lucent.com

http://tmcnet.com/23193.1

Sony Ericsson, Red Bend Renew Deal

Red Bend Software has renewed its multi-year global license agreement with Sony Ericsson to provide firmware over-the-air updating software and has expanded its contract to include device management software, available in the new Xperia X10. The Sony Ericsson Xperia X10, a Google Android platform, is the flagship handset in a family of phones coming to market during the first half of 2010, which integrates social media, communication and entertainment. Under the agreement, Sony Ericsson has licensed Red Bend's vRapid Mobile for fast and fail-safe FOTA updating and vDirect Mobile for standards-based configuration and device management.

www.redbend.com

www.sonyericsson.com

http://tmcnet.com/23194.1

Symbian Embraces Open Source

The Symbian Foundation reportedly will offer the full Symbian smart phone platform to open source. The kernel has been available as open source for a while now. The Symbian 3 platform, including applications, middleware, and the kernel itself, will be offered under terms of the Eclipse Public License and other open source licenses. One observer reported that the foundation's executive director, Lee Williams, told the BBC that one of the main reasons for making Symbian open source was a fear that it was developing too slowly to compete with rival systems.

www.symbian.org

http://tmcnet.com/23195.1

The Name That Shall Not be Spoken

According to reports, the use of the term Android can get an application thrown out of the consideration process at Apple's App Store.

www.apple.com

http://tmcnet.com/23196.1

Asterisk Does Skype

At ITEXPO, FREETALK Connect demonstrated a groundbreaking first: Skype running on an Asterisk platform – a communications marriage made in heaven. Free Skype-to-Skype calls via a low-cost IP PBX is an ideal combination for SMBs. This is such an obvious development that one can only wonder why it took so long.

www.skype.com

http://tmcnet.com/23186.1

RadiSys Offers Financial Update

RadiSys, a Hillsboro, Ore., provider of application-ready software and hardware platforms for use in the communications, multimedia, defense and medical markets, reported fourth quarter revenues of $78.1 million, down 11.9 percent from the same quarter in the prior year due to the continued decline in the company's lower-margin legacy products. Next-generation revenues were up 31.5 percent sequentially and were 7.3 percent higher compared with the same quarter in the prior year.

www.radisys.com

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» Examination of the key sub-components (email, voice, mobility, web conferencing) integrated within unified communications

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Web 2.0 Application Development Takes a REST

In an effort to facilitate service creation and modification on telco networks in "Internet time", telephone companies and their suppliers in recent years have created APIs to avail their networks to the Web 2.0 developer community. Originally, these efforts centered on Web services. But the Web services model has taken a backseat to REST.

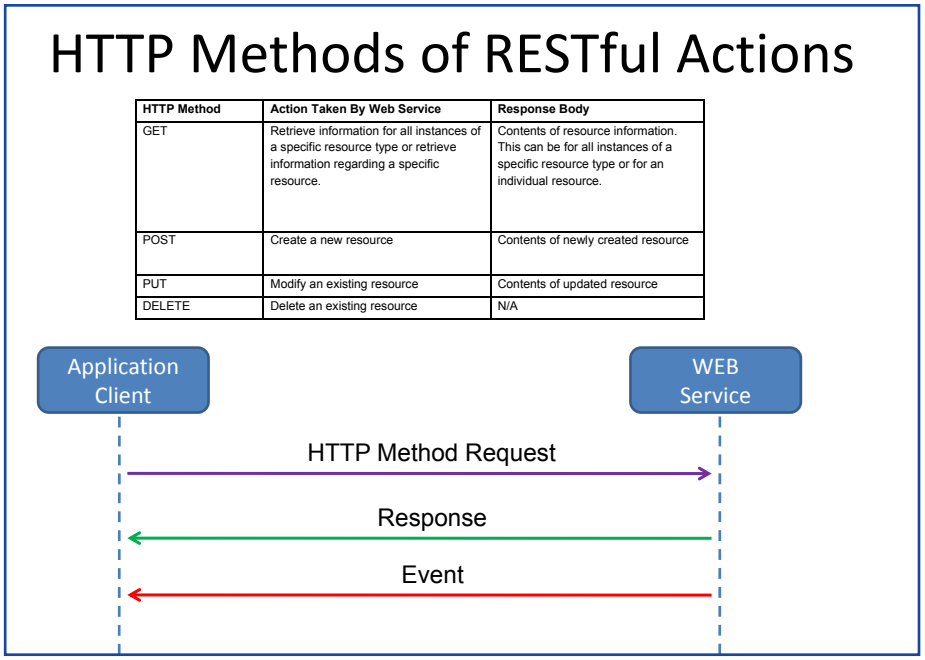
REST, which stands for representational state transfer, is a programming methodology that borrows heavily from Java, explains Neil Weldon, director of technology at Dialogic Corp.

"Web services are often higher-level C constructs, which are exposed through HTML," says Weldon. "What RESTful APIs may do is stateless, and oftentimes there's a database type of functionality that lies behind them. Like if I write in AJAX, for example, there may be a database [that] maps or correlates to that API to something more complex, which sits behind it."

Web services and REST are very similar, continues Weldon, who sees the battle between the two as a religious war more than anything else. But, he adds, it could be argued that the latter is a bit more simple and familiar to a greater number of programmers. For example, he says, Facebook uses a Web 2.0 RESTful-style API to enable developers to create applications for the wildly popular social networking site.

"REST is in vogue, it's the way to write an API or develop an SOA-type of functionality," says Weldon.

"A lot of the newer talent [that] is coming out in the industry today, especially people who are more Java-based, would probably lean more toward the Web 2.0 API structures," he adds. "I'd hate to call the Web services people old school, because they're certainly not old compared to C language or even lower constructs."



However, he explains, Web services was more popular five or six years ago, just after it was established, than it is now.

As evidence of the new-found popularity of REST in both developer and telco circles, Jim McEachern, manager of application enabler standards at Nortel, recently told INTERNET TELEPHONY that the service-oriented network effort under way at the Alliance for Telecommunications Industry Solutions is now considering how to bring REST into the fold.

McEachern considers REST a simpler method of Web 2.0 application creation and says that the bulk of development these days involves RESTful interfaces. However, because REST lacks the ability to convey stateful information, the ATIS group is looking at "a middle ground" called REST RPC, or remote procedure call. REST RPC uses the basic mechanism of REST but adds to the mix some of the state, complexity and richness of Web services. (For more on the ATIS SON effort, see the February INTERNET TELEPHONY article headlined "Bridging Legacy, Next-Generation Networks: Catalyst, SON, Other Efforts Aim to Span the Divide.")

Yet more evidence of the new prominence of REST is that Dialogic is creating RESTful APIs to enable Web developers to build telephony-related applications.

"Most Web programmers today, they really don't understand the call control, signaling, call state involved in telephony," says Weldon, adding that call hold with music, for example, is a particular call state. "That's a pretty complex thing to write in C code, and often the signaling involved in that is beyond comprehension of most Web programmers.

"So Dialogic is establishing a set of APIs, which are well known to Web 2.0 programmers, and have to do with essentially a stateless API known as a RESTful API."

RESTful APIs address developers using AJAX, which was referenced above, as well as a wide variety of other REST frameworks, including but by no means limited to PHP and Ruby on Rails.

"Everybody seems to have their own favorite API," notes Weldon. "There is one drawback to Web 2.0 APIs – I would say there are too many of them, and everybody likes their own favorite one. So what Dialogic is doing to address that is we're doing all the underpinnings and the foundation and exposing a very simple interface. It's like a four-function interface, [and] anyone can bolt their own flavor of Web 2.0 APIs on top of that. In many ways it's a Web services approach. So Web services lies at a layer below RESTful APIs."

As explained earlier, this hybrid kind of approach is important given that REST does not acknowledge state.

Because there's no state reserved with REST, Weldon explains, "if I were to query the function in a RESTful sense, there would be no response back telling me what state I'm in. It's always being renewed – you're on hold, you're on hold, you're on hold, you're on hold. It's always fresh."

So Dialogic in its new APIs created four functions – put, get, post and delete – that can be directly matched to database constructs.

"Many programs are based on SQL databases," he continues. "And I can affect a SQL database with four simple commands: insert, select, update and delete, which map to put, get, post and delete."

