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INTERNET TELEPHONY®

The IP Communications Authority Since 1998™

Volume 13/Number 4 April 2010

Getting Vertical-Focus: **Government**

The Value of Partnership

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with the Agent Channel

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Another Satellite

In the public network infrastructure world, DSL, fiber-based access and wireless architectures have captured the spotlight in recent years as ways to deliver broadband and take it to the next level – both in terms of coverage, usage and bandwidth rates. Using satellite technology to deliver broadband access – any level of broadband access – to support consumer services is much less common, and seldom discussed.

That's not to say that nobody is doing it or has ever talked about the idea of making satellite-based broadband access services a consumer offer.

In fact, my in-laws, who live in a rural area of Illinois, get their broadband via a satellite-based service, which I believe is provided by Hughes. But they haven't had a great experience in terms of reliability; as a frequent visitor to the farm, I can attest to its spotty performance. Plus, Papa and Tootsie say it's expensive.

I don't have an exhaustive list of every company that provides satellite-based broadband access in the U.S., but I believe it's pretty limited.

However, just a few years ago there were high hopes that mass market broadband satellite services would become reality. If the words Globalstar, Iridium and Teledesic don't ring any bells, may I remind you that these were three very prominent efforts by high-tech leaders to blanket large areas with high-speed Internet access.

I believe it was in the late 1990s when Motorola was trying to get its Iridium effort off the ground. The aim of the Iridium venture was to make satellite access a mass market business. But the high-flying plan plummeted to the ground in 1999 as the company filed for bankruptcy. Although the venture initially planned to let the satellites burn up in the atmosphere, a group of private investors swooped in to grab the assets and reworked the business plan into what is now a whole new Iridium, which says it has worldwide coverage, but which targets much more focused applications – like aviation and maritime verticals.

(CapRock Communications, another satellite-based service provider, albeit without the checkered past, seems to have a similar approach to the market.)

Globalstar, which got its start as a more broad-ranging effort backed by Loral and Qualcomm, took a somewhat similar path – having been taken over by new ownership several years ago and with a more vertically-focused business plan.

Wireless pioneer Craig McCaw (along with investor Bill Gates of Microsoft), meanwhile, gave the satellite space a go with the ICO-Teledesic project. This venture, they said, would become a global provider of wireless satellite services including telephone, Internet access and more. But this effort, too, failed to materialize.

So where am I going with all this talk about satellite as a method of delivering consumer broadband services? I'm going toward the idea that, while it won't be anything like the $9 billion Teledesic project, the idea of using satellite to bring broadband to more residential users may be making a bit of a comeback.

True, this may just be a drop in the broadband bucket; however, I think it's noteworthy to point out that the Rural Utilities Service's second-round broadband rules note that $100 million has been set aside for satellite projects. And the satellite category is a new one for RUS this round. What's more, even if a suitable application for stimulus funds is not received for a given unserved area, the government could well turn to satellite communications to bring broadband services to those who still don't have it.

So we may just see more widespread satellite-based consumer broadband yet. **IT**

Stars in My Eyes

Recently I started seeing stars on all my Google search results, and I have to tell you, I am confused. I googled Google stars and got a result that wasn't starred. Does that mean it isn't good? While I research, you may be interested in an excerpt from this article, which may clarify what is going on:

Google's focus on personalized search has led the company to develop a number of useful features promoting an individual user experience. In the next few days, users should see the newest Google search development rolling out, called stars. Current Gmail, Reader, Docs, and News users will recognize the stars feature, which allows them to mark important e-mails, documents, and other content, to find easily at a later time. Because Google has implemented the stars feature in so many of its other apps, extending stars to search results is a natural move. By focusing on personalized search, Google caters to its diverse user base and continues to improve the search experience.

Recently I started seeing stars on all my Google search results, and I have to tell you, I am confused. I googled Google stars and got a result that wasn't starred. Does that mean it isn't good?

So now if I starred something in Google Reader, will it show up in search as a starred result? I am already seeing results with stars in my results, and I am not sure why. Did a tiny gremlin use my Google account and go on some sort of star-clicking spree?

According to the article, I shouldn't be confused. Check out the following excerpt – keeping in mind of course this is a non-starred result:

Using stars is simple. An empty star marker will appear next to every search result. Once a result is starred by a user, it appears at the top of the search results the next time the item is googled, under a special "starred results" heading. Users can select multiple results for the topics they search, and recall them later without searching through multiple pages to find what they're looking for. Essentially, stars is a bookmarking tool specifically for the Google search engine. You'll no longer need to bookmark a page using your browser – good news for users who have hundreds of bookmarked sites that may disappear with one wrong click. Starred sites will sync with the Google toolbar as well as the bookmarks app, creating a more streamlined user experience.

So wait, now stars are bookmarks? And the experience is somehow streamlined? This is good to hear because I was about to switch to Bing (hmm, I wonder what happened to AltaVista).

You know what is really funny? When I googled AltaVista just now, its URL came back starred. **IT**

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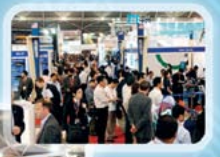

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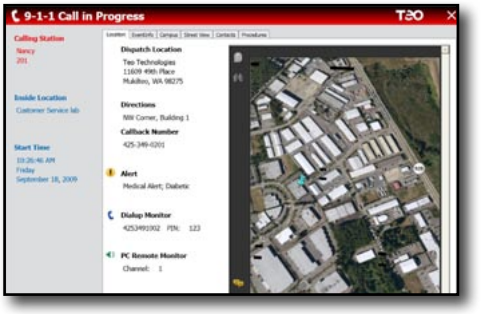

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By Dwight Hunsicker

Afghanistan's Communications Moves to the

Through the ages, the region now called Afghanistan has been at the crossroads of an empire. Its people and territory have faced conquest by the Greeks, Arabs, Mongols, Turks, British, Soviets and, following the Sept. 11 attack on New York's World Trade Center, the United States.

This turbulent history, the rule of the Taliban and six years of civil war have left Afghanistan a legacy of widespread poverty, decimated infrastructure and possibly the largest concentration of land mines on Earth. Few nations in the 21st century face the challenges that confront this nation's first democratically elected government today.

Communications has been essential to governing since the days when news traveled no faster than a horse could ride. Recognizing its importance, the World Bank issued a request for proposal in 2003 to construct a Government Communications Network for Afghanistan's Ministry of Communications. It aimed to provide voice and data services to ministries and government offices in Kabul, Afghanistan's capital, and to provincial capitals.

The winning bidder was Globecomm. But there may have been days when company executives wondered if winning the bid was such a great idea.

Kabul satellite hub installation

Provincial VSAT terminal

Changing Requirements

"The environment is about as challenging as it gets," says Globecomm Vice President Paul Knudson, who manages Afghan projects for the company. "Outside Kabul, there is little or no infrastructure, no roads and no electricity. Security is a continuing concern. We have had to unload trucks in the middle of nowhere, hand-carry electronics across a stream, then get the truck across and reload it."

To make matter more complicated, no sooner had the project been awarded than it began to change. Globecomm discovered that the Ministry of Communications had, under a separate contract, purchased CDMA mobile switches from a Chinese company. They were providing local mobile service in "telecom islands" but had no outside connections. Interconnecting the switches and linking them to long-distance circuits became an unexpected priority.

"It was a fundamental change," says Globecomm Vice President Paul Johnson, who is the account executive for Afghanistan. "What we originally planned to be a private network rapidly became a public network. We are, in effect, the backbone for a public telephone system, providing bandwidth, trunking, bringing traffic back to Kabul and providing international voice, video and Internet service. That's in addition to meeting the government's urgent need for connectivity."

Another important change involved the identity of Globecomm's client. Globecomm develops each project under the management of the Ministry of Communications. But when the Ministry accepts systems upon completion, the assets are transferred to Afghan Telecom.

Next Generation with Help From Globecomm

"The goal is to make the Ministry a true regulatory body," says Knudson, "while Afghan Tel becomes the operator. With each new network, Afghan Tel gains assets and increased value that improve its ability to attract outside investment."

Multiple Projects

The IP-based Government Communications Network links 42 ministries and offices in Kabul via fiber and microwave, and extends this core network to 34 provincial capitals via satellite.

Satellite bandwidth also links dozens of CDMA mobile switches in the provinces with Globecomm's Sat-Cell hosted switching system in the United States.

All calls taking place within the footprint of each CDMA switch remain local, while calls between the switches or outside Afghanistan are routed through Globecomm's network operations center.

The GCN turned out to be the first of multiple projects awarded to Globecomm by Afghanistan's government. Next came the District Communications Network, funded by US AID, which aimed to push service into rural areas. Globecomm designed, installed and commissioned a satellite network connecting a hub in Kabul to police, fire and other essential services in each of Afghanistan's 337 legislative districts to provide voice and thin-route data as well as Internet access. Demand for the DCN has been tremendous, and Globecomm is working with Afghan Tel to expand the business plan and bring more revenue into the network.

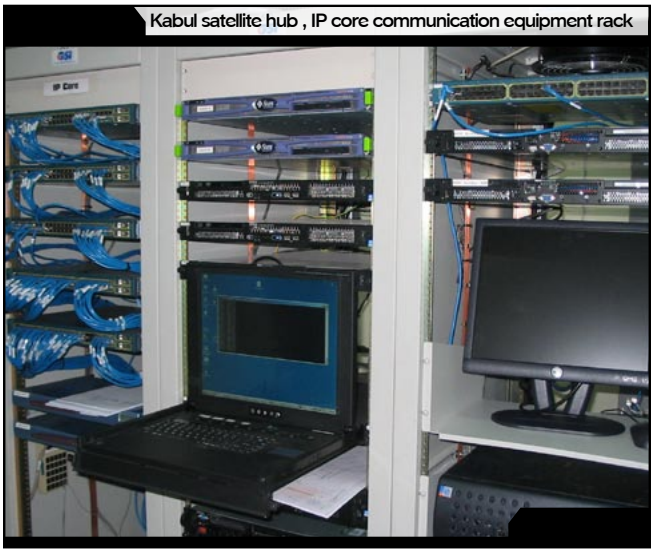
IP-Based Platforms

An international gateway for voice, data and video, funded by the Afghan Reconstruction Trust Fund, came next. The Ministry originally specified a DCME network, the standard technology, but accepted Globecomm's recommendation for an IP platform that was both less expensive and far more flexible. In addition to gateway service for Afghanistan, the ARFT also provides a backup satellite facility for the GCN.

In two other projects, Globecomm has installed PABX switches at National Army bases throughout the country and integrated them into an existing VSAT network, and also provided a custom-designed satellite truck to the Ministry for mobile spectrum monitoring. With so much of the nation's telecommunications depending on satellite, the truck will allow the Ministry to regulate spectrum more effectively, issue licenses and shut down illegal operators.

Johnson gives much of the credit for Globecomm's in-country success to its Afghan partner, Watan Telecom, and its Chairman and CEO Rateb Popal.

"Mr. Popal worked with us early on to ensure that resources were in place to train the people needed to carry out the installation and commissioning of the work. Together, we have built the capacity of the Afghan workers and transferred a great deal of technology 'know how.' We now have Afghan technicians supporting the programs as they move from deployment to operations and maintenance. I have been really impressed by their desire to learn and their level of commitment."



Kabul satellite hub , IP core communication equipment rack

Adds David Hershberg, chairman and CEO of Globecomm: "The people of Afghanistan are thirsting for improvement in the quality of their lives. Our work is helping to meet that need. You can't possibly build an effective government without reliable communications. We're helping newly-elected legislators and cabinet members understand what it takes to legislate and govern. Our network provides videoconferencing among provincial officials so they can learn from each other and work together. Communications creates opportunities for commerce, to obtain finance and credit, to interact with NGOs and with the government. We're incredibly proud to be making this contribution, and endlessly impressed with the determination of our employees, partners and customers in Afghanistan." IT

Dwight Hunsicker is vice president of government services at Globecomm (www.globecommsystems.com).

By Paula Bernier

State of Delaware Adopts SBCs to Enable Centralized Communications

Delaware may be small, but the state thinks big when it comes to IT. Mark Cabry, lead telecom engineer for the Department of Technology and Information, Telecommunications Group for the State of Delaware, explains that his department acts as an ISP for the state, running its MPLS-based network backbone, WAN infrastructure, data centers, firewalls, hosted Windows Exchange and phone systems.

"As centralization becomes the model in this economy we're trying to bring more in," he says.

Cabry's department treats each of the state's agencies as its own customer. That includes 16,000 individuals working out of a couple hundred buildings. When you include the K-12 schools involved in this scenario, it totals about 100,000 people served at about 600 sites, he says.

In its ongoing move toward a more efficient and cohesive network and services, the department recently installed Acme Packet Net-Net 4250 session border controllers, which allow the state's Avaya PBXs and Cisco VoIP handsets and IP PBXs to work together and allow for common services in the core. The SBCs also act as a firewall between the various government agencies.

Additionally, the SBCs allow the government network and its users to connect to the rest of the world via a SIP service from Verizon called the Verizon Burstable Enterprise Shared Trunking service. This allows the state to save money by centralizing its connection to the PSTN and reduce link costs for multiple government agencies. The centralized SIP trunking enables the department to provide a hosted voicemail platform with unified messaging services throughout the state and eliminates the need for additional voicemail systems, maintenance and administration expenses. Cabry says the department has Microsoft Exchange UC at multiple data centers.

In the future, the SBCs also will allow the department to deliver integrated data, voice and video applications to various state agencies, enable connectivity to PBXs in neighboring states such as Maryland, Pennsylvania and New Jersey and ease communication in case of a disaster.

"After a series of robust technical demonstrations, we determined that Acme Packet Net-Net SBCs addressed our interoperability requirements, offered the most advanced functionality and were the best fit overall with our vision," says Cabry. "The breadth of knowledge, support and VoIP technical expertise that Acme Packet brought to the table cemented our belief that deploying SBCs in our network not only meets our communications requirements today, but also paves the way for additional applications, like videoconferencing, in the future."

Adds Seamus Hourihan, executive vice president of marketing and product management for Acme Packet: "More and more government organizations at both the state and federal level are seeing the benefits of deploying SBCs in their networks and are relying on Acme Packet, as the SBC market leader, to provide the needed security, interoperability and scalability. At the forefront of this trend, the State of Delaware is realizing the practical benefit of reduced operating costs while at the same time delivering trusted, high-quality, IP interactive communications." IT

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By Paula Bernier

Hamilton Relay Helps California Address Deaf, Blind, Speech-Disabled Requirements

Through a new contract with the State of California, Hamilton Relay starting this summer will provide free telecommunications services that make telephone connections possible between people who are deaf, hard of hearing, deaf-blind or speech disabled and people who use standard phones. In some cases, special equipment is required to access the service, and the State of California relies on a separate contractor for the provision of that equipment. INTERNET TELEPHONY recently interviewed Anne Girard, director of marketing at Hamilton Relay, about the deployment.

What will Hamilton Relay's solution allow the State of California to offer that it couldn't before?
Girard: As outlined in the new contract, there is an increased focus on outreach, customer education and service use training for speech-to-speech customers. In addition, there are enhanced customer preference options including customized greetings, the ability to simply provide communication assistants with a name and/or unique identifier for dialing purposes and specialized deaf blind preference options.

How, if at all, will the new State of California system compare with relay systems in use in other states around the country?
Girard: Telephone relay service has been available in the State of California as well as all 50 states as a result of the Americans with Disabilities Act passed into law in 1990, and further developed in 1994 to include the provision of relay service. Relay in California is unique in that it allows users of the service to select a provider. This choice is only available to customers of the California Relay Service.

What role, if any, does IP technology play in this?
Girard: Outside of the California Relay Service contract, Hamilton Relay provides Internet Relay services nationwide, which are based on IP technology.

What types of endpoints will hearing-impaired people require to use this system?
Girard: In some cases, special equipment is required to access relay service. The California Equipment Distribution program, managed by a separate contractor, facilitates the provisioning of that equipment.