Weldon says service providers might want to adopt this kind of construct for developers, and then deploy a session controller type of device in their networks to mediate between the application cloud and their services, similar to how some of today's service delivery platforms handle conversions between Parlay and Parlay X, or between SIGTRAN and SS7 or SIP. IT

By Paula Bernier

Ready to Roll

NETXUSA Ensures Products are Quickly and Correctly Configured, Delivered Every Time

Anybody can throw a product into a box and ship it to a customer. Quickly delivering customized VoIP devices that are ready for use to a wide variety of customers, which each have their own configuration requirements, is an entirely different matter. But NETXUSA INC. has built a back office system that enables it to do just that in an automated and scalable manner, says President Rick Boone.

NETXUSA is a North American distributor of VoIP hardware from such companies as Aastra, AudioCodes, Cisco, Digium, Edgewater Networks, Grandstream, Mediatrix and Polycom. The privately held Greenville, S.C.-based company, which has warehouses both at headquarters and in Henderson, Nev., outfits service providers and value-added resellers with both products and related pre-configuration services and technical support.

That saves service providers and VARs from having to pay extra employees to manage inventory and configure VoIP devices. It also means these customers don't have the capital expense of sparing; instead, they just order gear from NETXUSA on an as-needed basis.

The company's customer base consists of approximately 3,700 dealers. In a given month, says Boone, NETXUSA typically ships product to between 800 and 900 VARs.

Distributing products and related support services to these customers has enabled NETXUSA to achieve strong, double-digit gains for several years and multiply the size of its warehouse facilities. Over the past five years, NETXUSA has grown from a $1.5 million to a $30 million company. In the same period, the company's lowest year-over-year growth was 30 percent, says Boone, and that was last year when the recession hit.

While the tier 3 and 4 service provider space, which has been an early adopter of hosted PBX, has fueled the company's business, Boone says NETXUSA is now starting to see opportunity with much larger customers.

"What we're starting to see, because [the tier 3 and 4 providers have seen success offering businesses hosted PBX services] is the tier 1 and tier 2 providers, the Verizons and the more regional CLECs, are starting to adopt this and are starting to roll out hosted PBX platforms," says Boone. "Those type providers are very sophisticated, and they require all of the things, and then some, we've already developed." Boone is referring here to the back office system that NETXUSA has built internally. It's really quite a sophisticated set up. Here's how it works.

NETXUSA's Rick Boone

NETXUSA provides its customers access to an online portal through which they can shop for equipment. It's a pretty standardized, shopping-card type of scenario. Customers can, without picking up the phone or interfacing with a person, order what they need, and the order flows to one of the NETXUSA warehouses.

Here's the cool part. There, a NETXUSA employee grabs the appropriate VoIP device off the shelf, scans it for the Mac address or serial number, and then plugs it into an Ethernet cable for automated configuration. Because NETXUSA already has a back office database containing each customer's configuration preferences for all the devices that customer uses, and the configuration is done automatically as opposed to manually, there's little margin for configuration error, says Boone.

"… you plug it into an Ethernet cable [for configuration], and then you go and have a cup of coffee and come back," emphasizes Boone. "When I say it's automated, it's automated."

This automation is exactly the capability that Boone says positions NETXUSA to expand its business to reach higher-end service providers.

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How NETXUSA Got Its Start

By Paula Bernier

Like most companies, NETXUSA INC. had humble beginnings. The company, founded by Tom Boone, began life in 1984 as a secondary market distributor of PBXs from Avaya, Nortel and others.

About six years later NETXUSA had distribution deals in place with three voicemail manufacturers – Active Voice, Callware and Telecall, whose technology it integrated with PBXs.

A few years following that, NETXUSA began enabling legacy PBXs for next-gen use by employing gateways from companies like AudioCodes. Of course, that was not a high-volume business considering business VoIP hadn't yet taken off in a major way, notes NETXUSA President Rick Boone, son of founder Tom.

But the introduction of Asterisk changed all that, notes Rick Boone.

"The big turnaround for us, and the VoIP market, came sometime in the 2000s, maybe 2002, with a company called Digium and their Asterisk solution, which was free," he says. "We were selling the network cards and the boards that enabled that Asterisk PBX. That really gave VARs and end users alike the opportunity to take a look at VoIP for real, and it didn't have a lot of investment because the Asterisk application was free."

Asterisk PBX gave VoIP the attention it needed to help catapult it, and companies like NETXUSA, to the next level.

"From there we signed an agreement with Polycom, I'm thinking that was in 2004, and … that's when our business started really taking off," says Boone.

Through that relationship, he says, NETXUSA began working closely with service providers and the Polycom team to understand market needs, and then began working on its provisioning capabilities and back office systems, which are among its key differentiators today. IT

"The excitement for us is we developed this extreme sophistication over the past four, five years," he says. "Quite frankly, there's only a handful of customers we deal with currently that are using it to the max. So we've kept the code ahead of the curve, and what we found is [that] these tier 1 and tier 2 providers are going to use it to the max and push us just a little bit farther."

Because NETXUSA already has a back office database containing each customer's configuration preferences for all the devices that customer uses, and the configuration is done automatically as opposed to manually, there's little margin for configuration error.

Boone estimates that NETXUSA's back office system has about 90 percent of the functionality tier 1 and 2 providers need today. And he says the company is working to add the other 10 percent. Of course, an important requirement of these large customers is the ability to scale operations. So NETXUSA is expanding its automation functionality to encompass things like the process for handling returns of malfunctioning phones, for example, says Boone. Because of the size of their customer bases, he says, the large service providers want to be able to log their customers' phone problem information into their own systems, have NETXUSA pull that information into its own back office system, generate a new order for a replacement phone, and then ship that device to the provider or end user. NETXUSA hasn't publicly announced its tier 1 and 2 customers, but Boone says it's in the process of helping four "good-sized" regional CLECs roll out hosted PBX services and is in talks with large incumbent telcos.

"I would make the assumption that at some point the tier 1s would fall in line and do the same," says Boone.

The idea of a large telco outsourcing its inventory and configuration to an outfit like NETXUSA seems to fit into current trends, given many of the tier 1 telcos already have outsourced key parts of their operations to specialists in an effort to lower their operating costs and focus on core business objectives like new service creation, marketing and sales as opposed to less strategic areas such as equipment configuration and inventory. IT

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By Paula Bernier

The New Thinking on ICT, Energy Consumption and the Environment

Addressing the energy consumption of network elements and end user devices is important, but it's not the only thing businesses and service providers should consider as they create strategies around curbing power use, lowering carbon footprints and, just generally deciding how to run their operations in a way that makes the most sense. That's the messaging network operators are hearing increasingly from suppliers, some of whom are urging them to approach such matters more holistically.

"If you look at what most are talking about when they talk about green – besides, 'hey, I'm recycling my boxes in the shipping area' -- they're talking about power," notes Jim Theodoras, director at ADVA Optical. "I'm the lowest power. I'm the smallest box. Or I take up the least footprint. That's all good, but that's what I would call incremental gains, and it's kind of fluff. It doesn't really address the big issue. The angle we're taking is one of efficiency. And to think in the efficient mindset is a little bit different because it's hard sometimes to grasp what building a more efficient network refers to.

"The analogy that I like to use is the auto industry," he explains. "Probably 10, 15 years ago the government was pressuring them … [for] better gas mileage. So they did things like got rid of the antenna and made it built into the windshield for better aerodynamics. They added silicon to the tires so they would roll easier. They made the car shapes a little more curvy. All of these things did improve gas mileage by like one or two miles per gallon, but the improvements were less than the growth in the number of cars, so our total gas consumption kept going up. Then when the Prius came out, it wasn't just small, it didn't just have a small engine, it was more efficient about how it went about transporting a person from one thing to another. Suddenly you had this big leap.

"So we want to talk more about how to build an efficient network rather than how I can shave one watt here or one watt there," Theodoras continues. "We do happen to be the lowest-power WDM transport vendor, but again we think if you look at the rate [at which] vendors are lowering the power consumption of their transport gear, it's a much lower rate than the rate of the growth of the Internet and the power consumption in the Internet."

ADVA has been trying to educate the industry for more than a year now about how to build more efficient networks in an effort to keep up with Internet demand in a sustainable way. That's important, says Theodoras, because forecasts indicate – given the average subscriber's increasing use of bandwidth, the growth in broadband penetration worldwide and other factors such as expectations for more machine-to-machine communications – communications alone, if left unchecked, would consume more power than there is in the world.

"So if I want to keep growing the Internet, and I want to keep growing my subscriber base, I need to find a better way of doing this," he says.

Hybrid Optical Switching

For ADVA and its customers, that means adopting a new approach related to core Internet routing called hybrid optical switching. At first glance, Theodoras says, it would appear as if transport technologies like WDM – which offers big pipes over long distances – would be the big power consumers in core broadband networks. In fact, he says, it's the core routers that are the energy hogs.

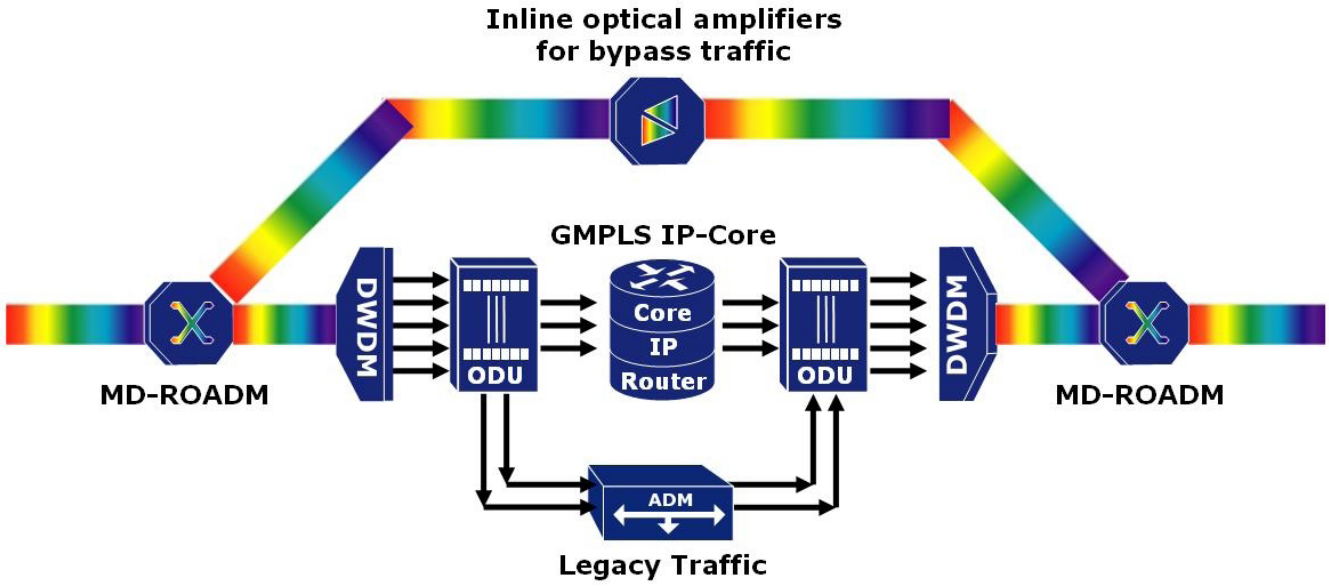
Green Checklist

- ☑ Choose a vendor with the lowest power and smallest footprint per unit (lambda, port, bit), using latest green metrics.
- ☑ Reduce intermediate regeneration by leveraging long-haul technologies and ROADMs.
- ☑ Push fiber and (passive) WDM closer to the end user, eliminating local exchanges in the process.
- ☑ Collapse multiple service networks onto a single optical backhaul network.
- ☑ Concentrate higher layer routing into fewer, more efficient data centers and COs.
- ☑ Use service demarcation techniques to allow lower layer switching, aggregation, and backhaul all the way to the core.

Source: ADVA

"Most of the power in a router goes into that Internet protocol look-up and forwarding engine," Theodoras says. "The very thing that makes it Internet protocol – the forward look-up engine, the memory and the high-speed tables – that's what's consuming all this power."

hits the router whether it's getting touched or not, and it's incredibly wasteful. Only 20 percent of the traffic hitting a router is terminated; everything else is looked up, ported, moved from one port to another, and burped back out again, even though nothing happened with it."



That's a problem, he says, because broadband network operators will never be able to get enough core routers to meet the exponential growth in bandwidth consumption.

"If you plot a trend line on where Internet traffic and bandwidth consumption is going, there's not enough raw material in the world to build enough core routers to ever meet the demand, and so something else has to happen there," he says.

"The core GMPLS networks are overloaded," Theodoras continues. "They've actually outgrown the GMPLS protocol. At this upcoming GMPLS World Congress we're going to hear a lot of people talking about how core GMPLS networks are broken now because they grew so fast. The designers of the protocol never in their wildest dreams thought it would have to support networks this big."

ADVA has put forward an architecture that enables the traffic that's not dropped off in a particular location to bypass the router, and at the same time be optically amplified and regenerated so it's ready to move on to its final destination. The company offers this functionality today with its ROADM gear, but it also has under development a dedicated optical data unit switch that will provide carriers with a more integrated solution.

"The key way of solving the problem in the GMPLS core is to simply do this hybrid switching, and so you route colors around the router," notes Theodoras. "Currently everything

Theodoras says service providers are beginning to understand the inefficiencies of the current method. That's why Verizon has been vocal about its desire to do something different, and why AT&T implemented a crude version of hybrid optical switching when it did a 40gig overlay on its 10gig network.

'Miles' Per Sub

The automotive industry apparently is a good source for analogies when it comes to ICT energy consumption. Like ADVA's Theodoras, Jeff Baher, head of IP network marketing at Ericsson, draws some parallels between the two industries, albeit to draw a slightly different conclusion.

Baher notes that while miles per gallon is an important measurement when making a choice about a vehicle, it's not the only thing to consider. For example, a Prius has the best miles per gallon, he says, but if the vehicle is intended to transport a large group of people, for example, buying an SUV that consumes more energy and provides more seats might be a more efficient option.

The idea here is that carriers should look at their networks and the energy consumption of them not just in terms of the cost per port and energy per port, but rather in terms of the individual subscribers, what functionality they receive from the networks and how that translates (or does not translate) into revenues for the service provider, says Baher. The notion of looking at things from a subscriber basis has long been

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understood on the mobile side, he says, but it's relatively new thinking in terms of fixed and metro/edge networks.

"When you look at switches or even in routers, a lot of the discussion has been cost per port or energy per port, basically looking at the total energy consumed by the platform divided by the total number of Ethernet interfaces, and they say that's how much energy per port," says Baher of Ericsson, which is in year two of a five-year initiative to lower CO_2 emissions on its gear on a per subscriber basis by 40 percent. "And what we're trying to say is that's not the way that the carriers are really, ultimately, building the network, because for every increment of network capacity, they make up their money by putting subscribers onto that network."

So Ericsson, which sells a subscriber management platform called the SmartEdge, suggests service providers should align their strategies around energy consumption with subscriber functionality and profitability. And the company has been working with equipment test house Iometrix to figure out how to express energy consumption so it can be applied using metrics that make the most sense.

The 2:98 Ratio, Smart Grid and More

While energy consumption and carbon emissions of ICT are on track to increase substantially over time, both Ericsson and Alcatel-Lucent also like to talk about the 2:98 ratio. That is the fact that the information and communications technology industry is

Green Giant

In Carrier Circles, Verizon Takes the Lead

By Paula Bernier

Verizon has been one of the leading lights on the green front. The company took a leadership position in energy conservation when it enacted on Jan. 1, 2009, the requirement that all the products it would buy from then on had to reduce their power needs by 20 percent.

As of the end of 2009, that has yielded Verizon nearly $2 million in energy savings, reports Chuck Graff, who is a director in corporate networking technology for the company.

"All of the savings we have are cumulative over the first year and the second year and the third year, so as long as we keep it in the network we will continue to save energy as well as CO_2," Graff adds.

Perhaps it was this savings that motivated Verizon to go a step further and implement a thermal management program, through which it is asking vendors to use a 3D CAD process during product development to look at airflow, hotspots and other areas they might consider in designing new gear. Verizon hopes to help its vendors analyze the data gathered during the CAD process and offer suggestions on what steps might be taken to produce equipment that generates less heat, says Graff, who has established the Web site www.verizonnebs.com to support the effort.