The Hamilton Relay solution at work

What new technology trends are we seeing in telecommunications relay services, and how is Hamilton Telecommunications addressing them?
Girard: Outside of traditional relay, [which] is state-based, the FCC oversees the provision of video relay and Internet relay on a national level. These technologies are certainly a result of the latest advancements of the communication industry as whole. IT

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VoIP Services For SMB & Residential

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By Ted Werth

Killer Customer Support: The New Onshore Option

It's no secret that bad customer service is a primary reason telecoms and ISPs lose subscribers. A 16-country survey conducted last year by Datamonitor/Ovum found that wireless carriers and Internet service providers experience $36 billion per year in lost revenue due to unsatisfactory service experiences. The CFI Group, an Ann Arbor, Mich.-based research firm, confirmed that poor customer service, along with high rates, were the two biggest reasons customers switch providers. And, according to industry researcher Arthur Middleton Hughes, telecom customers create churn rates averaging between 10 and 67 percent, based largely on dissatisfaction with the way they're being treated.

Customers Demand Killer Support

Providing killer customer service is a must in today's economy. With the cost of acquiring a new customer running six to seven times that of retaining a current customer, profitability can hinge on reducing churn through satisfying customer service experiences.

In a recent study by call center service provider Teleperformance, 68 percent of respondents said a single negative experience with a customer call center could cause them to take their business elsewhere. Almost half of the respondents said poor customer service is a major reason for dissatisfaction with a company as a whole. And, the problem appears to be even worse with younger consumers, particularly when it comes to technology providers.

Change Challenges Resources

Given how quickly services and technologies change in the ISP and Internet telephony fields, it can be challenging at best to maintain a sufficiently staffed and trained customer service/tech support infrastructure. Engagement bottlenecks, less than proficient call center personnel, and "black hole" automated self-service systems are simply not tolerated by customers.

Until recently, most service providers have considered only two alternatives to meet the twin demands of a growing customer base and constantly changing service lineup: spend more and more to add and train in-house call center personnel, or send customers to offshore support providers. Adding staff and capability in house is incredibly expensive; and offshore support options are not attractive to most customers, who have grown intolerant of marginally-skilled problem solvers with non-native language skills.

While the cost savings prompted by offshore call centers may be tempting, CSAT and Net Promoter scores — the two most popular customer loyalty metrics used by telcos — inevitably suffer. A new pathway to customer satisfaction was sorely needed — and thankfully, is now available.

The Recipe for Killer Support

For customers to be happy with the quality of support care they receive, four components must be in place:

- broad expertise to resolve the customer's service question on the first contact;
- tools that help resolve tech support issues quickly;
- comprehensive security that ensures customer peace-of-mind; and
- domestic communication skills that ease customer frustration.

Sound impossible? Actually, third-party domestic customer support options are now available that effectively — and affordably — meet these requirements. Service providers can rely on these local alternatives to retain customers and build loyalty. Perhaps most exciting of all, the best outsourced U.S. support providers even have the ability to generate additional revenue streams through value-added service offerings.

This new breed of customer service/tech support center uses live chat, remote computer support, innovative tools, and online knowledge bases to deliver fast, competent and customer-friendly solutions. In addition to 24/7/365 availability, these highly trained domestic sources can typically route individual calls instantly to the most knowledgeable support representative based on location, availability and expertise. This streamlined process improves response time, facilitates customer/representative rapport, and ensures maximum quality of service.

In addition to the cost savings of outsourced onshore support, ISPs and wireless service providers can leverage the opportunity to open new revenue streams. By offering concierge-quality support to preferred customers at a premium price, support can go from a costly, necessary evil to a valuable revenue generator that supplements the telco's primary service offerings.

Onshore call center/tech support providers, due to a business model that focuses on the needs of telcos and ISPs, often become full business partners, helping to bring new services to market and cross-selling services. Their offerings are suitable to both corporate and consumer customers, ensuring high levels of satisfaction and creating a competitive advantage.

By raising customer service levels, increasing average revenue per user, and reducing support costs, U.S.-based third-party support programs can provide a better, more affordable and easier way to reduce churn. With killer customer support more important than ever, onshore support is the solution ISPs and telecoms have been searching for. IT

Ted Werth is CEO and founder of PlumChoice (http://plumchoice.com), a remote services company for the consumer and small business markets.

Introducing the

Business Phone Resource Center

http://business-phone-service.tmcnet.com/

One area where more and more businesses are seeing cost savings is with their business phone service. And JoiBiz, an Atlanta-based communications solution provider, can help.

JoiBiz is powered by Hawk Communications, a company that been building and innovating its IP, voice and data networks for more than 10 years. JoiBiz offer unique hosted PBX platform that design to save businesses money and help enhance their Productivity and efficiency

The JoiBiz offers key features such as: multiple auto-attend based on time of day dial by name, call queue, unlimited caller holding, unlimited call conferencing and bridges, real-time display of all queues and extensions and the ability to record all calls.

While other companies offer PBX or voice services, JoiBiz offers customers both services for $49.95 a month.It includes unlimited lines, and unlimited extensions.In addition JoiBiz offers its SMB customers business class Internet service such as Full-duplex 1.5 Mbps T1, Bonded T1 and high speed DSL

Resource Center Features:

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Next Wave Redux

By Brough Turner

Fax Declines Slowly, But FoIP Grows

Fax? Who are we kidding? Today, most business documents are transferred electronically (e-mail, shared access to a server, FTP, etc.). Nonetheless, fax remains in use in some industries, e.g. finance and health. There's some confusion as to why. I've had fax product managers tell me fax is required by HIPAA, the Health Insurance Portability and Accountability Act, or by another specific law. No.

Fax remains in use because our court systems' rules of evidence say a "duplicate" is admissible to the same extent as an original unless a genuine question is raised as to its authenticity. Duplicates include fax copies (at least as traditional fax is understood). Electronic records, on the other hand, are only admissible if their trustworthiness is established in court. It's that extra burden of proof that makes e-mailed PDF files burdensome while TIFF files sent over T.30 protocol, i.e. faxes, are OK. As an engineer, I regard this as nuts, but as a citizen it's just as well our court procedures evolve slowly. In any event, while the total fax market is shrinking, fax-over-IP markets are growing.

Traditional fax machines rely on modems that were designed for analog phone lines and traditional digital trunks (like T1/E1). These suffer with packet loss and other issues associated with today's VoIP and circuits-over-packet technology. Thus when the corporate PBX moves to VoIP, fax machines still need analog lines or must be replaced. Adding SIP trunks means finding a new fax solution.

The industry answer was T.38, a protocol for passing both TIFF files and T.30 signaling over an IP link. Unfortunately, T.38 was developed before everyone realized the full impact of network address translation. On the telephone network, fax is an end-to-end transaction – direct dialed, phone number-to-phone number. With the Internet, T.38-capable devices are blocked from connecting by the lack of routable Internet addresses. NAT boxes handle address translation for http and e-mail, but don't recognize T.38. As a result, many enterprises use T.38 to communicate with a local fax server that has dedicated T1/E1 access or special arrangements that support T.38.

Alternately, the whole problem is outsourced to an e-fax service provider. Then you typically exchange PDF files with your e-fax provider, which sends or receives them using T.38. If a legal question arises, your e-fax provider must testify as to what it sent (or received) and when.

Meanwhile, since fax doesn't work well over VoIP trunks, the accelerating adoption of VoIP is driving growth in FoIP services. Of course this can't last forever, but there is no comparable single standard for electronic documents likely to become ubiquitous in the near term, so fax will be with us for many years. IT

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

Regulation Watch

By William B. Wilhelm and Jeffrey R. Strenkowski

New Data Protection Rules May Apply to VoIP

VoIP providers and other electronic commerce providers continue to face more regulation on the protection of sensitive customer data. The Massachusetts Office of Consumer Affairs and Business Regulation, for example, recently passed far-reaching rules that require any business that "receives, maintains, processes, or otherwise has access to 'personal information'" about a Massachusetts resident to undertake steps to protect that data from security breaches.

Covered businesses must establish a comprehensive written information security program with "up-to-date" firewall protection and identify and assess reasonably foreseeable internal and external risks to all systems that hold personal information on Massachusetts residents. They must also ensure that the safeguards of any information security program are "consistent with" similar safeguards imposed by any applicable state or federal law. The rules also require covered companies to encrypt all wirelessly transmitted data and documents containing personal information sent over the Internet or saved on laptops, flash drives or other portable devices, and to take "reasonable steps" to select and retain third-party vendors that have the capacity to maintain appropriate security measures for personal information, and contractually require such vendors to maintain such safeguards.

The deadline for compliance with the OCABR rules was March 1, 2010. Given their wide reach, VoIP providers that have customers in Massachusetts may be covered by the rules, and should therefore take steps to ensure that they are in compliance with OCABR's new requirements. Covered VoIP providers should also ensure that their policies comply with the new requirements, and that their vendors and service providers also meet the requirements to the extent they hold covered data. As more states enter the cybersecurity arena, VoIP providers will increasingly face challenges to keep up with varying state cybersecurity requirements. IT

William B. Wilhelm is a partner and Jeffrey R. Strenkowski is counsel at the global law firm of Bingham McCutchen LLP (www.bingham.com).

Introducing the
IP Call Recording Resource Center

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This TMCnet IP call recording channel is your resource for news, commentary and information on call recording to increase awareness of cost effective call recording systems. Sponsored by Duxoft, a global software company, the IP call recording resource center provides insight on VoIP call recording and monitoring solutions, which help businesses of all types improve the way they work and communicate.

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.

Resource Center Features:

- **Key resources including featured articles covering case studies, industry news and research related to IP call recording and its users**
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- **Breaking Duxoft news and company product releases**

http://ip-call-recording.tmcnet.com/

Viewpoint: Voice of the Customer

By Elaine Cascio

Home Renovation and IVRs

I've recently completed a major, six-month renovation of a Victorian home here in Newport, R.I. – and I realized that there are a lot of similarities between the renovation process and implementing an IVR. Both involve knowing what you are capable of doing and what to leave to the pros, as well as where you are willing to invest your limited budget dollars.

In the debate between in-house and hosted IVR solutions, we find that there's not a single answer that works for everyone. But there are a number of key things to consider to help you decide what's the best solution for your company.

Resource availability Do you have the ability or desire to support IVR self service internally? Is IVR a core competency, or would you rather focus expertise in other areas? If you have an IVR in house today, what's your track record for implementing and maintaining it – and measuring success?

Corporate financial models or preferences We find that costs over five years are typically similar for state of the art in-house and hosted solutions. Are you more comfortable with a capital expense or an operating expense model?

Unpredictable call volumes If you're in an industry such as utilities or transportation, you may be hammered by high call volumes based on weather or other unpredictable events. Hosted providers have thousands of ports available to meet this demand.

Need for control Is your corporate culture one in which you have a hard time giving up control for systems and operations? If it is, a hosted solution will not be a happy marriage.

Business continuity and disaster recovery Can you afford the redundancy needed for full recovery? Do you have multiple, geographically-dispersed sites to support DR? If not, hosting may be the solution or a back up for mission-critical applications.

In our renovation, we ended up outsourcing nearly all of the work, but the time required to oversee it and maintain the budget – even with a great contractor – could be overwhelming. These are all things to take into consideration when it comes time to replace or upgrade your IVR. IT

Elaine Cascio is a vice president at consulting firm Vanguard Communications Corp. (www.vanguard.net).

Thinking IT Through

By David Yedwab

Enterprise Collaboration – Merging Business with Social Context

In a previous article we focused on the drive for business agility through implementation of communications-enabled business processes. Such processes are adaptive, bringing the right set of collaboration elements to the user in a manner sensitive to business context. But where and how does social context enter into the quest for business agility?

The fact is that our communication and collaboration activities are mediated by a set of social rules. The more intimately we attempt to communicate meaning, the more visual our communication needs to be. Psychologists have known for decades (Journal of Personality and Social Psychology, 1967) that up to 55 percent of the total information transferred during a conversation comes from non-verbal communications and cues.

Bottom line – a video-centric collaboration platform facilitating real-time communications connecting people, communities, and information to make faster business decisions is warranted. Virtual teams and communities quickly can share ideas through blogs and wikis; schedule meetings and enable IM, voice, and video communication; manage and share documents; and take advantage of micro-blogging, RSS feeds, rating, and tagging to work more efficiently. With this in mind, CIOs need to build a foundation to support those applications.

Several key questions to ask are:

Would you be communicating visually with suppliers, customers, partners or anyone outside of your organization?

What quality of experience do users expect: HD video and audio, traditional conference style, Web cams?

How many sites will be connected in one meeting?

How many people will participate in each type of meeting, in each location?

How will video be integrated with other UC tools (IM, scheduling applications, IP phones, 3G mobile phones and existing video systems)?

What sequence of activities is needed to build the necessary collaborative capabilities considering organization culture, processes and IT infrastructure?

Deploying the technology is only one part of the process. Strategic, company-wide implementation requires close attention to cultural and procedural changes throughout an organization. Without such behavioral and procedural initiatives, new collaborative technologies will offer only limited benefits, but if carried out well, implementation of these new technologies has the potential to transform an organization and bring exceptional new operational efficiencies and business opportunities. IT

David Yedwab is a founding partner in Market Strategy and Analytics Partners LLC (www.mktstrategy-analytics.com).

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By Alan Murphy

Orchestration: Virtual Server Process Management

Many of the oft-touted benefits of moving to a fully virtualized data center revolve around automation: provisioning new virtual machines, on-demand services, succinct use of resources, etc. When discussing virtual automation benefits, the anecdotal saying "Virtualization allows IT to spin up a new server in six minutes instead of 60 days" is one that's rooted in experience and truth.

When you dig deeper into why it was taking IT 60 days to turn up a new server, however, you'll immediately find that the reason it took so long was mostly due to a very long list of processes: justifying the business need, spec'ing the server, ordering the server (making sure it meets the current IT standards, another list of processes in itself), installing the server, loading the base image, so on and so forth. In other words, that 60 days was an IT constant because there were a lot of steps that couldn't be glossed over.

Virtualization of servers changes almost all of those steps and actually removes a good portion of them, but not without cost. Just as those 60 days for a server install were dependent on a process, virtualization's six minutes for a virtual server are feasible due to an almost complete lack of processes. In fact one of the very first concerns with virtualization came from this lack of process management: virtualization sprawl. Simply introducing virtual servers into the data center (and anywhere else within the organization) can actually start breaking IT processes that have been in place for years.

That's not to say that virtualization itself is causing a failure in process management. One of my favorite IT sayings is "Don't blame the technology, blame the implementation," which comes from years of worrying about who to blame during an incidence response post-mortem. More often than not, how the technology is being used and deployed is causing the failure more than the technology itself; such is the case with virtualization and process management. Virtualization isn't to blame for virtual sprawl, it's the lack of process management in most virtual deployments that's to blame.

It's not all doom and gloom, however. Virtual platform providers have been on the forefront of releasing management tools in step with their virtual solutions. They recognize that virtual platforms are basically complete data centers in a box: every tool we use in a physical data center can now be deployed virtually, including extremely sophisticated management tasks, typically dubbed orchestration solutions. All three major virtual platform providers ship with their own management and orchestration solutions: VMware with vCenter and Orchestrator; Microsoft with System Center and Virtual Machine Manager; Citrix with Essentials. Each of these tools offers standard virtual machine and resource management as well as more advanced process management and orchestration. It's not enough to simply know when a virtual machine is up or down; these tools must know everything about the resources required to run virtual machines, where those virtual machines are currently running, and probably most importantly what those virtual machines are doing. Virtual orchestration solutions are both the brains and the brawn of a virtualized data center.

Even though all the major virtual platform vendors understand this and are doing a great job at looking beyond simple management with orchestration tools, one of the concerns of a virtualized data center will be vendor lock-in. Competition for turf from the big three virtual platform providers includes both the hypervisor platform and now orchestration tools. Much of the decision process on choosing a standardized virtual platform now includes how to manage and orchestrate those platforms, and the market is already starting to align specific orchestration needs with specific deployment types.

That said, all three vendors are very actively pursuing third-party integration within each of their management platforms. They do understand that most virtual deployments will contain a mix of systems, hypervisors, and virtualized application workloads, and they each need to offer solutions that work with existing management and orchestration tools.

Virtualization's six minutes for a virtual server are feasible due to an almost complete lack of processes.

Maybe this openness to integration is simply a reflection of market drivers to make everything openly manageable with Web-based APIs; regardless of the reason, integration is a positive move for orchestration and virtual machine process management.

Virtualization's popularity and massive adoption rates are due in large part to the ease of deployment with virtual machines and how quickly IT is able to move from the 60-day model to the six-minute model. But that same agility also is still a major concern with virtual deployments, and the more IT relies on virtualization the more of an issue management and orchestration become within the data center. Managing a virtualized process that will eventually include services beyond the data center and in the cloud…that's a conversation worth saving for another column. IT

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

8x8, Inc.

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

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E911 in the Cloud

By Nick Maier

If you're one of thousands of organizations large, small or in-between that has embraced cloud computing you understand its benefits. The cost savings, and faster implementation and productivity gains have validated the paradigm shift for those who swallowed hard and adopted the mind set that it's OK to send data to remote servers, software and storage.

If cloud computing works for your CRM system, why not adopt the model for managing your E911 location information updates and 911 call routing? It's a cost effective way to comply with E911 legislation and speed emergency response in the event of an emergency.

Rather than investing in servers and software, this life-saving protection can be had for a small initiation fee and a monthly service bill based on the number of phones. Once service is established, a Web portal is used to load the location of every phone on the network into the service. Then, 911 calls are sent to the cloud using IP or PSTN trunking and the call is routed to the right PSAP based on the location of the caller.

For organizations with more complex communications networks and requirements, on-premises servers and software still represent the best path to E911, primarily due to the cost savings that result from a fully automated solution that automatically captures, manages and delivers real-time location information for all voice clients on the network.

However, as enterprises flatten, consolidate and extend their networks using IP voice platforms, the option of leveraging cloud computing is becoming economically advantageous to even the most complex enterprise communication network. By routing 911 calls via a cloud-based network service rather than using traditional PS-ALI E911, enterprises can send 911 calls to any PSAP in the U.S., eliminating the need for costly local 911 call trunking and multiple PS-ALI contracts with local exchange carriers.

For those of you still on the fence about cloud computing, what are you waiting for? IT

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

By Steven Johnson

Unified Communications Provides Lifeline to Doctors in Haiti

The IP communications industry rallied together to help victims of the recent disaster in Haiti, providing a true case study of SIP trunking and unified communications at work.

One of the results of the massive earthquake that shook the region was the destruction of much of the traditional telephony infrastructure. Wireline telephony was down. Many cellular towers collapsed, leaving everyone in Haiti further isolated and making communications for rescuers rushing to the scene difficult if not impossible. Victims were also unable to connect with family and friends on the island or elsewhere in the world.

FMC/UC solutions provider Business Mobility Systems (www.businessmobilitysystems.com), supported by solutions from Ingate, provided a group of American doctors who rushed to Haiti with an end-to-end fixed mobile convergence/unified communications setup to enable VoIP, texting capability and Internet access. The solution needed to work with the only communications network that was functioning, the GSM packet network, and with any Wi-Fi networks that were set up and working to establish voice communications wherever the doctors found themselves.

The doctors were given Nokia E-71 smartphones equipped with the bMC client, the Hosted Business Mobility 1 Service. An Ingate SIParator was installed at the edge of Business Mobility Systems' network in Michigan to provide far-end NAT traversal, which made it possible for the VoIP calls to be completed.

The smartphones were also outfitted with a Scosche SolBAT solar-powered recharger to allow functionality during power failures, and to give the medical team greater mobility. As a result, the medical team was able to get set up almost immediately as soon as they reached Haiti, making calls and texting colleagues back in the U.S.

"With this solution our doctors were able to reach anywhere in the world quickly and easily, to get consults, facilitate treatment, order supplies on the fly and also help victims report back to families," says Dr. Troy Silvernale, who led the medical team. "Within minutes of hitting the ground in Haiti we were up and running. Being able to set up so quickly literally saved lives."

When we talk about unified communications, it is far too easy to get lost in complicated rhetoric and technical terms. The bottom line is this: Unified communications is essentially the use of IP-based technology and solutions to help people communicate the way they need to, regardless of where they are. And with SIP, these kinds of deployments – even using equipment from a variety of vendors – enable fast deployments. In the case of Haiti, this kind of speed was critical. IT

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

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By Hunter Newby

883 - 'Earth's Area Code'

Being in the voice industry for 15 years has presented me with an opportunity to study and learn from evolution as much as it provided me a role of active participation in that evolution. To the common user of telecom services over that period, a major shift has occurred that is quite often confusing. One such example is the transformation of the base-level understanding of what an area code is.

At a high level there is the country code, such as +1 for the U.S., or +44 for the U.K., which was a number that designated a country where presumably you were physically located. This in and of itself was generic and broad, but indicated to people by printing it on a business card that you have a physical office, or presence of some sort there and with that designation came some level of status. I can remember people who had U.S. and U.K. numbers on their business cards – that meant they were international and of a very fancy sort of course.

The next level of numbering fashion came at the actual area code. There was a time when 212, Manhattan's area code, was a major status symbol. To have a 212 number meant you worked in New York City. Obviously that was a slight to Queens, Brooklyn, Staten Island and the Bronx since they are all part of New York City as well, but in the less attractive 718 area code. Demand for this status was so high that the telephone company created a service called FX, or foreign exchange.

This is not the FX of currency trading, which is another intriguing and very similar topic, but rather that of central office trading in a sense. The FX service was for the user to have the ability to have a 212 number, but have it ring to and from another area code, or physical location. Basically it was the TDM voice version of spoofing, but in a geographic sense.

Then in the early 2000s came two new area codes for the U.S., 646 and 917. These were primarily assigned to mobile wireless service providers due to a lack of telephone numbers (real, or manufactured) in the high-demand areas such as 212. These new codes were very confusing to the average person, who did not know that the user was giving them a mobile number. I can remember giving people my 646 VoiceStream mobile number and they would say, "646, where is that? I thought you were in New York."

The entire nature of countries and areas is tied to TDM, and it is a thing of the past. The design of the PSTNs' of the world is hard-wired and with that design come borders and limits including distance. The real issue with borders is that they are restrictive and not conducive to growth. Countries, like the U.S., moved away from the physical metals of gold and silver as the basis of their currencies to expand their economies and grow their interests globally. This would not have been possible if the currency had to be tied to something physical, such as gold, as there is a limit. With the expansion of currency, other things have been given the ability to expand to be more global, such as air travel and economies in general. Communications networking followed the same course by default and/or by design with the advent of Internet protocol and the Internet.

In the world of Internet protocol and IP addressing there are borders based on the network that is carrying the traffic, but on the public Internet there is only one "country" with no physical "borders" per se. It still may be a major status symbol to have a 212 area code, but it is being diminished by the utility and availability of global geographic mobility. The perfect example of this is the Voxbone "Earth Area Code" - 883.

883 is a crossover between the PSTN and the IP worlds. It is an official ITU "telephone" number, but it is very much integrated with IP and the nature of the Internet and now is also building a bridge between the two and the mobile SMS "cloud".

In the world of Internet protocol and IP addressing there are borders based on the network that is carrying the traffic, but on the public Internet there is only one "country" with no physical "borders" per se.

Just like U.S. currency where it is printed and spread around in order for it to be used and relied on, Voxbone has essentially created its own currency with the 883 code. They can issue numbers within that code as if it is their own voice/SMS IP address block. The difference is that the value of the numbers increases as more are assigned and used as opposed to the value of dollars being reduced as more are printed, but then I suppose that all depends on who you are and how you define value.

From this announcement it is clear to see what direction the world is moving away from, but what are we all moving toward? The past is physical borders. The past is hard-wired. But without the physical layer there is no application layer. Pure applications cannot exist without physical just as pure fiat currency cannot be sustained without real value. What is happening now using IP over the physical layer is what is so different from the TDM services of the past above the physical layer. 883 is a gateway to the future for the things of the past, but that is actually the present for everything else already operating there.

I look forward to the day I have an 883 number that my devices are identified by and when someone asks, "Where is 883?" I will say, "Earth". When put in that perspective one can only imagine what is next. IT

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

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Disaster Preparedness

By Rich Tehrani & Max Schroeder

Justifying a Business Continuity Plan

Traditionally, a major hurdle in implementing or upgrading a BC/DR plan has been budget approval. The recent economic downturn forced many organizations to reduce costs, and the BC/DR plan was usually high on the cut list. This approach contradicts the fundamental goal of a BC/DR plan – company survival. With money already being tight, an interruption of the revenue stream could be disastrous, so a BC/DR plan is essential.

Today's advancements in technology make budget approval a lot easier. An infrastructure that would have been very expensive using legacy technologies and something only considered for a BC/DR plan is now common for everyday operations. VoIP, FoIP, unified communications, virtualization and SaaS are now fully implemented in many companies. Home offices, a fundamental element of a BC/DR plan, are more prevalent than ever. In other words, a significant part of a BC/DR plan may already be in place.

Usually, Step 1 of a plan is to define what is critical for an organization, such as revenue preservation, customer retention, etc. Step 2 is the presentation of the list of critical needs to management. The next steps would be a plan draft and the estimated cost of implementation. In today's environment, an interim step, Step 1.5, needs to be inserted. This new step will be an inventory of the plan elements already in place or about to be implemented. For example, do you have Microsoft OCS, Hyper-V, Exchange, SQL Server, VMware, Cisco Call Manager and the number of employees with home offices? Getting budget approval is always easier if you are already 75 percent there. Use the checklist to evaluate your current position. Don't forget hosted services like VoIP, FoIP and SaaS, as they are non-capital-investment alternatives to filling in the missing elements. IT

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

Rich Tehrani is the president and group editor-in-chief at TMC, and conference chairman of ITEXPO.

Tech Score

By Jeff Hudgins

How the Intel Xeon 5600 Update Will Impact the ATCA Blade Landscape

Another major technology shift is happening in 2010 that will impact what telecom equipment manufacturers and network equipment providers select for ATCA-based deployments. For years, TEMs and NEPs have deployed ATCA platforms and now must consider both field upgrades as well as future market needs when assessing the new Intel processors.

The new Intel silicon processor technology (Xeon 5600 series), dramatically increases transistor density while enhancing performance and energy efficiency within a smaller version of the existing architecture (Xeon 5500 series). The Xeon 5500-based processors typically used in an ATCA processor blade are 60W and four cores. The next-generation Xeon 5600 options are 60W and six cores or 40W and four cores, which create some unique alternatives.

To complicate matters further, the PICMG 3.1 Rev 2 ATCA standard is being finalized to offer 40G bandwidth architecture sometime in 2010. Today, many data centers have 10G uplinks, and many applications are driving the ATCA ecosystem to meet the demand of higher bandwidth with four 10G links.

Let's consider a mobile video application that may be constrained by processor performance. In this scenario the application may not come close to saturating four 10G links (40G) but is in desperate need for more processor speed. In this case, the design consideration should be a new Xeon 5600 dual-processor 60W ATCA blade that is more than 200W per slot, but cannot take advantage of the 40G bandwidth. On the other hand, a typical deep packet inspection application may be constrained by bandwidth. In this case the application can operate quite efficiently on a single or dual four-core Xeon 5600 blade, but needs to adopt a 40G solution immediately. In this case, there is no interest in enhanced power and cooling to support more than 200W per slot.

Final Score

The success of implementing open standard designs is determined by faster time to market at a reduced cost. When combined, these two technology shifts create consideration for several design alternatives. If multiple design paths are taken, the purchase volumes will become fragmented across a large selection of "standard" products. Creating an ATCA architecture that can support up to 300W per slot and 40G bandwidth for the same cost as the current 200W – 10G solutions is the only real winner. IT

Jeff Hudgins is vice president of product management at NEI Inc. (www.nei.com).

Visit the **Voice Quality** Community

On TMCnet

While the cost-saving benefits of VoIP are well documented, voice quality has emerged as one barrier to adoption, for businesses and consumers alike. Now, consumers have access to a device from Ooma that provides free U.S.-based telephone calls and advanced telephony features for superb voice quality.

Ooma's appliance offers exceptional voice quality and the reliability of a traditional phone service, but at a fraction of the cost. You don't need a headset. You simply connect the device to your high-speed Internet and your existing phone, and that's it. You're ready to start calling and experience Ooma's great voice quality.

Community Features:

- **Listen to recorded samples and compare voice quality with Ooma vs. a leading VoIP provider.**
- **Track breaking news about voice quality in VoIP appliances and services.**
- **Read white papers relating to IP telephony.**
- **Get access to case studies detailing successful deployments of Ooma's products.**

Ooma Telo

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http://voice-quality.tmcnet.com/

By Peter Radizeski

This Isn't TDM Any More

How are the sales going on your IP services? How about hosted PBX? I'll bet you are selling SIP trunking – at a savings on regular PRI pricing, right? Nice. Lower the revenue while fixed costs remain about the same.

That SIP trunk could be a foot in the door to hosted PBX sales down the road. Maybe. If you can interop with their PBX. If the onboarding goes well. If you remember to follow up and stay in touch, so that you are around when the maintenance contract expires or the PBX hiccups.

Customer retention is a different silo than customer acquisition, so who at your company is going to be in charge of the upsell? What's your follow-up routine look like? What do you do when you churn your sales team or let them all go because the numbers don't work?

The numbers don't often work for IP services or hosted PBX sales. Why? Because TDM salespeople by and large cannot sell IP-based services. SIP trunking is a PRI replacement. It is an order to be taken by your "salesperson". Let me see your bill.... Ah, we have a cheaper solution for you.

How is that salesperson going to handle an upsell to hosted PBX from SIP trunk?

How do you even sell hosted PBX to the SMB space?

How do you sell virtualization, cloud, managed services, dedicated server?

This requires face-to-face selling with a trusted advisor, equipped with both product knowledge and sales skills. This sale is about asking pertinent open-ended questions and listening – about the business, the pains, the future. How does a salesperson provide a solution without the product knowledge? IP is all about data flow. With that is work flow – where is the work being done, where does it need to be retrieved?

Regulations, compliance, security, reliability, redundancy, access, back-up, storage, scalability, scope, mobility – all factors that must be taken into account.

Read the blog for follow up on this article. IT

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

The Channel & AGENT NEWS

http://tmcnet.com/24705.1

MPLS Service Providers Address Hosted VoIP

Two leading MPLS providers have announced new moves in the hosted VoIP space that allow them to deliver a larger portfolio to both the channel and end users. MegaPath Inc. launched a hosted VoIP offer of its own, called Duet Hosted. Meanwhile, New Edge Networks separately unveiled new relationships with hosted VoIP providers 8x8 and XCast, both of which will bring quality of service to their offers by delivering them over New Edge's MPLS connections. "The big messaging here was trying to put the quality back in voice," says Dan Foster, MegaPath chief sales and marketing officer, referring to the MegaPath announcement.

www.megapath.com
www.newedgenetworks.com

http://tmcnet.com/24706.1

MeetingOne Launches New Partner Portal

MeetingOne recently created a new partner portal, which partners can use to brand, bundle and price products as they like, Tina Aquilla Redpath, marketing manager, tells INTERNET TELEPHONY. The portal, which was developed internally, was expected to be in beta mode this month. It's expected to be generally available starting in May.

www.meetingone.com

http://tmcnet.com/24709.1

ADTRAN Joins Cbeyond Program

ADTRAN is the second company to join Cbeyond's PBX Platform Partner Program at the highest partnership tier. ADTRAN and Cbeyond will make an extensive co-marketing investment, work together on partner recruitment opportunities and joint sales and marketing campaigns designed to generate leads and sales revenue for ADTRAN-certified resellers who are part of Cbeyond's Channel Partner Program.

www.adtran.com
www.cbeyond.net

http://tmcnet.com/24707.1

WorldGate Readies Residential Video Phone

WorldGate, a 10-year-old company that got its start in the set-top box space, will soon release a second-generation video phone. The company will rely on OEM partners and the channel to bring the product to market. The residential-focused product, which is being called WorldGate 4000 internally, will be differentiated in the marketplace based on its reasonable price, high service quality and multi-use functionality (it serves as a digital picture frame when not in use as a communications unit).

http://www.ojophone.com/corporate

http://tmcnet.com/24376.1

Automated Materials-Handling Outfits Join Forces

Motion Controls Robotics Inc., a provider of fully integrated materials-handling robotic systems, has signed a SmartCart Automatic Guided Cart Value Added Reseller Agreement with the Jervis B. Webb Company, a subsidiary of Daifuku. Jervis B. Webb is a company specializing in automated material handling systems.

www.jervisbwebb.com
www.motioncontrolsrobotics.com

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

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

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By Paula Bernier

Westcon Helps Arm Former Nortel Recruits with Avaya Ammo

It's been a particularly rough year and a half for Nortel channel partners. Nortel filed for bankruptcy in January of 2009, just a few months after the financial market bailout news and stock market meltdown that was the harbinger of the recession and prolonged economic slump. So when Westcon Convergence around the turn of the year invited these channel partners to attend what it called Avaya New Partner Boot Camps, many of these war-torn industry veterans were ready to enlist.