"I've been working on trying to get heat out of the central office for many years, and with very little success because nobody wanted to really redesign their equipment," he explains. "So about four or five years ago we sat down with the industry and said 'We really need to come up with a plan.'"


Chuck Graff

Verizon's fiber-to-the-home network is also providing enormous energy savings, Graff says, explaining that the equipment used in the effort consumes just 38 percent of the electricity that a similar copper-based infrastructure would've required.

Additionally, Verizon says it has been forward-looking in its adoption of alternative energy. That includes its Long Island deployment of fuel cell technology to power a telecom central office.

"That's yielded a nice program that enabled us to look at new technologies and say 'Can we use these kinds of things that will enable us to really drive these kinds of savings?'" Graff says. "This one is natural gas-driven."

Verizon earned the federal government's Energy Star Award for operating the site, the nation's largest fuel cell site of its kind. In operation since 2005, it uses seven fuel cells, each of which is capable of generating 200 kilowatts of electrical power per hour, enough to meet the energy needs of about 400 single-family households. This system provides as much as 80 percent of the facility's power load when all seven fuel cells are activated.

The company also has more than 20 solar powered cell sites in the western United States, and in Hillsborough County, Fla., Verizon uses 140 solar panels at its Carrollwood central office building to generate an average of 19 kilowatts to 21 kilowatts a day. IT

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responsible for just 2 percent of the world's carbon emissions, whereas 98 percent of the pollution comes from other stuff.

But here's the really important part: ICT potentially could enable reductions of energy consumption and pollution in the other 98 percent through the use of things like smart grid technology, traffic metering, location-based services and smart building control.

"ICT has a tremendous enabling opportunity to reduce climate change through the use of ICT in these other sectors," says Marc Benowitz, director of eco-environmental engineering at Alcatel-Lucent.

Alcatel-Lucent announced in December it is working with Vodafone Germany to develop a solution to give consumers real-time access to their energy usage information to enable them to make the best choices about their electricity, gas and water consumption. Municipal utility Stadtwerke Pasewalk will be the first customer of the joint solution, which involves Alcatel-Lucent's Smart Metering Management System SMM 8617 and related systems integration services, as well M2M connectivity from Vodafone Germany.

In other recent smart grid partnership action, Verizon Business last month let it be known that it has joined forces with a company named CURRENT Group, which makes smart grid sensors and software, to reach the utility vertical with IT solutions aimed at more intelligently managing energy. The companies expect to do joint sales and marketing of smart grid solutions that could include wireless and fixed IP connectivity as well as managed network , security services and consulting from Verizon.

Bob Heffron, utility market manager for Verizon Business, tells INTERNET TELEPHONY that Verizon Business and CURRENT, which got its start in life as a broadband over power line equipment supplier, are now collaborating with one customer and expect to begin work with additional utilities in the next few months. Heffron adds that although CURRENT is a small company, it is a recognized leader in the smart grid space, having participated in a smart grid city project in Boulder, Colo., as well as a prominent effort on this front in Europe.

While European countries tend to have been more forward-thinking in their efforts around the environment and the smart grid, and some have legislation of that nature, the U.S. is making strides on this front as well, as the Obama administration last summer set aside $3.9 billion for grants to modernize the electric grid.

Energy Efficiency

In addition to working to reduce carbon emissions in other sectors as well as within its own operations, Alcatel-Lucent is focused on making networking gear as energy efficient as possible.

In a move emphasizing this direction, Alcatel-Lucent recently signed the European Union's Broadband Code of Conduct, which asks suppliers to pledge to meet EU energy requirements related to various types of networking gear.

Benowitz says part of the code talks about networks' use of power as it relates to traffic loads, adding that Alcatel-Lucent has made some advances on the DSLAM front to enable these devices to consume less power when appropriate. Industry DSLAM protocols describe an idle/low power state, he explains, but when service providers try to enable the idle state it can result in crosstalk, so this option is never operationalized. However, Alcatel-Lucent has implemented successfully an idle state without the crosstalk problem, he says.

Alcatel-Lucent also looks at products "from cradle to grave" as it considers product design, says Benowitz. That includes ensuring more than 95 percent recyclability of its products, upgradability, and the like.

Additionally, the company's Bell Labs recently launched the Green Touch consortium to make communications networks 1,000 times more energy efficient. The resulting reduction is about how much energy it would take to power the world's communications networks, including the Internet, for three years, according to the group. In addition to Alcatel-Lucent Bell Labs, the group includes a broad range of organizations including CEA-LETI Applied Research Institute for Microelectronics, China Mobile, Freescale Semiconductor, the French National Institute for Research in Computer Science and Control, Interuniversity Microelectronics Centre, the Massachusetts Institute of Technology's Research Laboratory for Electronics, the Samsung Advanced Institute of Technology, Stanford University's Wireless Systems Lab, SwissCom, Telefonica and the University of Melbourne's Institute for a Broadband-Enabled Society.

Alternative Energy

But the Alcatel-Lucent effort goes beyond just lowering power consumption and end-of-life considerations on boxes. The company also is bringing alternative energy sources into the mix through its Alternative Energy Program, which is being supported out of a specialized lab in France.

To date, the company has focused its alternative energy efforts primarily at areas in the non-developed world like equatorial Africa and parts of Asia that would not otherwise be served by power, he explains. There are 1 billion people in the world who are off the power grid, and 100,000 base stations worldwide could be powered by alternative energy by 2012, says Benowitz, quoting GSMA statistics.

Last year Alcatel-Lucent and its partners surpassed 300 base stations that are powered by carbon-free energy. And just last month the company announced it is working with Vodafone in Qatar on solutions involving photovoltaic and wind turbine power, which is not only more environmentally friendly, but is also lower cost and more efficient given the service provider no longer needs a diesel generator, which is difficult to get to remote areas, Benowitz says.

Benowitz adds that while such alternative energy solutions have typically been build one at a time, Alcatel-Lucent would like to ramp up the volume of implementation, so is building an "industrialized" solution. IT

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By Paula Bernier

Virtualization Sees Green

But More Energy Savings Could Be Realized

Virtualization allows multiple applications to run on a single server. Because each application no longer needs its own server, virtualization significantly decreases the amount of hardware required.

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As Manjula Talreja, vice president and global lead for the Cisco/EMC/VMware Business Strategic Partner Organization notes, the fewer servers you need, the less energy is consumed, both in terms of the servers themselves and in terms of the extra gear needed to cool them.

"It results in pretty significant cost of ownership for the customer," Talreja adds.

Indeed, Lori MacVittie, technical marketing manager at data center application delivery networking firm F5 Networks, estimates that virtualization frequently enables businesses to eliminate the need for between five and 10 pieces of hardware.

"In most non-virtualized enterprise data center environments, compute resources (servers) are under utilized, with most of them operating at 5 to 15 percent of their capacity," adds Rahul Singh, principal at Pace Harmon, a third-party outsourcing advisory and technology consulting firm. "This is, in large part, due to applications having dedicated server and storage hardware, thus requiring more power, cooling, network and real estate. In my experience, virtualization of enterprise data center environments significantly improves server utilization (in some cases by as high as 85 percent). The increased utilization can significantly reduce the power, cooling, network infrastructure, storage infrastructure and real estate requirements — resulting in significant decreases in energy consumption (50 to 70 percent) and the carbon footprint of enterprise data centers."
That said, there's a clear energy savings and eco-friendly angle built in to the virtualization story.

Yet virtualization could further lower power consumption and, as a result, turn up more green in terms of opex savings and environmental benefits.

In one effort that could help businesses move in that direction, Panduit Corp. late last year announced it is partnering with IBM to implement Portable Modular Data Center designs that harness the power of data center virtualization and minimize energy use. Panduit's UPI approach maps the physical infrastructure to the logical network, enabling customers to conserve data center real estate, manage heat loads, and optimize power and cooling efficiencies.

"We look forward to partnering with IBM to help companies optimize power, cooling, and space within the data center environment," says Vineeth Ram, Panduit's vice president of global strategic marketing. "Panduit provides an optimized physical infrastructure in support of IBM's family of data center solutions such as PMDC."

Shehzad Merchant, senior director of data center strategy at Extreme Networks Inc., says managing power more efficiently as part of a virtualization strategy can yield 30 to 40 percent in energy savings. In fact, he says, some of Extreme's customers have a "follow-the-moon" model in which they continually move their processing capabilities across the globe, so they're always operating out of a data center in a geography in which it's night, so they get the lowest-cost power.

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Whatever model they use, once customers are intelligently controlling and shifting processing power to make the best use of resources and energy consumption, why stop at the server? Merchant say Extreme has developed a capability to enable customers to write scripts so that during evening hours, for example, as they shut down some servers, they also can put into hibernation blades on Extreme switches.

But while virtualization presents a strong opportunity for energy savings and environmental friendliness, it doesn't always come to fruition unless server utilization rates are improved through the effort, says Pace Harmon's Singh.

"To explain, virtualization provides enabling technology for improving server utilization, but an enterprise must diligently plan for the implementation — including leveraging resources with virtualization implementation expertise — in order to see significant increases in server utilization that would result in energy savings," he says.

Alan Murphy, technical marketing manager at F5 Networks, says every virtualization vendor is using the green marketing. But he adds that there's not a lot of tangible product to optimize green deployments.

"What I mean by that is VMware has got a lot of products that solely focus on power management, and what they can do is they can detect when a virtual machine is not being used … and they can power down that virtual machine so it uses less power resources," he says. "On the surface that's great; it sounds like that's exactly what people want to do. But what we're seeing from our customers [is] there's still a good bit of resistance to allow an automated system to turn up and turn down complete servers. If one of those malfunctions, then you could lose an entire Web farm."

Murphy says F5 has responded to that concern by offering a solution that can automatically reroute traffic to alternate, working servers "if a power management service freaks out and shuts down a bunch of servers."

Still, Murphy adds, "we're not seeing a lot of customers that are adopting that technology yet, and we're not seeing a huge push from VMware and Microsoft and Citrix and those vendors to make that a top-line priority. It's just there if somebody wants to use it and play with it today."

Virtualization could further lower power consumption and, as a result, turn up more green in terms of opex savings and environmental benefits.

That's not usual, of course. Customers need some time to get comfortable with new technologies so they build a sense of trust relative to their reliability. As Murphy points out, a similar scenario played out with virtualization adoption, particularly for mission-critical and production applications.

"Two or three years ago we had so many customers that came to us and said 'Yeah, we play with virtual platforms, but we only do it in testing.…' And today that's completely different," he says. "We did a survey seven or eight months ago, and off the top of my head I think the number was 67 percent of our customers said they ran mission-critical apps on virtual platforms." IT

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By Paula Bernier

Tag, You're It

Context-Aware Applications Could Be a Communications Game Changer

Smartphones and anywhere access to the Internet are pretty cool. But what's next in communications could blow the doors off those recent advances.

The coming whirlwind of change falls under the umbrella of contextual applications. That is, applications that capture and analyze information, such as the user's location and possibly other data, and in turn provide appropriate content to that individual.

The application possibilities for this kind of thing are endless. They range from the commonly-offered example of defining a user's location based on cellular triangulation, GPS or readers to allow a retailer in the immediate area to offer that individual a coupon or other special offer. But contextual applications also could fall into education, health care, tourism and a whole lot of other areas.

It probably won't come as a surprise that Google is testing the contextual application waters.

The search and online advertising giant's mobile search service reportedly now considers the location of the user in an effort to make search results more targeted. For example, an individual using her iPhone or a smartphone based on Google Android might type in the first few letters of museum and be presented with links to various museums in the city in which she is visiting.
But there are many far more interesting examples of contextual applications.

For example, as discussed in the case study in February's INTERNET TELEPHONY, Abilene Christian University is working with Alcatel-Lucent to enable students and campus visitors with school-provided iPhone and iPod Touch devices to get required reading lists on their mobiles as they pass a classroom and receive details on buildings and statues as they tour the grounds. The user devices in this scenario will have "tags" affixed to the back of them (although some devices involved in contextual applications need only their embedded capabilities) which, when they are passed in front of a "reader" convey the desired information.

Another extremely interesting idea that might be considered part of the contextual applications movement involves the use of technology to bring geographic and medical data together in a way that will allow for more personalized diagnosis.

Bill Davenhall, head of the health and human services marketing team at GIS software firm ESRI, has been evangelizing this concept by writing and talking about how he may have avoided a 2001 heart attack had his doctors considered geography in looking at his medical history and propensity to be affected adversely by the pollution surrounding his new home in southern California. According to Davenhall, he grew up and lived as an adult in areas with heavy pollutants in the air, which the ESRI executive indicated may over time have weakened his body, which then succumbed to L.A. smog in 2001. Had his doctors looked at these factors, he says, they may have been able to steer him away from his California move, suggesting it would be hazardous to his health. IT

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By Paula Bernier

Cell Broadcast Firm Addresses Location-based Applications

A company called one2many has an entirely unique angle to contextual applications. INTERNET TELEPHONY's executive editor recently interviewed Maarten Mes, managing director of the company, about the company's business model and how it addresses location-based services.


Maarten Mes

What does one2many sell and to whom?
Mes: one2many sells its Cell Broadcast System to mobile network operators, telecoms equipment providers and OEMs across the world.
CBS offers a non-intrusive, real-time service of distributing text messages to mobile handsets, specific to their current location. Where SMS is a service of individual messages, Cell Broadcast is capable of broadcasting one single message to reach all mobile handsets in an area as small as one radio cell and as big as an entire country. Only handsets that have Cell Broadcast channels activated will receive these messages. It is fast and in real-time. Sending a message to millions of handsets takes a matter of seconds. This is particularly important for emergency alert services. The ability to broadcast in a specific area makes it possible to provide handset users with information relevant to their location.

What is one2many's customer target and geographic focus?
Mes: one2many has the largest Cell Broadcast global footprint – of more than 80 installations with 50 customers in more than 30 countries. Based in the Netherlands and Dubai, the company targets customers across the globe. Key markets include Europe, North America, Asia Pacific and Africa. The company's customers are typically tier 1 and 2 operators.

What are the benefits of Cell Broadcast for public warning?
Mes: The days of sirens and alarms being enough to warn the public of impending danger are long gone. Today's dangers require a tailored approach to each individual event and detailed instructions must be given to the public, informing them with localized information to alert, inform and guide them to safety. The example of a fire at a chemical plant illustrates this well. While persons within the immediate range of the fire should be evacuated, those downwind of the toxic smoke could be in danger if they venture outdoors. Two distinct messages, therefore, need to be broadcast – different messages sent to distinct locations.
Today, only Cell Broadcast has the geographical flexibility to do this. As messages are broadcast to all users within the range of individual cells/base stations, the right messages get to the people who need them.

Does this kind of alert system require some action on the behalf of the end users?
Mes: Users do not need to sign up to the system, as the messages are sent to all phones in a specified area rather than to individual handsets. This means that visitors to the area as well as locals will receive the relevant warnings – and similarly, local residents that are out of town will not be unnecessarily alarmed. Users can also easily opt out simply by turning off the Cell Broadcast channel on their handsets.
Cell Broadcast also offers a truly robust approach to public warning. Cell Broadcast has its own dedicated channel, which ensures that Cell Broadcast messages always get through – even at peak periods (like New Year's Eve) or at exceptionally busy locations.

How can service providers recoup their investments in Cell Broadband public warning systems?
Mes: Cell Broadcast offers excellent means of doing this. The features of Cell Broadcast enable operators to exploit, for example, location-based mobile advertising services, location-based information services and dynamic discount service network optimization for revenue generation and improving customer loyalty.

What specific mobile applications can one2many enable?
Mes: Cell Broadcast has solved the issue of how to deliver location-based services and mobile advertising without the

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need to impinge on user privacy. It works by blanket-sending a message to a cell or series of cells within a specified location. The messages are not sent to specific individuals, but to all network antennas in the targeted area. The organization sending the message does not need to know the numbers of the phones within that location as they are targeted automatically by being in the area. This removes much of the fear of 'big brother' inherent to other LBS/mobile advertising approaches.