Westcon Convergence, a specialty distributor selling to the VARs, held Avaya New Partner Boot Camp events in Philadelphia in December, in January in Chicago and Dallas, and in February in Toronto. Steve Bernard, vice president and general manager at Westcon Convergence, says his company hosted 25 to 30 partners at each of the gatherings.

"Obviously these guys have seen their world turned upside down," says Bernard.

When Avaya stepped in and bought Nortel's enterprise properties last fall there was a collective sigh of relief. Better yet, says Bernard, is that Avaya issued a roadmap within 30 days of the acquisition.

In addition to staging the boot camps, Westcon about a year ago established a structure and methodology it calls RapidRamp. The effort came to light after many Nortel partners approached Westcon looking for direction on what to do next.

At its boot camps Westcon helped partners understand the Avaya value proposition, how to make reasonable margins for the business, and the like. Upon completion of the Avaya BusinessPartner Boot Camp, attendees became Avaya Authorized BusinessPartners with the ability to pursue specific product authorizations and certifications necessary to support Avaya business.

Boot Camp Sessions Included the Following Topics:

- practical advice on becoming a successful Avaya BusinessPartner from leaders who have served in roles within a successful Avaya BusinessPartner
- information on Avaya Connect, the Avaya BusinessPartner Program
- the Avaya go-to-market strategy
- new Avaya BusinessPartner reseller orientation
- Westcon Convergence on-boarding

In addition to staging the boot camps, Westcon about a year ago established a structure and methodology it calls RapidRamp. The effort came to light after many Nortel partners approached Westcon looking for direction on what to do next. RapidRamp helps answer that question through a combination of support, curriculum, online resources and in-person events, Bernard explains.

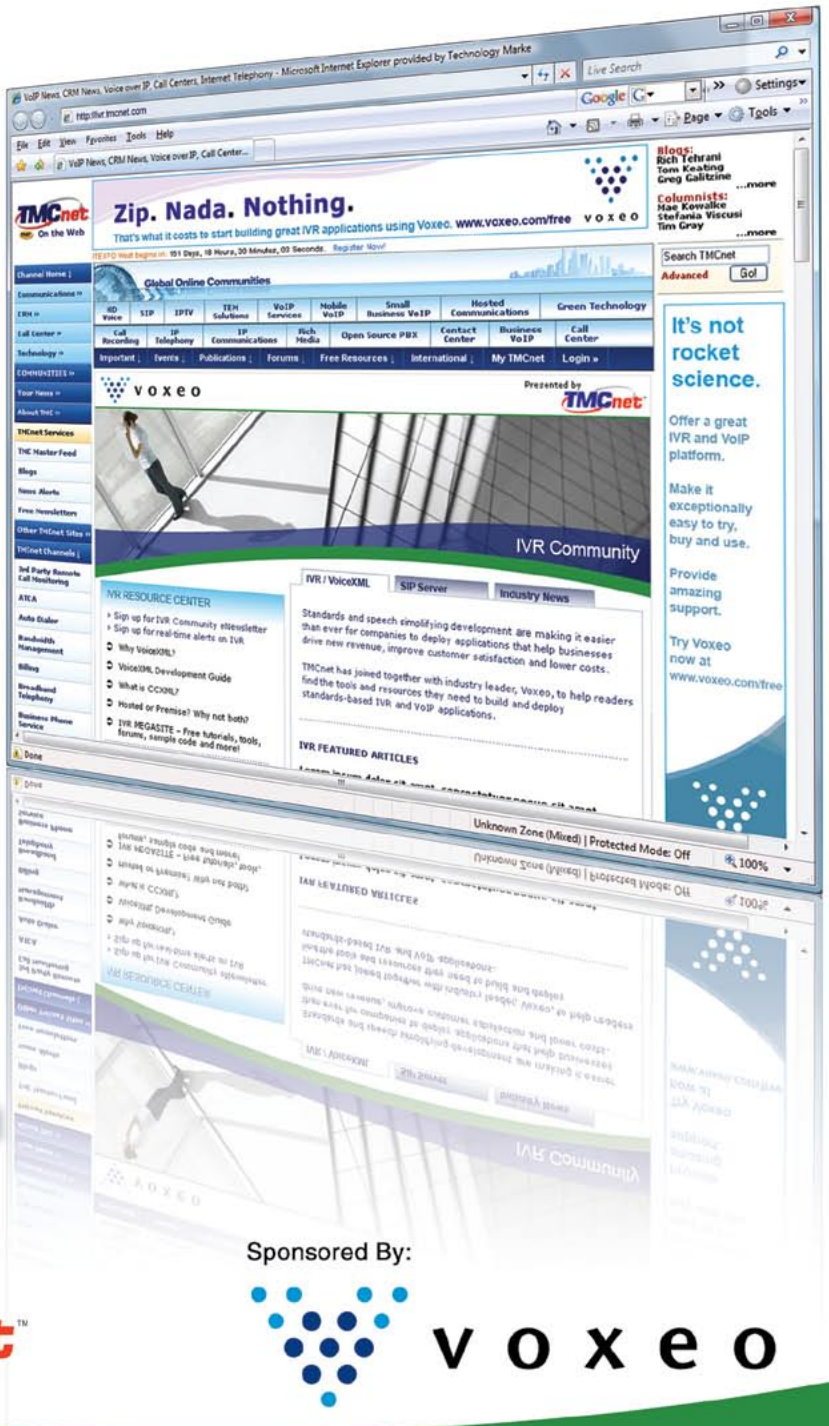
RapidRamp enrollees, of which there are currently more than 100, can choose from beginning or advanced coursework in three basic curriculum channels: operational, sales and technical. Each course is taught by qualified personnel from Westcon Convergence, Avaya and Avaya Partners. Typical course titles range from "Mid-Markets Solution Selling" to "Avaya Solutions Designer One on One," and are delivered as webinars, module downloads or in classroom settings.

"RapidRamp is the latest and most powerful of several initiatives we have undertaken to help new Avaya Channel Partners increase their chances at business success," says Bernard. "Once a reseller signs on to RapidRamp, which is complementary to our loyal customers, they are provided with a wide array of strategic resources; not only course content, but dedicated account managers, business development managers and on-boarding experts to help make sure their specific business needs are being looked after." IT

Introducing the Global
IVR Community

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.

- **Hosted and on-premise IVR**
- **VoIP Platforms**
- **Free developer tools**
- **VoiceXML, CCXML and SIP Standards**



http://ivr.tmcnet.com

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Sponsored By: voxeo

By Larry Levenberg

Recovery Brings Opportunity to the SMB Market

New trends have emerged within the small to medium business sector as a result of the economic recession. As the economy moves into recovery, vendors will find new types of small business entrepreneurs, owners and employees who all have diverse requirements and expectations for technology solutions.

Mass unemployment and layoffs during the recession motivated many workers to start their own businesses as a source of income. According to outplacement firm Challenger Gray & Christmas' quarterly Job Market Index[1], an average of 320 out of 100,000 adults created a business each month in 2008 — representing approximately 530,000 new businesses a month. Of job seekers who gained employment in the second quarter of 2009, nearly one in 10 (8.7 percent) did so by launching their own businesses. That start-up pace is up from 6.4 percent in the first quarter and is twice the rate reported in Challenger's 2008 second-quarter update.

While the entrepreneurial trend spans all age groups, it is particularly high among baby boomers.

Entrepreneurship among workers between ages 55 and 64 rose to 93,000 in 2008[2]. At the same time, entrepreneurs 65 and older increased to 213,000.

The recession also sparked an increase in the number of Generation Y SMBs. With a 16 percent unemployment rate for workers between the ages of 20 and 24[3], a growing number of recent college and graduate school graduates are becoming self employed.

According to a 2008 report[4] from the U.S. Bureau of Labor Statistics, SMBs started by workers within the prime working group ages 35 to 44 dropped by 70,000. This is in contrast to the bureau's 2006 report that predicted that the number of workers within this group would rapidly decline through 2020, as more opted to start their own businesses.

The recession had a major impact on several technology-driven industries like real estate, financial services, transportation and professional business service[5]. With the bulk of the unemployed workforce coming from these industries, new SMB owners will already be acclimated to technology as well as how to leverage it to maximize business results.

The influx of diverse entrepreneurs also will prompt a more diverse workforce with different needs. Baby-boomer entrepreneurs and workforce will likely prefer more traditional technologies, while Generation Y as well as older, tech-savvy entrepreneurs, will favor newer, more advanced ones.

What's more, new SMBs typically hire younger, cheaper labor as a cost-saving measure. Because they will have to recruit from the millennial (or Gen Y) labor pool, they will employ workers who have been raised on technologies such as the Internet, cell phones and social networking. This will generate greater demand on SMBs for technology products and services, both as a condition of employment and during ongoing efforts during startup operations[6].

The SMB's changing composition creates opportunity for communications technology vendors to secure new customers and set the foundation for the market's leading-edge technology adopters. The recent impact I've seen in my own channel is a 25 percent increase in UC sales since September 2009.

In part, this is because businesses are starting to spend again, and financing is becoming more available. Further, IP communications support the plethora of advanced technologies that SMBs seek, like SaaS, cloud computing and virtualization. On-premises, software-based communications solutions designed and priced specifically for the SMB can offer tremendous savings over Centrex, especially when deployed with SIP trunking services. Unified communications enable better collaboration and make it easier to find, share and use information. What's more, the value of UC expands even further when integrated with business processes and daily workflow.

Historically, SMBs recover from recessions faster than larger enterprises. SMBs are ready and willing to make technology investments, but only for solutions that will enable them to operate more profitably, grow revenues, increase productivity and/or save costs. As the composition of the SMB evolves, technology vendors will need a value proposition that resonates across different segments of the market. A SMB market made up of a diverse mix of traditional and tech-savvy owners and workers will require vendors to apply a greater level of expertise and deliver solutions proven to increase efficiency, profitability and strategic value. IT

1 Challenger Gray & Christmas, Inc. "Challenger Job Market Quarterly Index." January 2010

2-3 Giunta, Joseph. "Funding a Small Business during a Recession" www.suite101.com

4-5 US Bureau of Labor Statistics. http://www.bls.gov/

6 Harmon & et.al. "A New SMB Market Phoenix is Rising." Frost & Sullivan. February 2009

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

THE DNS ZONE

Everything current. Everything relevant. Everything DNS.

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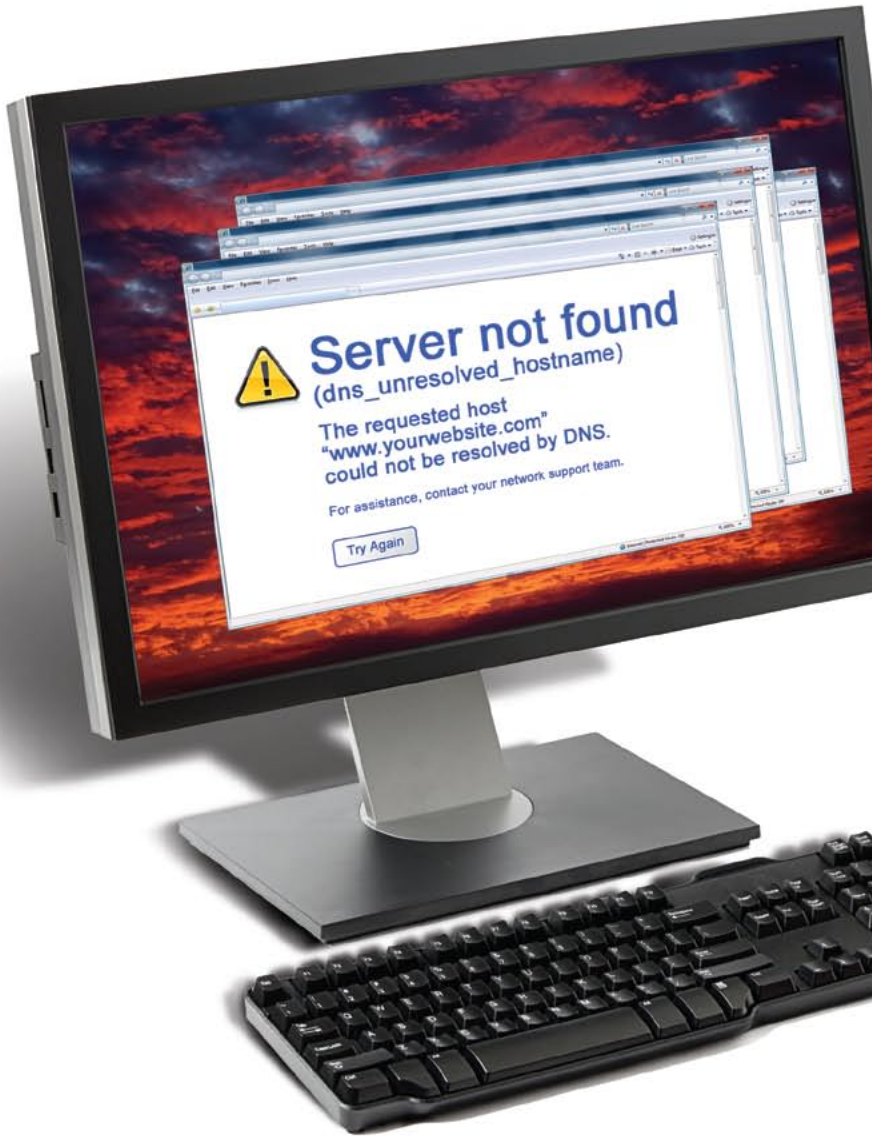
it doesn't matter if your servers, storage, and network are up...

your Web site is not available!



And yet for many IT and business professionals, DNS is a mystery.