Also, Cell Broadcast allows operators to efficiently broadcast Tweets of celebrity Twitter users with a huge number of followers, by allocating CB channels to them. A message will reach all followers instantly without being a burden to the mobile network.

Cell Broadcast also enables user-generated content to be broadcast with location relevance. User content can be sent to the operators via a premium rate SMS number – generating revenue for the operator with each use. Once received by the operator the content can be broadcast to all users in a given location signed up to a particular channel. For example, while visiting a particular city a user could Tweet to all of [his or her] followers in that area in case they wanted to meet up.

This enables value-add applications such as (location-based) dating, community and classified services.

And with the dynamic discount service, operators can now introduce dynamic pricing and provide discounts in areas where the network is under-utilized. The operator's statistical or dynamic information shows for each cell site what the traffic load is throughout the day, throughout the week. When at certain periods in the day there is ample capacity available, traffic can be stimulated by offering a discount. Each cell uses Cell Broadcast to broadcast the discount percentage. This information is shown on the display of the mobile device through the cell information feature and can be updated on an hourly basis. IT

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By Paula Bernier

The State of LTE

Carriers Take Measured Approach to Adoption of the 4G Technology

The latest big news on the LTE front is that AT&T has tapped Alcatel-Lucent and Ericsson to supply radio access equipment and related products and services for its 4G build. The fact that these vendors won the multi-year deals, for which the terms were not disclosed, is no big surprise, however, given AT&T uses the companies' gear for its 3G network, and Verizon has been working with the two outfits on its own LTE effort.

Apple's iPhone

In making the selection in mid February, AT&T reiterated its earlier announced plans to do LTE trials later this year and early commercial deployments starting in 2011, which the carrier says will coincide with widespread availability of equipment and LTE-compatible end user devices.

AT&T's choice of Alcatel-Lucent and Ericsson for LTE also points to what some sources indicate is a larger trend: The expectation that 3G and LTE 4G will live in harmony for some time to come.

Erik Ekudden, vice president of technology and industry at Ericsson, recently told INTERNET TELEPHONY that the 3G and 4G technologies adopted by AT&T, Verizon and others followed a similar development process, and that the focus given to testing and interoperability of the two wireless options will enable these wireless operators to migrate to LTE relatively easily and at their own pace.

Indeed, LTE is the next generation of the popular GSM/UMTS mobile technology underlying AT&T's existing 3G network. Even as AT&T last year publicly embraced LTE, it made new investments to upgrade 3G cell sites to HSPA 7.2 technology, for which it offers 10 end user devices.

Although AT&T has been lambasted for poor coverage and capacity on its 3G network, which has seen heavy traffic in light of the introduction of the iPhone, the company has made clear it aims to continue to leverage its 3G network. That is evident in these new 4G supplier agreements, which stipulate that the 3G equipment delivered by Alcatel-Lucent and Ericsson to AT&T starting this year must be software-convertible to LTE, so the company doesn't have to rip out hardware when it needs to make the long-term evolution.

Tekelec CTO Vince Lesch points out that, despite exploding mobile broadband demand, service provider revenue is not following the same upward curve from these new access services. As a result, he says, wireless operators must find a way to address demand while at the same time holding down costs, which they're doing by trying to leverage existing gear whenever possible. That means wireless broadband will typically be supplied over hybrid networks that use a mix of technologies and, thus, require special gear like gateways to handle interworking and security between the two sides.

Wireless operators also will need to harmonize the management systems between 3G and 4G networks, according to TM Forum, which this month is announcing a major new initiative to produce single-interface, multi-vendor technology management standards for advanced 4G wireless networks. TMF is teaming with 3GPP to develop common standards for fault management, performance management and configuration management across 3G and 4G.

Just how long AT&T can hold the line on 3G, however, remains to be seen, as the company today serves twice the number of smartphone customers as its nearest competitor, and reports that it's seen mobile broadband traffic growth of more than 5,000 percent over the past three years. Indeed, the company has acknowledged that its network is not up to par in certain areas in light of this rapid growth.

TownHall Investment Research recently said AT&T's investments in wireless are a disappointment, and that it would need to spend an additional $5 billion on its wireless network to get on even footing with Verizon Wireless, with which it's been in advertising wars in recent months over wireless broadband coverage. According to reports, Gerard Hallaren, director of research at TownHall Investment Research, said AT&T has focused more on wireline than wireless network investments, although the wireless side accounts for most of its profits.

Allen Nogee, In-Stat analyst, adds that while the use of such technolo-

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gies as HSPA may be impeding LTE uptake, there are some "glaring issues" around 4G.

"These include lack of spectrum, signal-to-noise ratio, and non-established patent and royalty pool," he says. "It's clear that the shift toward 4G LTE will be gradual and protracted."

The Federal Communications Commission has been vocal about its intention to help out with the 4G spectrum shortage and has already set in motion plans to clear the 700 MHz band to enable the rollout of broader next generation networks. But that's just one small part of the 4G challenge.

Another good reason for wireless providers to retain 3G technology as they adopt 4G is because the first iteration of LTE will not support voice. However, while the first LTE endpoints are expected to be data only, there's the potential for dual/mode devices that would enable voice services over the 3G network until IMS-based voice over LTE is ready to roll.

The great voice debate surrounding LTE, however, hasn't stopped Verizon Wireless from moving forward with its plans, which entail deploying LTE networks in 20 to 30 markets this year. The company, which has publicly stated plans to use IMS-based voice from the get-go, also has publicly stated it expects to have full nationwide coverage of LTE in 2013.

Elsewhere in the world, telcos are embracing LTE as well. To date, Ericsson has signed commercial LTE contracts with four other major global operators, two of which are in the United States, the world's fastest growing LTE market. That includes TeliaSonera, which Ekudden says launched LTE in Oslo and Stockholm late last year and plans to implement a nationwide LTE network over time.

And while Sprint, Google and Intel have joined forces with cable companies Bright House Networks, Comcast Corp. and Time Warner Cable Inc. to get behind the Clearwire WiMAX effort, Cox Communications has embarked on a path to implement LTE as well.

Working with Alcatel-Lucent and Huawei, Cox recently successfully completed LTE-based voice calling and high-definition video streaming technology trials and tells INTERNET TELEPHONY it remains "bullish" about LTE. However, the company declined to disclose an LTE network deployment or service rollout schedule.

But, it an e-mail interview with INTERNET TELEPHONY, a company spokeswoman wrote: "We designed and planned our 3G deployment with clear intent to upgrade to 4G, thereby eliminating many of the 'hurdles' that many of the established 3G operators must face. We were able to plan for this upgrade given the timing of our entry into the wireless market and the technical capability of today's equipment as well as the systems and backhaul solutions that are available at this time." IT

Wireless Vendor Offers Smartphone Wi-Fi Offload Capability

By Paula Bernier

It's common knowledge in communications circles that the boom in mobile data, attributed mainly by smartphone usage, is causing stress on wireless networks. Kineto Wireless Inc. is addressing this problem with the introduction of the Smart Wi-Fi Offload solution.

The solution, explains Steve Shaw, Kineto's vice president of corporate marketing, offloads all mobile services to Wi-Fi networks. It consists of a gateway and software, which runs on the smartphones. The software can be preloaded by the service provider or downloaded by the user.

For the consumer, Smart Wi-Fi Offload can mean better wireless coverage and performance, says Shaw. For the operator, it can result in a lighter load on the network, he says. It also can enable mobile operators to address the mobile VoIP threat by offering discounted or free Wi-Fi calling, Shaw adds.

Other Wi-Fi offload solutions on the market enable users to offload traffic from Internet-based sites such as YouTube, but those offer much more limited capabilities and don't do as much to address consumer and operator needs, says Shaw, adding that Kineto itself has a basic Wi-Fi offload solution. With basic Wi-Fi offload, the user can opt to use a Wi-Fi connection for his or her smartphone when such a network is in range, but that can drain the smartphone battery more quickly because the device's Wi-Fi and cell radios have to run simultaneously. For the mobile operator, basic Wi-Fi offload does nothing to expand its network coverage and can result in Web services like Skype and YouTube receiving great coverage, while the operator's own services are presented with a lower level coverage.

Kineto's Smart Wi-Fi Offload solution addresses that by delivering all mobile services over Wi-Fi rather than the macro network. That way the cellular radio can be turned off when the smartphone is connected to Wi-Fi, eliminating battery drain and freeing up spectrum from other users outside.

"Smartphones are driving tremendous increases in mobile data usage, straining mobile networks in the process," comments Peter Jarich, service director with Current Analysis. "Mobile operators need to dramatically increase network capacity in short order, while meeting the performance requirements of their subscriber base. Wi-Fi, installed in millions of homes and offices around the world, as well as in many smartphones themselves, is a natural technology choice for mobile operators to address these growing problems." IT

By Paula Bernier

Just the Fax: An Interview with Max Schroeder

In preparing for TMC's recent ITEXPO EAST 2010 event in January, I worked with a group of industry leaders in the fax over IP space to plan a show session on the subject. Panelist Max Schroeder, senior vice president of FaxCore Inc. and one of INTERNET TELEPHONY's monthly columnists, had a lot to share about the new and interesting developments on the fax over IP scene.


Max Schroeder

So for those who didn't make it to the ITEXPO session on FoIP – or for those who did, but left wanting more – here's an in-depth discussion with Schroeder on what's new in fax.

What is the status of fax over IP acceptance in the marketplace?
Schroeder: Davidson Consulting recently reported that the FoIP market increased by 70.6 percent in 2009. Certainly that number is a strong indicator of marketplace acceptance and growth.

Fax has very specific criteria for transmissions to be successful. For example, you mentioned that if a fax has to traverse the session border controllers of two interconnected service providers, it can create problems. Explain.
Schroeder: The primary reason fax remains a relevant communications medium is its status as a legal document in most countries. Two key fax features critical for legal status are the date and time stamp and a requirement in the T.30 protocol to confirm that all of the pages in the document have been completely transmitted. The confirmation requirement is facilitated by a handshake procedure at the end of the session between the sending and receiving devices. The PSTN was primarily designed for voice traffic and continues to be voice centric. When a call is initiated by the calling facsimile endpoint (a media gateway or similar device or an Internet-aware fax) and routed over the PSTN it can pass through many carriers to reach the receiving endpoint. Session border controllers manage the real-time multimedia traffic flows between the network borders of the carriers. SBCs take care of the various aspects necessary to connect two disparate networks. Since the PSTN is still voice centric, the entire infrastructure, including the SBCs, is optimized for voice, not fax. For a successful transmission, the endpoints must switch from audio mode to T.38 mode. In practice, this seemingly simple concept is actually very complex, resulting in a much higher failure rate for FoIP than traditional TDM-based fax transport.

When a customer tells you they have T.38 support via a carrier or media gateway, can you feel comfortable it will work?
Schroeder: Some carriers are T.38 compliant, and if the endpoints stay within the carrier's network all is well. But the problems will re-emerge if a fax leaves the T.38-compliant network. The alternative is to deploy FoIP internally and connect to the PSTN using a media gateway such as [those offered by] Dialogic or Cisco. Integrating fax into the UC equation will still result in a great ROI even with the associated PSTN phone charges.

How does fax relate to what's happening with SIP trunking?
Schroeder: SIP trunking can have the same FoIP issues as listed above. However, two or more carriers that are T.38 compliant could establish connecting SIP trunks to eliminate some of the problems of transmitting over the open PSTN.

You are involved in fax over IP efforts within the SIP Forum. What is your role, and what is the forum trying to accomplish?
Schroeder: My personal role is that of FoIP task group whip. The issues surrounding IP-based fax in general and the use of T.38 make it difficult for users to determine if T.38 can or will work reliably. The FoIP Task Group was chartered by the SIP Forum to address the problems and offer solutions. The charter of the SIP Forum FoIP task group is to investigate ongoing issues with the deployment of fax services, specifically ITU-T T.38, in SIP networks. Anyone interested in following the progress of the FoIP Task Group project should go to www.sipforum.org. The current task group problem statement is posted along with instructions on how to participate in or to join the forum.

Do you envision a world in which there are IP-based fax machines at customer premises, or will it always be a legacy fax machine connected to an ATA?
Schroeder: Many homes and small companies are not connected to the Internet but own legacy fax machines. Their most cost-effective solution will be ATAs. Medium to large enterprises will continue to migrate to fax servers.

What's next for fax?
Schroeder: The dominate trend will be the integration of fax into UC and workflow using FoIP. Trend No. 2 will probably be carrier compliance for IP faxing. IT

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By Paula Bernier

Good Visibility

Service Assurance Products Give Operators a Better Handle on Network, Service Performance

As operators expand into new service areas and add new technologies to their networks, the challenges of monitoring and addressing performance are growing exponentially. But new service assurance tools now offer carriers an end-to-end view of what's happening on their multi-faceted networks, right down to the customer service level, enabling service providers to act on potential issues before customers notice a problem and lowering the cost of troubleshooting.

For example, just last month Optimus announced it is using Tekelec technology to get more visibility into its network, which uses the IMS architecture to support both mobile and fixed-line operations.

Specifically, the Portuguese service provider is migrating to Tekelec's next-generation, Linux-based performance management platform to increase storage and processing capacity, which addresses the dramatic increase in subscriber usage data the carrier has seen. The Tekelec Integrated Applications Solution, which is in use by more than 150 service providers, integrates and interconnects with network applications to gather data records across hundreds of protocols in 2G, 3G and 4G environments, and supports traffic management, security, roaming, prepaid and short message service.

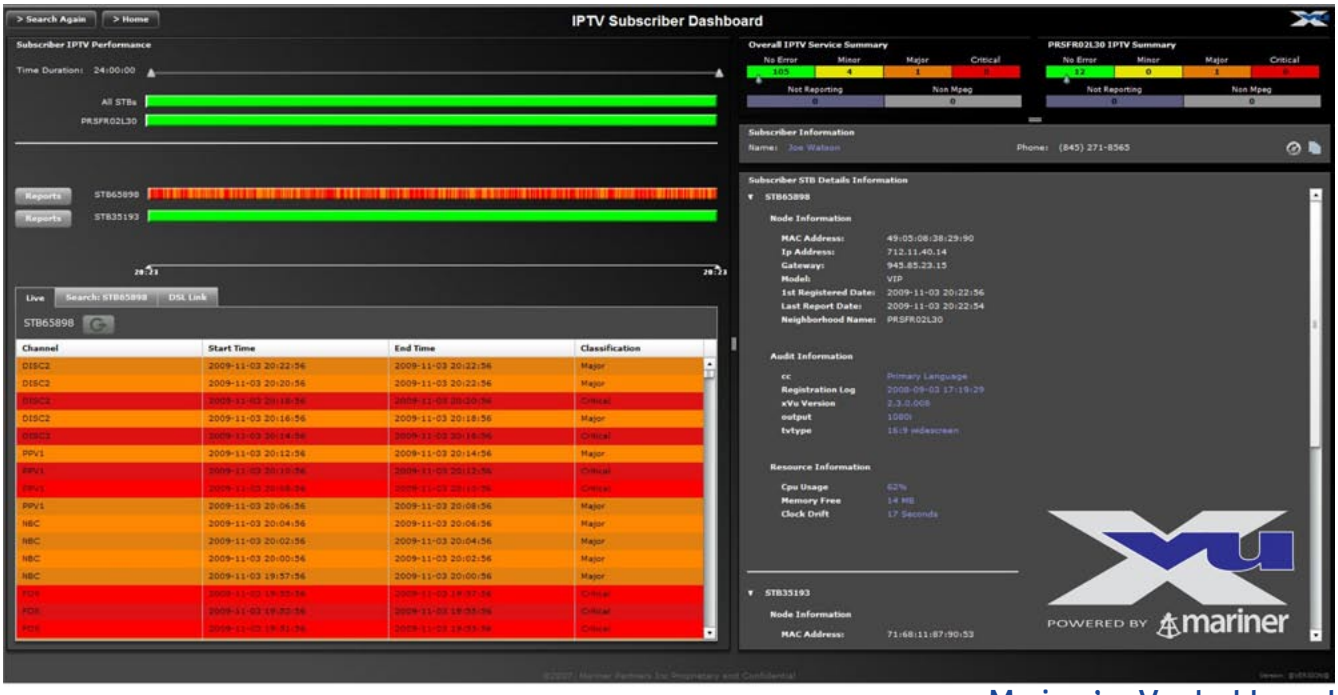
"Tekelec's performance management solution pinpoints and analyzes valuable information across a countless number of subscribers and network activities," says Jose Pinto Correia, executive board member and CTO at Optimus. "Tekelec gives us the actionable insight we need to ensure that our customers have the best possible experience regardless of their device, location or connection type."