Unravel that mystery by visiting The DNS Zone, a global online community where you'll find podcasts, feature articles and breaking industry news describing how DNS impacts:

- **Internet Security**
- **Web Traffic Management**
- **Business Continuity**
- **Web Performance & Testing**

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HTTP://DNS.TMCNET.COM

http://tmcnet.com/24381.1

The North Face Embraces Contextual Application Technology

If you're reading this, you've probably already heard about context-aware applications that enable businesses and other organizations to deliver content based on users' whereabouts. (In fact, the March issue of this magazine had a feature on this very subject.) Now the first companies, like The North Face, are starting to dip their toes in the waters of contextual apps. The high-end outdoor gear retailer plans to send passersby text messages that welcome them into its stores, and offer hooks like promotions and new arrival information to get them in the door.

www.thenorthface.com

http://tmcnet.com/24385.1

Polycom Introduces Touch Control

Polycom, Inc., a major player in telepresence, video and voice communication solutions, has introduced Polycom Touch Control, an interface device for Polycom room telepresence systems that allows users to control all aspects of their experience using a touch screen. Polycom Touch Control was designed to shorten the learning curve for new users and facilitate broader adoption of visual communication, which helps organizations drive faster return on investment and greater productivity.

www.polycom.com

http://tmcnet.com/24384.1

BrightCom Brings It All Together

BrightCom has released the ClearView Desktop Video Conferencing solution. The latest release is designed to let desktop users easily connect to BrightCom's Lumina Telepresence and ClearView Room and Mobile Cart Video Conferencing solutions, in addition to SIP-enabled videoconferencing systems.

www.brightcom.com

http://tmcnet.com/24382.1

Xerox: Search Giants Stole Our Intellectual Property

Xerox Corp. is accusing Google and Yahoo of infringing on its Internet search-related patents. According to Xerox, Google's AdSense, maps and YouTube businesses, as well as Yahoo Shopping, infringe on its patents. As a result, Xerox is asking for compensation and requesting that the search giants cease use of the technology at issue.

www.google.com
www.xerox.com
www.yahoo.com

http://tmcnet.com/24383.1

Cisco Tweaks UC Licensing

Cisco Systems has simplified its unified communications licensing model for Cisco User Connect to meet customer needs better. In the past, User Connect required businesses to license a server right-to-use fee that was charged on a per server basis; additionally, it entailed a device license that was device-oriented and or port-oriented. Now the pricing model is more in line with the fee structure on its other UC offer.

www.cisco.com

http://tmcnet.com/24386.1

Apptix Inks 100,000-Seat Hosted Exchange E-mail Deal

Apptix, a provider of hosted Microsoft Exchange e-mail, Microsoft SharePoint and business VoIP services, has secured a contract with one of the largest U.S. healthcare systems to provide standardized e-mail services for more than 100,000 employees across multiple facilities.

www.apptix.com

http://tmcnet.com/24388.1

USR Call Director Delivers Savings

A new telephone line-sharing device from USRobotics, called the USR Call Director, aims to help businesses reduce capital expenditures on telephone lines. It enables companies to share a single telephone line with up to four analog devices. The routing of voice, fax and modem calls are automatically made to the correct equipment using the device.

www.usr.com

http://tmcnet.com/25034.1

New BlueLock Solutions Address Comprehensive Cloud

BlueLock has announced the BlueLock CloudSuite, a comprehensive set of cloud computing solutions tailored to meet the needs of individual applications. It includes public computing options BlueLock vCloud Express, BlueLock Virtual Cloud Professional and BlueLock Virtual Cloud Enterprise, which offer users a range of capabilities -- from self-service all the way to expertly-managed enterprise environments.

www.bluelock.com

http://tmcnet.com/24389.1

Virtual Controller Hits TippingPoint

TippingPoint, a division of 3Com, has introduced a comprehensive data center security solution that addresses the unique challenges of securing both virtual and physical infrastructure. The new TippingPoint Virtual Controller, or vController, provides customers with uncompromised security into all parts of the data center.

www.tippingpoint.com

http://tmcnet.com/24390.1

Telx Provides Interconnection for AboveNet

AboveNet Inc., a provider of high-bandwidth connectivity solutions, has linked its network with the New York metropolitan area colocation facilities of Telx, an interconnection and colocation provider in key North American markets.

www.abovenet.com
www.telx.com

http://tmcnet.com/24362.1

Google Gets Regulatory Approval on Wholesale Power Request

Google Inc. has gotten the green light from the Federal Energy Regulatory Commission to get into wholesale power. Google asked the FERC for the approval in January.

www.google.com

http://tmcnet.com/24364.1

BitBand is Digested by Motorola

Motorola Inc. has completed its acquisition of BitBand, a provider of content management and delivery systems, specializing in video on demand for IPTV. Terms of the transaction were not disclosed. Motorola says that BitBand will be integrated into its Home business, and will complement Motorola's existing on-demand product line, which includes the Adaptive Media Management framework for content management and high-performance streaming servers for centralized and edge-based on demand networks.

www.motorola.com

http://tmcnet.com/24365.1

Cablevision to Feed the TV

There are devices like ZeeVee that connect to a computer and broadcast the output to a cable channel - accessible to all the TVs in a house. But none of computer/TV integration products has become mainstream, not even Apple TV. Now this idea is being emulated by Cablevision, which expects to deliver a service along these lines soon.

www.cablevision.com

http://tmcnet.com/24366.1

Nortel CVAS Goes to Genband

Genband is expected acquire substantially all assets of the Nortel Carrier VoIP and Application Solutions Business for $182 million. The deal is expected to close this quarter, following required Canadian and U.S. court approvals. Under the terms of the agreement, Genband will obtain product platforms, all patents predominantly used, and other IP exclusively used in Nortel's CVAS business, including softswitching, gateways, SIP applications, and TDM products and services.

www.genband.com

http://tmcnet.com/24367.1

Worldwide VoIP Subs Top 100M

A recent report from Point Topic shows that the total number of VoIP subscribers worldwide reached 100 million by the end of September 2009. According to the report, subscriptions to VoIP services grew 15 percent in the first three quarters of 2009. Although the U.S. had the highest number of VoIP subscribers, at 22 million, the penetration rate is much higher in countries like France and Korea.

www.point-topic.com

http://tmcnet.com/24659.1

Force10 Plans IPO

Force10 Networks is planning to sell up to $143.8 million of stock in an initial public offering, according to The Wall Street Journal. The company intends to use the money for such purposes as acquisitions. The company makes switching and routing products and other Ethernet networking devices.

www.force10networks.com

http://tmcnet.com/24369.1

8x8, Ooma Lead the VoIP Pack

The biggest business HD voice service provider by a large margin is 8x8. In January, the company said it had around 70,000 endpoints via its hosted solution and Aastra Hi-Q enabled phones. Ooma got second place in the HD voice service provider arena, with around 25,000 handsets shipped in the last quarter of 2009.

www.8x8.com

www.ooma.com

http://tmcnet.com/24368.1

Qwest Has Twins

Qwest has signed an exclusive multi-year agreement with the Minnesota Twins to deliver services at Target Field. The service provider is providing a converged IP network infrastructure and unified communications system for the stadium, as well as to the Twins business operations, which are located in the sports complex. With more than 600 TVs located throughout the ballpark, a Cisco-powered solution from Qwest will enable fans to watch the game in HD everywhere from club levels to concession stands.

www.qwest.com

http://tmcnet.com/24371.1

Telefonica, Sierra Demo Online Storage Service

Sierra Wireless and Telefonica have introduced a new cloud computing application, which the pair demonstrated at the recent Mobile World Congress. The 3GBox is an online storage service that can work in concert with the AirCard 310U USB modem.

www.sierrawireless.com

www.telefonica.com

http://tmcnet.com/24372.1

VoIP Innovations Offers Capex Savings

Wholesale VoIP provider VoIP Innovations, a subsidiary of ABG Capital, provides U.S. inbound origination services to help eliminate capital expenses associated with building out a physical point of presence. To eliminate those costs, VoIP Innovations originates PSTN calls, and then terminates them to IP endpoints. Caller ID, E911 services and local number portability also are supported.

www.voipinnovations.com

http://tmcnet.com/24660.1

VZ Wireless Goes Dark

Verizon Wireless customers last month experienced data outages with their mobile Web and e-mail access. Bad switch software reportedly caused outage. The outage impacted customers east of the Mississippi, causing a deterioration of service and lower wireless speeds, The Wall Street Journal reported.

www.verizonwireless.com

http://tmcnet.com/24392.1

Lesser-developed World Embraces Mobile Banking

Cellular networks and telephones provide connectivity to people in less-developed parts of the world – places that in some cases lack even basic wireline coverage. Now this same wireless infrastructure and related devices are acting as tools of finance in such locations. According to reports, 8.5 million people in the Philippines and 4.5 million in South Africa enjoy mobile banking.

http://tmcnet.com/24395.1

Aruba, AirWave Power Lebanese School's Network

Holy Spirit University of Kaslik in Lebanon, an educational institute for information technology, has completed installing an Aruba-based Wi-Fi network managed by the AirWave Wireless Management Suite at its Jounieh site north of Beirut. The new network, installed by Aruba authorized partner TripleC, includes 600 access points and six 3600 Mobility Controllers. Installed as part of an infrastructure modernization initiative, the network is now used for e-learning applications, electronic class registration, guest Internet access, and wireless voice over IP communications in the university.

www.airwave.com

www.arubanetworks.com

http://tmcnet.com/24393.1

Were Motorola CEO's Comments a Dis to Android?

Motorola CEO Sanjay Jha has publicly stated he's not married to Android, is open to using the Windows OS and that Motorola would develop its own operating system if only it had the resources. These comments are particularly notable, according to one report, given it was Android that many believe pulled Motorola from the brink.

www.motorola.com

http://tmcnet.com/24394.1

Application Development Soars Following Apple iPad Intro

The general populace may not yet be sure for what they are supposed to use the iPad, but apparently the developer community has an idea or two. Indeed, the iPhone operating system saw a significant surge in application action in January following the introduction of the tablet device, according to research firm Flurry Inc. The increase, which was three times that in December, represented the largest spike in Flurry history.

www.flurry.com

http://tmcnet.com/24396.1

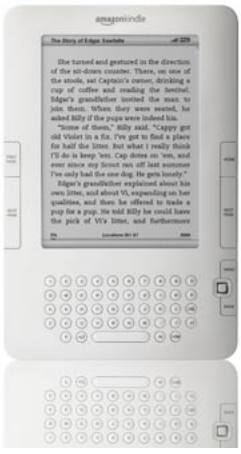
Skype Drops Lite, Windows Phone Apps

Only one week after Skype announced its arrival on Verizon 3G phones, the communications software company nixed Skype Lite and Skype for Windows phones applications. "This isn't a decision we've taken lightly, but the reason is simple," the company blog says. "Neither of these apps offered a great Skype experience."

www.skype.com

http://tmcnet.com/24397.1

Kindle Picks BlackBerry



In an effort to further broaden its e-book business, Amazon.com has launched a Kindle application for BlackBerry phones. The free app lets customers with BlackBerry devices access Kindle books, most of which sell for $9.99 or less.

www.amazon.com

www.rim.com

http://tmcnet.com/24398.1

AT&T Lays Plans for Innovation Centers

AT&T plans to establish Innovation Centers to drive development of next-generation devices, applications and equipment. The company, which is launching 4G network services starting this year, plans to open at least three locations later this year, which includes two locations in the U.S. and one international facility. Verizon previously announced it's doing something similar.

www.att.com

www.verizon.com

http://tmcnet.com/24399.1

Sprint Has Designs on Green Handsets

According to Dan Hesse, CEO at Sprint Nextel, the company is the first U.S. wireless carrier to initiate a set of green design criteria and specifications for consumer devices.

www.sprint.com

http://tmcnet.com/24400.1

Customers Are Loyal to AT&T Wireless

AT&T has been ranked No. 1 in customer loyalty for wireless phone service in the 2010 Brand Keys Customer Loyalty Engagement Index.

www.att.com

http://tmcnet.com/24401.1

Israeli Regulators to Cellcom: Stop Blocking Apps

The Ministry of Communications in Israel reportedly is taking steps to keep Internet applications from being blocked. The MoC ordered mobile network operator Cellcom to stop blocking such applications as VoIP, according to TeleGeography. Cellcom must permit Internet access for all online services as stated by its license, but the MoC said that's not happening.

http://investors.ircellcom.co.il/

www.telegeography.com

http://tmcnet.com/24402.1

Samsung Does the Wave

The smartphone space got a little more crowded recently as Samsung Electronics, playing catch up with rivals Apple, Nokia and RIM, unveiled new devices in this category at Mobile World Congress in Barcelona, Spain. The Wave is a touch-screen device based on the company's Bada operating system. This smartphone has a 3.3-inch screen; five-megapixel camera; HD video capability; and the ability to use the application store that Samsung launched in Britain, France and Italy in 2009 and plans to open to 50 countries this year.

www.samsung.com

http://tmcnet.com/24836.1

Rivermine Achieves Revenue Growth Rate Exceeding 400 Percent

Rivermine, a provider of automated telecom expense management solutions, has recorded a three-year revenue growth rate of more than 400 percent and posted nearly 40 percent organic year-to-year revenue growth in 2009. Officials with Rivermine say that most of the company's 2010 revenue will be recognized based on deals previously sold; therefore, the company is on track to exceed its 2009 revenue growth in 2010.

www.rivermine.com

http://tmcnet.com/24837.1

AOTMP Announces TEM Award Winners

AOTMP, a provider of information solutions for telecom environment management, has announced the winners of the second annual Industry Excellence Awards. Myron Bryant of Orange County Public Schools was named Telecom/Wireless Professional of the Year. The Environment of the Year award went to Kimberly-Clark Corp. Advocate of the Year was awarded to Will Nankivell of Integrated Mobile.

www.aotmp.com

http://tmcnet.com/24838.1

Survey Reveals 'Knowledge Gap' of Mobile Workers

An industry study released recently found that workers who use Internet-enabled mobile devices from the road tend to prefer smartphones to laptop PCs. The survey's findings also demonstrate a so-called "knowledge gap" created by the widespread introduction of smartphones into the enterprise. The survey also found that most mobile workers were ignorant of the actual telecom cost allocation imposed by their wireless Internet use.

http://tmcnet.com/24839.1

Veramark Receives 12th Annual Product of the Year Award

Veramark Technologies Inc., a leading provider of telecom expense management solutions, has received the 2009 Internet Telephony Product of the Year Award from Technology Marketing Corp., the parent company of INTERNET TELEPHONY. The award recognizes Veramark's VeraSMART telecom expense management software, which helps organizations manage and reduce their telecom and IT expenses.

www.veramark.com

http://tmcnet.com/24844.1

T-Mobile USA Reels In Prepaid Subscribers

The fourth-largest U.S. wireless carrier – T-Mobile USA – gained 371,000 new customers in the fourth quarter, up from a decline of 77,000 in the third quarter of 2009. But the new subscribers were mainly low-paying ones who don't sign contracts, and T-Mobile USA's earnings and revenue fell from the same period a year earlier, the Associated Press reports.

www.t-mobile.com

http://tmcnet.com/24840.1

TTI Wins Large WinCall Call Accounting Client

TeleManagement Technologies Inc., a leader in telecom expense management software solutions WinBill and enterprise call accounting and CDR reporting software solutions WinCall, has been selected by a major New York-based financial institution to deliver the WinCall Call Accounting solution to 50 locations covering Cisco, NEC, Nortel PBX switches, both analog and VoIP.

www.telmantec.com

http://tmcnet.com/24841.1

Master Agent TBI Partners with Nitel

Master agent Telecom Brokerage Inc. has joined Nitel's Premier Partner program. "Nitel's flexible ability to quote multiple carriers gives us the option to say 'yes' to almost every need an agent has," says TBI Senior Vice President Ken Mercer. "Footprint and product are the two biggest qualifiers we face when quoting. Nitel does it fast and accurate."

www.nitel.com

www.tbicom.com

http://tmcnet.com/24842.1

TEM Partnership Ushers in New Era of Global Delivery Capability

Two communications organizations have joined forces to offer a localized global telecom expense management solution. Dimension Data, a global IT solutions and services provider, has signed a global partnership with Invoice Insight. According to the agreement, Dimension Data will offer a managed communication service, which combines telecom lifecycle management of telecommunications services and lifecycle management of network technologies.

www.dimensiondata.com

www.invoiceinsight.com

http://tmcnet.com/24843.1

Virtualization Increases Demand for Telecom Lifecycle Management

A new report entitled "Recovering with Telecom Lifecycle Management: Transforming Communications for Top-Line Growth in 2010," stresses the need to manage the telecom lifecycle to prepare for cloud computing, virtualization, unified communications and mobility. According to Aberdeen Group, enterprise communications and networking have become increasingly complicated with accelerated demand for cloud computing, virtualization, mobility and unified communications.

www.aberdeen.com

A Look Into the Mind

WiseWindow Leverages Open Source, Cloud Computing to Gauge Opinions

WiseWindow Inc.'s solutions are used to analyze millions of online consumer opinions, helping marketers assess their competitive position and understand what subjects people care about. INTERNET TELEPHONY recently spoke with Rajiv Dulepet, the founder and CTO, and Marshall Toplansky, the president, of WiseWindow, about the company's Mass Opinion Business Intelligence service, their involvement with Caltech and how open source relates to all this.

What is Mass Opinion Business Intelligence.
T & D: Mass Opinion Business Intelligence is WiseWindow's monitoring service that gives marketers their products' real-time share of opinion, analyzes which subjects are dominating the opinions within their product categories, shows who is providing the largest share of opinions and uncovers unmet needs in the category.

Who uses Mass Opinion Business Intelligence today and how?
T & D: Any company that is looking to track online consumer opinion and develop competitive marketing strategies is a logical user of MOBI.
Our clients are confidential; however, here are four examples of how it is being used and by whom:

- A large athletic shoe manufacturer is using WiseWindow to understand who and why people are wearing different brands of fitness shoes.
- A major automobile company is using WiseWindow to understand whether people are actually changing their attitudes and behavior regarding their brand as a result of its marketing campaign.
- A leading healthcare company is using WiseWindow to understand which aspects of healthcare reform are building or losing momentum among the public.
- A major media company is using WiseWindow to rate the popularity of the more than 12 million bands in the country, region by region.

What other interesting potential uses are there for Mass Opinion Business Intelligence?
T & D: For every category we have done work in so far, we have found a fascinating correlation between share of opinions (in some form, whether positive or negative) and the actual share of market (revenue or units) that a brand or product has in the marketplace. As a result of this correlation, we are able to develop predictive demand forecasts for customers. The ability to factor in real-time market opinions into the demand forecasting process is a significant breakthrough in enterprise planning. It has profound implications for manufacturing, purchasing and asset management in an enterprise, not only for marketing and sales.

What is your pricing strategy relative to Mass Opinion Business Intelligence?
T & D: WiseWindow and its value-added partners make money by charging for subscriptions to its data as well as via custom analysis of the data we track.

What does Mass Opinion Business Intelligence have to do with cloud computing?
T & D: Cloud computing is a significant enabling technology for MOBI. Finding opinions that are relevant to a category, and conducting natural language and sentiment analysis, is very computing-resource intense, as is the storage and retrieval of the data that is generated. MOBI distributes the crawling, analysis and database functions across the cloud, which gives us the flexibility to scale usage up and down as required.

WiseWindow's Marshall Toplanksy

I understand Rajiv has been named advisor and architect for a new open source project funded by the National Institute of Health and executed by Caltech. What is the goal of this effort and what exactly does it have to do with open source?
Dulepet: The goal of this effort is to provide scientists an open platform for bio-medical research where they can share analytical applications and data with their colleagues. In addition, we want to provide private companies (like pharmaceutical research firms) with a platform they can use for large-scale analysis and yet maintain their data in a confidential manner. The ultimate goal is to speed up bio-medical research and, where appropriate, enhance collaboration within the research community.

Earlier this decade you served as a visiting scholar at the Stanford School of Management and Engineering, spearheading the development of U.S. presidential prediction analysis. How are you leveraging that experience for your work on Mass Opinion Business Intelligence and on the Caltech effort?
Dulepet: I was involved with Stanford from 2004 to 2006, in addition to doing

work on the 2008 election. This experience was the first time anyone was able to leverage unprompted consumer opinion to determine the outcome of elections. At the time, people relied solely on polls to determine the outcome of elections. Polls are biased by the act of asking people their opinions as well as by the selection of the samples used. Mass opinion, by contrast, passively observes what people are saying. The large number of people who express opinions eliminates the need to do 'select representative' samples. We found that these opinions were highly predictive of results.

The use of natural language processing and sentiment analysis to analyze mass opinions for the elections was the core analytical process that we have harnessed for MOBI and WiseWindow. The use of the cloud was required to be able to process the enormous number of expressed opinions.

How is your work at Caltech complementary to your development of Mass Opinion Business Intelligence for WiseWindow?

Dulepet: In addition to the cloud computing resource that is part of our Caltech framework, we will be developing an online community of biomedical researchers, who will express their opinions on various research subjects. We will use MOBI to analyze and track those opinions. IT

WiseWindow's Rajiv Dulepet

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By Paula Bernier

The Value of Partnership

TNCI Walks the Walk with the Agent Channel

Having strong, supportive partners has never been more important. Yet many channel partners have felt abandoned as legacy carriers changed the game for agents in an effort to protect themselves in light of the economic downturn and changing buyer behaviors. These legacy carriers have done everything from eliminating services to reducing agent compensation. In some cases they've gone as far as terminating agent contracts.

Amidst this storm of unpleasant change, however, TNCI has been a welcome presence by providing agents with a partner on which they can rely.

Not only is TNCI a reliable and trusted partner, but it has gone the extra mile with some ground-breaking moves that clearly spell out its commitment to the agent channel.

INTERNET TELEPHONY recently spoke with TNCI President Brian Twomey about why the channel finds his company a truly valued partner, and vice versa.

How many agents does TNCI have as its partners today?
Twomey: TNCI has over 350 direct agent partners. We have several hundred direct agent partners. Many of these partners are master agents with hundreds of subagent relationships that TNCI also supports and provides detailed performance reports to these master agents for all identified subagent relationships.

The Agent Equity Plan offered by your company allows agents to build equity in TNCI in anticipation of a transaction in the near future. Tell us about the plan.
Twomey: The AEP is truly a unique program in the channel because it contemplates TNCI building to a transaction, [and] recognizes and rewards individual agent partner-generated revenue with equity value that is determined based upon the revenue developed by the entire channel as opposed to just an individual partner. [T]hen [it] applies the equity factor to each individual agent partner's applicable revenue at the time of a TNCI transaction, while also providing evergreen earning protection for the agent partners.
Not only is the program unique in that it establishes these benefits in advance of a transaction, but the program and its terms were entirely developed jointly by TNCI along with the Agent Alliance. [T]he ongoing results of the program are jointly managed and tracked on a monthly basis by both groups based upon full review of all related results. The AEP also has an advisory council comprised of several members of the Agent Alliance along with several independent TNCI agent partners. This group also meets to review results/growth, progress toward a transaction and the business direction of TNCI.

TNCI President Brian Twomey

Please elaborate on TNCI's plans around the transaction.
Twomey: Our focus and objective is to build toward a transaction in the late 2011/early 2012 timeframe. We are already having discussions regarding transaction direction and valuation ranges based upon projected growth. This provides us with not only a specific vision toward a transaction but also with the insight regarding specific objectives that will further enhance our ultimate valuation.
In addition to all of these points of value and differentiation, TNCI is [a] Trans National Group Company, and TNG has [more than] 30 years of experience in acquiring, developing and managing businesses to result in deriving maximum value at the time of a transaction. Trans National Group has extensive knowledge relating to transaction options/direction and

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TNCI's Leadership

By Paula Bernier

Averaging more than 22 years of telecommunications industry experience and more than 12 years of TNCI experience, this team of eight executives is responsible for all performance and operational aspects of the business. Collectively their leadership and expertise have been the driving force behind a period of tremendous growth and increased profitability.

Brian Twomey – President
With the company for 12 years, and TNCI president since 2000, Twomey has more than 26 years of experience in the telecommunications industry. As president, he directly oversees all strategic direction, product management, technology development, sales relationships, marketing, finance and business operations.
Prior to joining TNCI in 1998, Twomey gained executive experience in sales, marketing, financial management, product development and network planning disciplines through positions held at AT&T, NYNEX (now Verizon), Sprint, McCaw Cellular (now Cingular) and FaxNet.

Charles R. Luca – Senior Vice President, Operations
In his role as head of operations, Luca is responsible for the strategic direction and leadership of all customer-facing organizations within the company. This includes order provisioning, customer care, risk management, billing, and regulatory.
Luca has nearly 26 years in the telecom industry and more than 16 years with TNCI.

Scott Armstrong – Vice President, Sales
Armstrong has more than 21 years of telecom sales experience – the most recent 15 of those with TNCI. In his current role, Armstrong directs the TNCI Directors and Agent Manager team and manages the relationship with TNCI's indirect agent base, including those of the Agent Alliance.

Brenda MacDonald – Vice President, Carrier Relations
With TNCI for more than 13 years, MacDonald oversees the direction and management of TNCI's carrier relationships and all product development, including that of TNCI's private, nationwide VoIP network.
MacDonald has held previous positions at Qwest and Verizon Business.

Len Camara – Vice President, Information Technology
Camara has spent the last 21 years within the IT sector, and the last six years with TNCI. He is responsible for the overall information technology utilized within the TNCI organization, the applications that run the TNCI business and the development and delivery of agent-facing technology tools. He also is a key member of the group managing TNCI's private nationwide VoIP network.

Pamela Hesse – Assistant Vice President, Controller
Hesse has been with the Trans National Group for more than 20 years and with TNCI since 2000. In her current role she oversees financial statement preparation, cash management, forecasting, carrier analysis, accounts payable, and regulatory reporting.

Neil Hunt – Assistant Vice President, Revenue Assurance
Hunt directly oversees the TNCI Agent Support organization responsible for pre- and post-sales activities, order follow-up and follow-through, and attainment of revenue realization targets. He has been with TNCI for 10 years.

Jeanne Duca – Assistant Vice President, Marketing
Duca began her relationship with TNCI in 2002 as a strategic marketing consultant and assumed her current role as AVP marketing in February 2008. She is responsible for the company's marketing strategy and brand development – including both agent and customer facing programs. IT

has successfully executed transactions for many of its businesses over the years. This means that not only do we have a solid backbone communications company in TNCI and a jointly-developed program providing equity to agent partners, but also a parent company with the experience necessary to deliver a highly-valued transaction plan.
All in all I believe that on close inspection any and all existing and prospective agent partners will agree that this is a very unique and highly valuable opportunity for the channel.

How many agents are currently involved in The Agent Equity Plan?
Twomey: All agent partners that we have direct relationships with are participants in the plan, and we have provided our master agent partners with contract documents that enable them to extend program participation to all of their subagents.

What is required on their part to participate in this plan?
Twomey: I believe we've made participation as simple as possible. All that is needed is either a direct relationship with TNCI, the Agent Alliance or a TNCI Select Agent and the execution of a very simple memo [that] provides full access to and participation in the program.

TNCI places great importance on the partnership it has with its agent base. Beyond The Agent Equity Plan, what things does TNCI do that exemplify its consideration for its agent partners?
Twomey: Clearly the AEP is the single most significant example of

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partner consideration given its depth and detail, but beyond this, TNCI has successfully operated for almost 20 years working solely and exclusively with the channel for all sales and revenue. Based upon this history and experience, TNCI has gained the direct insight to recognize what is most important for its agent partners. Not only do we understand what is most important, but we openly plan and communicate business direction and strategy. This includes even the participation of key agent partners in the development of our annual budget and operating plan. This effort, which is no small undertaking, ensures that the focus and commitment of resources being planned by TNCI aligns with what the channel views as being the most critically important elements in order to ensure joint success.

TNCI has gained the direct insight to recognize what is most important for its agent partners. Not only do we understand what is most important, but we openly plan and communicate business direction and strategy.

What kind of compensation does TNCI offer its agent partners?
Twomey: Not only do we provide the equity and evergreen components I've previously mentioned, but we also recognize that while offering these benefits we must always provide extremely competitive rates along with similarly competitive residual commissions, new business bonuses (which I believe we introduced first to the channel), along with sales promotions and contests that may provide substantial 'extra' compensation to our partners.

What does TNCI provide agents in the way of sales, support and training?
Twomey: TNCI provides extensive support for our agent partners, and we are true believers in the importance of best-in-class back office support from technical provisioning services to customer care and proactive NOC support.
Beyond back office support, on a dedicated basis we provide highly experienced field-based agent managers for our agent partners; dedicated sales engineering personnel to provide product and technical training; as well as pre-sales planning and support and headquarters-based agent support managers, who provide both pre- and post-sales support and are fully committed resources for all aspects of sales and order management, tracking and communication.
Again, TNCI relies solely upon the channel for its business, and therefore we have to get it. We not only know what's most important for our partners, but we're committed to continuous improvement of this support and work directly with partners to ensure that we are providing exactly this.

TNCI has established its own nationwide, private IP network called TNCInet. What services are offered over TNCInet?
Twomey: TNCInet has been designed to support all facets of IP communication, supporting voice and data needs for commercial customers of all sizes and shapes. Our offerings may range from high volume voice-only communications products for corporate locations and sub-locations to integrated communications solutions, which provide local, long-distance and data services down to a single DS1 level for customers with individual or multiple locations, to being able to provide distributed services to support individual work-at-home or telecommuting needs.
In addition to many variations of these services that we are able to customize to meet the needs of individual customers, we do also provide extensive data resale services through market leaders including Sprint, AT&T and many others. TNCI has also operated as a nationwide CLEC, reselling local services in all 48 contiguous states, and we have extensive wholesale relationships [that] we count on with many other facility-based network operators.

If there's one message you'd like to convey to INTERNET TELEPHONY readers about TNCI, what is it?
Twomey: TNCI thoroughly understands the needs of the channel and the absolute need to provide … our agent partners with great rates and numerous compensation components. [E]ven more importantly … we fully recognize and deliver outstanding customer support.
Providing rates and compensation is the easy part. Many carriers can provide you with a solution that will help you win your customers' business. What becomes truly important is the need to fully support your customers to ensure that they are fully satisfied and will therefore remain your customers, your income base. IT

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By Paula Bernier

Testing in Multi-Vendor Environments

(Or, How Testing is a Drain on Your Organization and What You Can Do About It)

To the uninitiated, equipment testing may seem like an insignificant dot on the networking landscape. But if you're involved with new product or service development, the word "testing" likely evokes "a giant sucking sound," as former presidential candidate Ross Perot might say.

David Gehringer, vice president of marketing at Fanfare Software, a four-year-old Mountain View, Calif.-based company that provides an automated testing tool called the iTest, says both equipment providers and network operators are challenged by the testing requirements they face both with new gear as well as every time there's a new software release.

"When a carrier gets a new device, or a new rev of a device, they frankly don't trust the manufacturers, and they can't afford to, so they retest the device kind of by itself to make sure it functions as advertised," he says. "And then they'll put it into a fairly large system – and this will have upwards from 50 to several hundred of devices in it. And they'll redo an end-to-end system test to validate that it not only continues to operate as advertised, but that it plays nice with others."

Gehringer adds that a vendor for one service provider's 4G trial has had a patch about every two weeks, which means that with each patch the carrier needs to go back and retest and revalidate the gear and everything that it touches to make sure it all still works together. The fact that service providers have to do that kind validation rather than handing the job off to suppliers is a major source of irritation for the carriers, he says. But Gehringer expects carriers in the future to require their vendors to provide test cases along with their network elements so they can rerun those tests.

"That is a big, significant change to how it's been in the past," he says.

While networking equipment companies test their gear before it hits the network, and often during the R&D process before the product is even pressed into silicon, Gehringer says some equipment from different vendors simply doesn't "play nice" together in the network. And although some vendors will assist service providers and other network operators with a fix, others use these situations as an opportunity to point out

Fanfare's David Gehringer

the so-called shortcomings of other vendors' gear in customer networks and to push their own solutions.

Of course, service providers aren't the only ones facing these challenges. Businesses that run their own networks have similar problems. For example, Fanfare works with a bank, which has a network containing 40,000 routers from a dozen suppliers, to test patches for that gear. It's a big job.

At the same time, many major equipment suppliers themselves use Fanfare solutions both to test the functionality of their own gear as well as to see how their products work in labs with other network elements and under various conditions. Fanfare has about 110 customers, including big service providers like AT&T, BT, NTT and Verizon, as well as leading vendors like Cisco, F5, Force10 and HP.

Fanfare's automated test software can allow those companies to assess packet processing, compare what each device in the network saw and how that relates to what the traffic generator created, determine packet loss, and then reset the lab to its predetermined state.

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Feature creep on network devices, however, is creating new challenges in testing because it adds a much wider variety of permutations on a switch, router or whatever device is being tested, says Gehringer.

"We have customers who are literally running 20,000 tests a day," he notes.

One Fanfare customer, which he categorizes as a small router company, had more testers than it did developers, he adds, "and it scared the heck out of them."

"It takes longer to test the device than it does to develop the features that go into it," he says.