Tekelec CTO Vince Lesch tells INTERNET TELEPHONY that it will be monitoring SIP, Diameter and SS7 for the service provider.

"We should be able to have full visibility, to look at not only the signaling and session control plane, but also the user plane and looking at data there, specifically related to mobile data," says Lesch.

The Tekelec gear also will enable Optimus to ensure that DNS is working and to see what types of traffic are being sent over its network.

Allowing service providers to see which type of traffic is flowing over their networks sounds like something that a deep packet inspection vendor would be pushing, but Lesch says the Tekelec capability is different from straight DPI. While DPI devices may be able to show provider what type of traffic is there, they can't necessary help troubleshoot things like why an HSS is rejecting a signaling message from a particular user, for example, he says.



Mariner's xVu dashboard

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InfoVista's Vista360 service assurance dashboard

A seven-year-old company called Mariner is coming at service assurance from a different angle. The company, which was founded by former executives of Canada-based IPTV service pioneer NBTel, offers tools for IPTV service providers to do service assurance. Mariner provides a service monitoring solution called xVu, which lets operators – including Bell Aliant, a telecom in Guam, and SaskTel – see how their IPTV service is performing down to the customer experience.

Marc Savoie, vice president of product management at Mariner, explains that the xVu does that by "interrogating" the set-top box. That entails gathering set-top box statistics, which the xVu then analyzes to search for potential impairments and to gauge the performance of each set-top box on a service provider's network.

Mariner's solution includes various dashboards that then present the information. Savoie explains that there's a dashboard that technicians and call center representatives can use to troubleshoot consumer-specific issues; a dashboard designed for network engineers, who may use it to define common problem areas in the network based on network element, geography or traffic type; and a dashboard for how the services themselves are performing.

While Mariner may not be a household name, its go-to-market involves some well-known companies, including Alcatel-Lucent, Cisco and Microsoft.

The Mariner solution is integrated into the Microsoft Mediaroom IPTV middleware used by such major providers at AT&T, DT and Swisscom. The service assurance provider also is involved with Cisco's Visual Quality Experience, aka VQE, which involves a solution that sits on the wire by the set-top box and does packet repair before the customer experiences service degradation. Tollgrade, meanwhile, leverages Mariner technology to monitor DSLAMs and DSL performance, says Savoie.

"Currently the service provider is rolling a truck [using] a lot of speculation on what the customers are telling them, and they have very little visibility on what's happening in the customer home," says Savoie.

Employing service assurance, he adds, can let them see what's really going on and, in the process, shave off 20 percent on mean time to repair statistics for service providers. That allows service providers to see a return on investment in the Mariner solution within a year, and at the same time improve customer satisfaction, Savoie says.

"Regardless of what type of service is being offered by service providers today, whether enterprise managed VPNs, residential and business broadband, enterprise or consumer mobile, they are all very conscious of the customer experience," says Steve Hateley, director of product marketing at InfoVista.

"With so much competition in the marketplace, it's in the interest of service providers seeking to maintain their revenue stream to make sure customers are getting the utmost experience from their applications and services," he says.

According to Hateley, Web 2.0 techniques can simplify the visualization of all aspects of a customer's service, provide a means to streamline data into user-personalized views, and allow cross-organizational access to customer data.

"InfoVista's Vista360 is a powerful, innovative and simplified dashboard application – built on Web 2.0 – that was developed to meet the demands of service providers and large enterprises for this kind of actionable, real-time and personalized data," he says. IT

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UBM TechWeb

By Erik Linask

The Next Generation of Mobile Applications

Is there a segment of the communications market more exciting and more rapidly evolving than the mobile space? Hardly. While it wasn't the first to introduce a smartphone to the market, Apple's iPhone has provided a boost to the mobile industry rivaled by none. Only Motorola's introduction of the StarTAC back in 1996 helped pull the industry forward to any like degree, but the application and content development the iPhone has driven sets it on a stage above all others.

There are currently more than 140,000 applications available on the App Store, and many suggest that figure will eclipse 200,000 this year. Applications are available for nearly every use case, some offering business productivity enhancements, others pure entertainment, and still others delivering information to mobile devices. The same holds for the Android Market and BlackBerry AppWorld, though both pale in comparison to the volume of applications available to iPhone users.

But, despite the proliferation of mobile apps, they engender little interaction between users and brands other than the device manufacturers. However, another mobile segment is quickly coming into its own, highlighted at Mobile World Congress in Barcelona, which will change that: the 2D mobile barcode. In addition to creating an interactive experience between the user and the vendor, the use of mobile barcodes in marketing and advertising campaigns provides an opportunity for network operators to monetize their assets.

A variety of mobile barcode use cases have proven not only its viability, but the breadth of application scenarios that are possible. Here are just a few:

- Masabi has enabled rail U.K. rail system users to purchase tickets by sending an SMS and receiving a barcode on their phones that can be scanned by conductors in lieu of paper tickets.
- The *Pittsburgh Post-Gazette* is including barcodes in its print editions directing users to its mobile reader, which will soon also include additional content, including images and videos.
- Pepsi placed barcodes on 400 million products in the U.K. last year, looking to better connect with the 18- to 24-year-old consumer group, offering mobile content specifically targeted for that audience.
- In South America, Telefonica is using barcode technology to enable access to telecom services, such as adding SMS bundles.
- *Sports Illustrated* included barcodes in its latest swimsuit issue that would allow users to receive short video clips of models on their phones.
- NeoMedia ran a fundraising campaign at MWC to benefit Haiti, where it contributed $1 for each scan of barcodes on promotional posters at the event.

Currently, most mobile barcode applications focus on marketing and information dissemination efforts, where users are directed to Web sites or receive additional information via SMS or MMS, though the barcode-based purchases, like train tickets, are growing.

Two obstacles stand in the way, however.

One is use acceptance. As Chris Drake, Neustar's vice president of marketing and product management, converged addressing Services, explained to me, the key to a successful mobile campaign is being able to deliver content and offers that are contextually accurate. In other words, they have to be tuned to the interests of users, which means they must be augmented with user profiles and even location-based information, driving higher conversion rates.

This also means mobile campaigns must be driven by user opt-in, rather than mass dissemination to broad user groups, which is why initial campaigns, like those of Pepsi, SI and the Post-Gazette, are likely to play a significant role in increasing acceptance of mobile barcode use. Once consumers begin to understand the convenience and ease of use of barcode technology as a means of retrieving information, they will be more likely to accept its use for revenue-generating transactions.

The other challenge is that most barcode applications are tied to operators and particular barcode readers. Neustar is also helping overcome that with its mobile barcode clearinghouse, designed to facilitate interoperability between readers and barcodes, which will also drive adoption of mobile barcodes as a mobile medium.

"The Neustar clearinghouse will unleash interoperability and allow you to understand any barcode, regardless of your reader and get to the offers you receive," Drake said. "That's a significant enhancement in ease of use and the customer experience."

The great advantage the barcode market has over other mobile applications is that there is really only one prerequisite – a camera, which is now included with most devices. Readers can be downloaded at any number of Web sites (visit the Mobile Barcode Innovations Center at http://mobile-barcode.tmcnet.com for an extensive list of downloadable readers and the latest barcode news and information).

Given the availability of the technology to end users, the mobile barcode space offers a significant opportunity for vendors to connect with consumers, regardless of device and, with the help of Neustar, mobile operators. Also, because mobile barcodes employ pull technology – campaigns rely on an action by the user to trigger a message – they comply with privacy requirements and regulations, which often preclude major brands from engaging in cutting edge campaigns for fear of alienating their audiences or potential litigation.

And, for all you trade show attendees out there, including media members, who are used to weighing down bags with marketing collateral, mobile barcodes offer a green alternative. By scanning a barcode at a vendor's booth, we can retrieve documentation electronically at any time from a Web site instead of worrying about luggage going over prescribed weight limits. IT

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