But by automating testing, network operators and equipment suppliers can focus more of their efforts on new product development and introduction, and spend less time carrying out these tests, says Gehringer. Fanfare automated test software can take a test response from any device with an optical or RJ 45 jack that becomes part of a network, and parse that response into a very stable and repeatable piece of information. As a result, Gehringer says, users of this automated test software frequently realize productivity gains of between 500 and 1500 percent.

"If you've got someone who's in their backyard digging a post hole with a trowel, you do not give them a shovel, but you back up a tractor, you're going to radically change their productivity," he says. "And these people have been testing manually, and we're giving them a way to automate the testing. So it's not just a small, incremental [improvement], it's a big bump."

Some potential customers are reluctant to change the way they do things and may be concerned that the move to automated testing will eliminate jobs. But Gehringer says they're thinking about it the wrong way. Automated testing is not about eliminating jobs, it's about helping people be more efficient and effective with their time, he says.

"I know you love your trowel," he adds, "but you need to put it down, because once you get it done, you're going to love it." IT

JDSU to Strengthen Wireless Test Position Through Acquisition

By Paula Bernier

Wireless clearly is where a lot of the communications action is these days, and the vendors that provide gear to service providers are anxious to get a piece of the pie as carriers move to 4G. In a recent move to boost its ability to deliver LTE and other wireless technology, JDSU recently announced plans to buy the Network Solutions communications test business of Agilent for $165 million in cash.

The deal, which is expected to close in June, will enable JDSU to address the test needs of the more than 50 wireless service providers worldwide that have announced plans to deploy LTE. That includes such names as AT&T, Bell Canada, China Telecom, China Mobile, T-Mobile Germany, NTT DoCoMo and Verizon Wireless.

Dave Holly, the president of JDSU's communications test and measurement business segment, says the company traditionally has been strong in the test space related to optical transport, metro networks, access networks (including DSL, fiber and HFC), home wiring and the wireline portion of wireless networks. JDSU's acquisition of the Agilent unit, which has approximately 700 employees and business operations in Beijing, Colorado, Singapore and the U.K., allows the company to strengthen its play on the wireless side.

With the acquisition, JDSU will broaden its wireless service assurance and instruments business with the addition of the following customer offerings:

Service Assurance
Agilent's wireless and wireline service assurance solutions are the market leaders in helping service providers deploy services and manage and operate their networks for maximum reliability, efficiency and customer satisfaction.

Protocol Analyzers
Agilent's network protocol analyzer instruments are used both for lab and field testing by network equipment manufacturers and wireless service providers and support such protocols as WiMAX, Bluetooth, 3G and emerging 4G/LTE networking technology. Test applications include integration, interoperability, field trials, deployment, troubleshooting and operations.

Wireless Drive Test
Agilent's E6474A drive test network optimization platform and instruments are used by service providers to measure performance and to troubleshoot network coverage in support of all wireless technologies including LTE and WiMAX. IT

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By Paula Bernier

The 411 on 911

Emergency Calling Systems Evolve to Address IP, Broader Communications Options

The migration of the country's networks to IP, as well as the proliferation of different types of connected interactions and devices, is impacting virtually every aspect of communication. Emergency services are no exception.

The National Emergency Number Association is calling for the migration of E911 networks to what NENA calls NG911, or next generation 911, as discussed in the E911 Watch column authored by RedSky Technologies Senior Vice President Nick Maier in the January issue of INTERNET TELEPHONY. The idea is to move E911 systems to standards-based IP platforms and, in the process, enable citizens and those involved in emergency response to interact not only in voice, but also via text, IM and possibly even video communications.

"It's not just Mrs. Smith calling from her living room on the wireline" anymore, notes Ian Colville, product manager at Aculab, which sells a PSTN-to-IP gateway. The gateway, called GroomerII, is used in public safety applications by such companies as microDATA.

He says a hiker in Yosemite National Park who breaks her leg might call 911 using her mobile device, or an executive working in a skyscraper might call in via a Skype connection. Teens, meanwhile, might be predisposed to reach out via text. E911 systems should be able to accept all these types of communications and have the know-how to locate the individuals in peril.

They also need to maintain the resiliency now found in PSTN networks, notes Aculab.

"A growing number of service providers are choosing an IP infrastructure to deliver mission-critical services, like voice, conferencing – even emergency services – to consumers and enterprises," says Chris Gravett, sales and marketing director at Aculab. "While IP networks offer a number of profound economic and operational benefits, they have evolved in a 'best effort' environment and do not possess

Federal Regulators Revisit First Responder Interoperability

By Paula Bernier

The 9/11 event , which extinguished many lives and destroyed the World Trade Center in New York, put in stark relief one of the shortcomings of the nation's emergency response infrastructure: The fact that first responders such as fire fighters, police and medical personnel are unable to communicate in emergency situations because their organizations' systems are not interoperable.

Following this tragedy, there was a lot of talk about the need to address this disconnect, but in our country's great tradition of following the bright shiny object, eyes and minds quickly moved on to other concerns before finding a fix.

Years later and with a relatively new administration in office, it appears as if federal regulators are now seriously looking at how to address this problem.

At a meeting in late February, FCC Chairman Julius Genachowski said The National Broadband Plan will request that Congress allocate $12 billion to $16 billion over 10 years to help build an interoperable, pubic-safety broadband network. That would include $6 billion to support the creation of the public safety network and $6 billion to $10 billion for upgrades, operations and maintenance.

The plan also involves making a broader swath of spectrum available for public safety.

"The private sector simply is not going to build a nationwide, state-of-the-art, interoperable broadband network for public safety on its own dime," Genachowski said. "Local municipalities and states can certainly contribute some amount to sustaining any network that is built. But the bottom line is that if we want to deliver on what our first responders need to protect our communities and loved ones, public money will need to be put toward tackling this national priority."

James Arden Barnett, Jr., chief of the FCC's Public Safety & Homeland Security Bureau, added: "Police officers and firefighters must be able to talk with each other, share data with emergency managers and transmit critical, time-sensitive information to decision-makers at all levels of government in any type of crisis or emergency situation. We believe that broadband technologies and innovations will ultimately help us meet this challenge as a nation. However, the creation of this network is not inevitable. It is essential that the FCC work closely with public safety, our federal, state and local partners and the communications industry to make this a reality." IT

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Meet ERIC

Here are the current plans for establishing the Emergency Response Interoperability Center.

Proposed Primary Mission

To establish a technical and operational framework that will ensure nationwide operability and interoperability from the outset in deployment and operation of the 700MHz public safety broadband wireless network.

Proposed Responsibilities

- adopt technical and operational requirements and procedures for ensuring a nationwide level of interoperability to be implemented and enforced through FCC rules, license and lease conditions, and grant conditions
- adopt and implement other enforceable technical and operational requirements and procedures to address, at a minimum, operability, roaming, priority access, gateway functions and interfaces, interconnectivity of public safety broadband wireless networks
- adopt authentication and encryption requirements for common public safety broadband applications and network usage
- coordinate the interoperability framework of regulations, license requirements, grant conditions, and technical standards with other entities (like the Public Safety Broadband Licensee, the Department of Homeland Security, the National Telecommunications and Information Agency, and the National Institute of Standards and Technology)

Proposed Structure

- Location housed at FCC in the Public Safety and Homeland Security Bureau
- Public Safety Advisory Board A board that is broadly representative of the public safety community will serve a central advisory role to ERIC. We anticipate that the board will primarily include representatives of all major national public safety organizations and regional, state, tribal, and local public safety entities. Participating federal first responder agencies, vendors, and service providers may have secondary or ex officio status on the board.
- Participating Federal Agencies We recommend that DHS and NIST contribute to ERIC's functions in their traditional areas of expertise via Memoranda of Agreement with PSHSB and potential staff detail assignments to ERIC: DHS would participate in the areas of grant administration, public safety outreach and technical assistance, and best practices development. NIST would participate in the areas of standards development, verification, testing, and validation.
- Federal Partners Coordinating Committee Federal agencies that regularly coordinate on state and local public safety communications matters (e.g., DHS, NTIA, DOJ) will have the opportunity to provide input into ERIC specific to 700MHz broadband deployments.

Source: FCC

the same inherent degree of resilience and redundancy as traditional PSTN networks. Our Dual Redundant SIP Service helps these providers meet the needs of their customers by increasing the reliability of IP networks to a level similar to legacy TDM environments."

Kevin Breault, vice president of sales and business development at Dash Carrier Services, says FCC rules put in place in 2005 stipulate that VoIP providers have to deliver 911 services to their subscribers, and they can do that by gathering in advance location information from their subscribers and use it to populate E911 databases. Dash, which late last year expanded its 911 play with the acquisition of VIXXI Solutions, outfits various types of service providers, as well as large organizations, with E911 services.

But while some rules addressing the transition to IP exist, and while NENA has laid the groundwork for the E911 migration to next-generation technologies, Breault says significant questions remain about who will pay for all this, and who will be responsible for what and in which situations.

While those questions remain, there was encouraging news on this front in late February when officials at an FCC event announced that The National Broadband Plan, which the commission was expected to present last month, would ask that Congress immediately appropriate funding for the National Highway and Traffic Safety Administration to analyze the cost of deploying an NG911 system on a nationwide basis.

"This report should serve as a basis for congressional action to create a coordinated, long-term funding mechanism for the deployment and operation of such a broadband system," said James Arden Barnett, Jr., chief of the FCC's Public Safety & Homeland Security Bureau. Streamlining this process will make the transition to a nationwide next-generation 911 system more likely.

Another recommended solution may be for Congress to establish a federal legal and regulatory framework for the development of next-generation 911 that removes jurisdictional barriers and inconsistent legacy regulations.

"The FCC may, as part of the efforts to implement solutions, consider initiating a proceeding that would address the future roles of 911 and next-generation 911 as communications technologies, networks and architectures expand beyond traditional voice-centric devices," he added.

Based on 2009 spending of $7.9 billion, Gartner predicts that public safety departments across the U.S. will spend approximately $9.1 billion by 2012. The research firm also indicates that new CIO structures within state and local governments are likely to be more receptive to alternative technology and delivery methods for core operations.

However, to bring about changes for 911 and provide better services around emergency response, Breault says, more funding and organization will be required. Some states, like California, Indiana and Texas,

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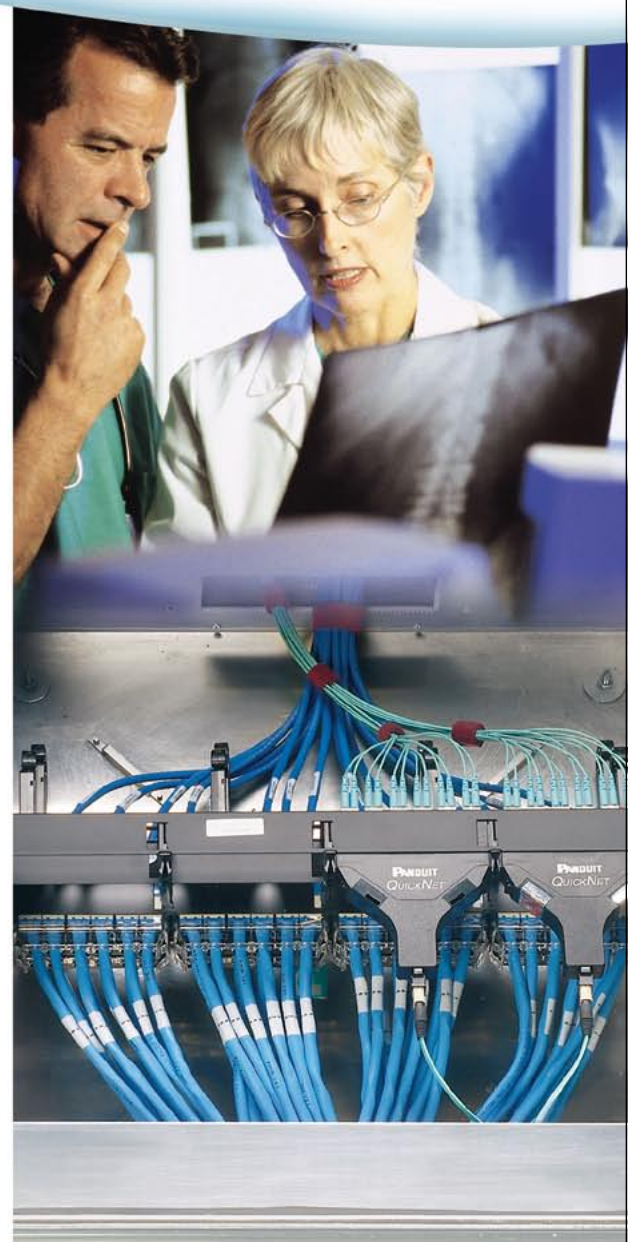

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have more state oversight and resources to help support the migration to IP, he says, but it would be helpful to get more support.

Breault says the FCC has been "turning a blind eye" to states that are asking VoIP service providers to contribute to 911. Of course, that could help contribute to the cost of the E911 migration to next-generation technologies; but it's just the start. According to Breault, a variety of organizations, including the E9-1-1 Institute, 9-1-1 Industry Alliance and NENA, have been lobbying to get more federal funds for 911.

Meanwhile, different levels of government need to work out how they are going to handle various emergency calling scenarios, Breault adds. For example, if a car breaks down on the interstate and the motorist calls 911, the call today would be routed to a public safety answering point, or PSAP. But the interstate is a state-based entity, so that call does not fall within the typical jurisdiction of PSAPs, which tend to be managed by lower-level governments. Yet PSAPs can't forward calls, says Breault, so various levels of government need to get together on the processes and responsibilities around these kinds of things as they invest in new systems. IT

Enterprise 911 Works on Emergency Location Challenges

By Paula Bernier

When an individual calls 911 from his or her home, emergency responders get an address and typically can find their way to that location relatively quickly and easily. But what happens when someone within an office building, corporate campus, school or multi-dwelling unit makes an emergency call? The answer to that question varies. Considering that a minute can seem like an hour in an emergency situation and that seconds can sometimes make the difference between life and death, that's a little scary.

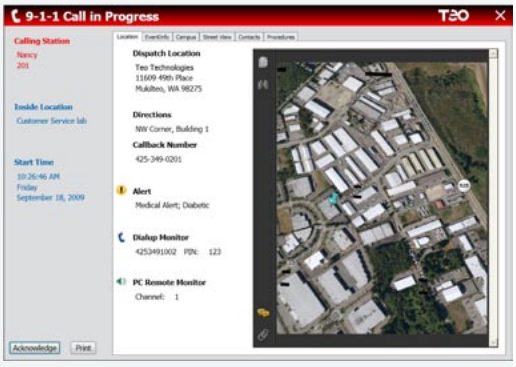
Thomas Beck, business strategy executive at Teo Technologies, says there have been situations in which someone at a school calls 911, the police then arrive at the front desk of that school, but the front desk receptionist has no idea at what location in the school the emergency is taking place.

Pinpointing the scene of an emergency within a high-rise building or corporate campus could be an even bigger challenge.

That's why 20 states already have in place requirements for organizations with more than one floor, more than one building or more than a certain amount of square footage, to support E911 for the enterprise.

E911 server from Teo

Such solutions allow PBXs and related gear to provide public safety answering points, or PSAPs, with more discreet information as to the origination of on-site emergency calls, says Beck. But, he adds, there are lots of ways to do that, and many of them are prohibitively expensive for most potential customers. So Teo engineered a more affordable answer, he says, which sells for about $4.50 per person protected, or about a tenth the cost of some competing solutions. And it brought a lot of other important features into the mix at the same time.



E911 popup 1 from Teo

Teo's solution connects to any PBX with a PRI output and detects whenever a 911 call goes out. It then triggers a screen pop to key people within that organization to let them know about the 911 call and where it originated. Those people are asked to confirm, with the click of a mouse, that they've gotten the notice, so others in the organization are aware of who is in the loop about the emergency and who still might need to be alerted about the situation. An organization can also elect for the Teo appliance, which is a database running on a hardened server, to send e-mails to on- and off-site personnel about the situation.

At the time of installation, Teo works with customers to divide their locations into "zones" so various areas are more easily defined and found. A five-level map, including floor and street views, of the organization also can help pinpoint the emergency. The system even offers information to on-site personnel about hazardous materials in the area, so they can take extra precautions if needed in the event of a fire, for example.

Teo solutions are in use today with "thousands and thousands of customers," says Beck. That includes the City of Seattle; about two-thirds of the hotels in Las Vegas; and a variety of other small, medium and large organizations. IT

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By Paula Bernier

The State of SBCs

Service Border Controllers Scale and Add Functionality

Session border controllers are expanding their horizons. SBCs got their start ensuring security at service provider-to-service provider interconnection points. Carriers still rely on session border controllers to do that job, but these devices also are used increasingly between enterprise and service provider networks as well. At the same time, SBCs have expanded their scalability and functionality.

Addressing Scalability

Acme Packet recently unveiled a variety of new SBC solutions that address various aspects of these themes.

"With our service provider customers we're pretty well entrenched with them," says Jonathan Zarkower, director of product marketing for Acme Packet, which went from $116 million in revenues in 2008 to $184 million in revenues in 2010. "The growth that we're seeing is purely in terms of traffic volume."

To help carriers scale, Acme Packet earlier this year introduced a new product that enables service providers to "cluster" several SBCs so they can be managed as one.

This new product, known as the Net-Net Session-aware Load Balancer, basically adds some capabilities to Net-Net 4500 SBCs to enable them to cluster. Not only does it allow for umbrella management, but the SLB also provides adaptive load balancing of subscribers based on SBC state and subscriber capacity, load and session state.

"We can now scale delivery of our SBC capabilities up to 2 million subscribers," says Zarkower.

Prior to the availability of this clustering feature, Acme Packet's highest-end SBC, the Net-Net 9200, topped out at 128,000 concurrent sessions, he adds.

"We're seeing a lot of growth, particularly with large customers like tier 1 service providers, who are looking to scale up their networks," says Zarkower. "But they want to do so in a way that is cost effective and simple. So using the Session-aware Load Balancer, which is an access-side solution, allows them to do that very easily. You can add SBCs to clusters, remove them, and it basically allows you to fine-tune or fine-tailor your access-side capacity."

More on the SMX

Acme Packet's Net-Net SMX builds upon the Net-Net 4500 SD access SBC, which already incorporates the IMS P-CSCF, E-CSCF, IMS-AGW and a SIP signaling firewall function that is missing from IMS standards. Net-Net SMX adds SIP registrar and IMS-equivalent I-CSCF and S-CSCF capabilities and interfaces with a wide range of options including:

- ENUM-based or HSS subscriber database options for authentication, authorization, location update and lookup
- PCRF and RACS interfaces (Rx)
- NASS/CLF interface (e2)
- Standard interfaces to I-BCF (Mx), AS (ISC), BGCF (Mi), MGCF (Mj/Mg)
- Optional I-BCF, IWF and TrGW for interconnect/peering
- Optional BGCF for core session routing

Acme Packet also has come out with an addition to its element management system that allows customers to consolidate and manage their routing tables for Net-Net SBCs and session routing proxies. The Net-Net Route Manager Central consolidates and automates the management and distribution of up to 2 million routes per Acme Packet SBC or SRP.

Adding Functionality

Alan Percy, director of marketing development for AudioCodes, which got into the SBC space nearly four years ago through the acquisition of Netrake, says session border controllers have been morphing over time to be part of larger solutions.

When AudioCodes did the Netrake deal in 2006, he says, the company's plan was to pair the SBC technology with that of its existing media gateways to introduce a hybrid product. The company now offers that product under the name Mediant 1000.

The company has been expanding its capabilities ever since.

Percy says when AudioCodes talked to businesses about their needs they voiced interest in SIP services, but were reluctant

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to jump into the SIP pool with both feet. Instead, businesses wanted to ensure survivability, so if a SIP trunk went down they could revert to the PSTN, or if pricing shifted they could decide which service provider offered the best deal. As a result of this customer feedback, AudioCodes about a year ago added IP-to-IP features inside of its gateway. That includes a back-to-back user agent and mediation functionality.

As a result, the AudioCodes gateway can terminate both PSTN circuits as well as IP sessions from SIP trunking providers, which Percy says has been a key differentiator for the company in the marketplace. More businesses want to do SIP trunking and thus need to terminate SIP trunks onto enterprise SBCs and control the traffic that flows into and out of them, so there's been strong growth on the "enterprise SBC" front, as Percy refers to it.

Elsewhere on the product development front, Zarkower says that Acme Packet's R&D and new product development has always been extremely pragmatic. An example of that pragmatism, he says, is the Net-Net SIP Multimedia-xpress, aka the SMX. The company introduced the SMX, which is an add-on to the company's Net-Net SBC, in response to customers telling it that the IMS architecture is too costly to deploy and asking how Acme Packet could leverage its know-how of upper-layer protocol to simply that.

"'You're already functioning in our network as a P-CSCF, you're already functioning in our network as a border gateway, the BGCF function in IMS. What can you add to that to allow us to further consolidate?'" Zarkower says customers asked. "So we're adding capabilities to our SBC such as the ability to have a SIP registrar, an emergency service CSCF" and at the same time ramp up volumes of traffic.

That simplifies things by concentrating more functionality into single elements within IMS rather than distributing all of the functions described by the architecture, says Zarkower. As a result, he explains, service providers have lower capital costs as well as decreased signaling and other operational costs because there are fewer separate network elements.

And the SMX can support IMS and other next-generation networking architectures for about $2 to $3 per subscriber for as few as 100,000 subscribers.

Tori Downes, principal technologist for the network protocols division at Metaswitch Networks, says the two most prominent trends on the SBC front are feature creep and the ability to run session border controller functionality in a variety of form factors.

The SBC solution offered by the side of Metaswitch for which Downes works includes between 300 and 400 features, she says, so can address a wide variety of service provider needs. But the vast majority of service providers are deploying SBCs using a relatively small number of those features today, she says.

While Metaswitch's carrier systems division sells an SBC box, the network protocols division also has an SBC product, which is basically a software component it offers OEMs, which can run it on a blade or appliance. Downes says such embedded SBCs can be more cost-effective than standalone SBCs with set features.

Initially, she says, there were just one or two manufacturers offering embedded SBC capabilities "now this is really picking up." IT

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By Paula Bernier

Room With a View

Companies, Organizations Find Value in Video

Video is playing a growing role in the enterprise, as businesses in a variety of verticals look to multimedia for one- and two-way communications, and as a means of security and other surveillance.

According to a Global IP Solutions/Research Now survey of 1,200 business professionals in the U.S. and Asia, even before the economic meltdown, videoconferencing was on the rise, with the global businesses, health care companies, courts and other governmental entities deploying large-scale systems in the last 18 months. At the same time, the study notes, we saw the introduction of desktop-based videoconferencing systems, which made videoconferencing a more palatable option to cost-conscious organizations. Further advancing the videoconferencing cause, notes the study, is the fact that business travel continues to decline, but businesses still rely heavily on face-to-face interactions.

The study goes on to report that the majority of survey participants in all countries involved, with the exception of Japan (which had a 47 percent rating), had used videoconferencing based on the video chat function of popular applications such as Yahoo, Gmail, AOL, Hotmail, Skype, QQ, or other desktop videoconferencing systems such as Cisco, Polycom or Tandberg. And most agreed video offers the benefit of enabling clear communication and understanding.

This apparent increased experience with and understanding of the benefits of video helps explain why 40 percent of the U.S.-based survey respondents indicated they will be deploying a video communications solution in the next six to 24 months. In China, 80 percent of those surveyed said their company would be deploying a video solution within the next 18 months.

Of course, video chat, and desktop-based and room-based videoconferencing, which typically involve a relatively small set of participants, are just a few ways that video is addressing the needs of businesses and those in the government and education sectors, notes John Shaw, COO of VBrick, a 12-year-old supplier of IP video platforms.

VBrick offers live and on-demand videoconferencing for one-to-many communications involving very large audiences (like in the tens-of-thousands to hundreds-of-thousands range); IP-based video distribution, which includes digital signage or the ability to bring broadcast TV to user desktops (imagine a stock broker watching CNBC over her computer, for example, or a teacher integrating video into his class curriculum, for example); "enterprise YouTube," which enables businesses to leverage user-generated video to do training, market from their Web sites and the like; and surveillance and monitoring (Shell Oil uses VBrick to keep an eye on its oil rigs, for example).

Shaw says the large audience, broadcast-style videoconferencing solution VBrick offers is great because any multicast-enabled network can handle the video very economically.

"People can have access to this capability with virtually no network upgrade," he says, and VBrick can get up and running with as little as $30,000 or, for meetings including several thousand people, in the $70,000 range.

There are some interesting hybrid models of videoconferencing, he adds, that can help control costs and the impact of videoconferencing on the network, as well as encourage people to participate more, noting some individuals are reticent to speak if they know their image will pop up for everybody to see. For example, on a 100-person videoconference, a business might consider putting its six top executives on two-way connections and the other 94 people on streamed connections with the ability to communicate via chat. Concerning the "enterprise YouTube" video reference, Shaw notes that some businesses not only want to be able to leverage video taken by employees and/or customers and partners wherever they happen to be, but also are interested in turning their existing videoconferencing rooms into studios.

"Polycom and Tandberg can actually issue a stream, they have the technology to do that, but what they can't do is actually distribute that stream over a heterogeneous network environment. So that's where we partner with them very closely," he says.

Shaw adds the VBrick – which currently offers video portal technology that enables organizations to schedule video meetings, browse and access on-demand video, and integrate PowerPoint into the video – is also hard at work expanding to make video more searchable and integrated with other business applications.

"We're spending a lot of time breaking those pieces apart," says Shaw. "We don't necessarily want to be a destination; I want to make this seamlessly integrated into the content management system that you're using…."

As Shaw mentions, security and surveillance is another important application for video.

That's the focus for Grandstream Networks, a privately-held company that started business in 2002 as an ATA supplier, moved into gateways and phones, then video phones and PBXs, and now video surveillance.

Khris Kendrick, senior director of business development at Grandstream Networks, says the company announced the 3511 dome camera, a compact, price effective, HD device, at ITEXPO EAST in January. Then, last month, the company unveiled another high-definition camera, the 3611, as well as a low-light device.

The SIP-based cameras are targeted at such entities as apartment and business locations, campuses, casinos, restaurants and retailers. And because the cameras are SIP-based, customers can stream the video they capture to remote mobile or video phones. IT

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By Paula Bernier

HD Voice Providers Unite!

The path that HD voice is taking is a familiar one in communications: Get the technology working in the network. Get devices in users' hands. Then forge alliances to bring islands of the technology together to allow for more widespread use.

XConnect, a software company that sells wholesale IP interconnect and registry services, is first to the plate with an HD voice peering federation, which it's inviting HD audio-capable service providers using the G.722 codec to trial on a complementary basis starting this month.

"The mass-market adoption of high-definition voice and other new IP services demands trusted, scalable cross-network interconnection," says XConnect CEO Eli Katz. "Service providers are eager for a solution. We look forward to working with the industry to help bring the benefits of HD voice to these operators, and the consumer and enterprise markets they serve."

Until now, the lack of federation was the biggest hurdle of the widespread deployment and adoption of HD voice, says Jeff Rodman, co-founder and CTO at Polycom, which has publicly voiced its support for the XConnect effort. Right now, says Rodman, XConnect appears to be the only player in terms of providing HD voice federation. But over time, he adds, chances are good that others might get on the field.

Those involved in the XConnect trial will become members of a private peering community under the Private Alliance feature of the company's Global Alliance, which combines ENUM registry and multimedia interconnection hub services. The trial stage is expected to run through June. Following that, the company will offer HD voice federation to its carrier customers with a yet-to-be-announced minimum spend on other XConnect services.

John Wilkinson, vice president of sales, marketing and products at XConnect, explains that the federation requires the installation of a local directory server database at each participating service provider's location, next to its session border controller. The data will include all the numbers of HD-capable endpoints on the networks of other carriers in the federation.

Only those calls in which both ends are HD capable will receive the higher level of service, says Wilkinson. But he notes that expectations are high for HD audio, which many supporters of the technology believe will become viral as users are exposed to its many benefits and encourage others to join the HD voice movement. As reported previously by INTERNET TELEPHONY, one prognostication is that by the end 2010 people will be asking for HD voice and that by 2013 everyone will have it.

Junction Networks is a New York City-based company that sells hosted PBX and PSTN gateway services. According to CEO Michael Oeth, the company's services have been HD voice-based from the start. More recently, however, Junction introduced an HD-based conferencing server.

Oeth says he'd like to see more integration so his customers' HD endpoints can talk to other carriers' HD-capable customer endpoints.

That wish is moving closer to reality as more carriers roll out HD audio.

Such major providers as China Unicom, Korea Telecom and Orange also have introduced this technology. There's even a new HD voice iPhone application, which was approved by Apple in February, according to one of INTERNET TELEPHONY's sources.

France Telecom's Orange at Mobile World Congress in February announced plans to launch mobile HD voice service in France, Luxembourg and Spain in 2010. This follows introductions of HD audio in Belgium and Moldova. The company also plans U.K. trials early this year and a nationwide rollout there later this year.

"Orange is proud to be leading the industry into the next decade by announcing a new standard in voice innovation that will transform the mobile experience for customers in the U.K.," says Orange UK CEO Tom Alexander. "HD voice really does inject a level of innovation into mobile phone calls, making it sound as if callers are actually in the same room. Once people have tried it, they won't want to go back."

Of course, unlike most of the wireline service providers getting into HD audio, which use the royalty-free G.722 codec, Orange and the other wireless providers embracing this technology are using the WB-AMR codec, which is better suited to wireless networks.

Rodman says that in the future companies such as Polycom might put that codec into their wireline phones. But another way to enable HD-capable wireline phones discover and communicate with HD-capable wireless phones, and vice versa, would be to do network-based transcoding involving a gateway.

However, G.722 and WB-AMR are just two of several HD voice codecs, notes Jan Linden, vice president of engineering at Global IP Solutions, or GIPS, an early entrant to the HD audio space. Other HD voice codecs include G722.1; G722.2; iSAC, a GIPS codec in use on nearly 1 billion endpoints today; and SILK, which is used by Skype, says Linden.

An XConnect spokeswoman tells INTERNET TELEPHONY that although the company's federation trial will initially be limited to the G.722 codec, the company is open to supporting additional HD voice codecs over time if its operator partners express an interest in that.

Linden adds that making sure end users have an optimized HD voice experience is about more than just introducing or translating among codecs. It also requires the use of microphones and speakers that support 8KHz or higher bandwidth, and it entails the already-in-use network practices of controlling jitter and doing echo cancellation, he says. IT

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At the Heart of Healthcare Communications

By Erik Linask

When I headed to Atlanta for HIMSS 2010, I wasn't quite sure what to expect. I quickly came to the realization, though, that the healthcare industry is facing the very same challenges every other industry is struggling to overcome – rising costs, process inefficiencies, and a need to increase customer satisfaction in order to drive business success.

As I made my way from booth to booth at the Georgia World Congress Center, it quickly became apparent that the same fundamentals that are driving communications innovation in the enterprise space are also critical elements of the healthcare communications environment. Specifically, two guiding principles are helping vendors ensure the right information reaches the right people at the right time in the right format. Namely, process automation and interoperability are the keys to providing better patient care and satisfaction.

Take Teletracking, an 18-year-old company that specializes in patient flow automation, whose Vice President of Product Management Jason Baim noted that, "Communications is inherently inefficient in emergency facilities today."

More specifically, capacity management poses a distinct challenge in healthcare facilities, which typically do not have the technology to adequately identify where patients are in their care process, leading to inefficiencies in asset recycling. For instance, facilities aren't immediately aware when beds, rooms, or other assets have been vacated and, therefore, aren't aware of when they can be prepped for a new patient, creating often lengthy wait times for incoming patients, lowering patient turnover, cutting into margins, and negatively impacting patient satisfaction.

Teletracking has developed a suite of applications that automates finding the appropriate beds for patients, based on their specific needs, including tracking them through their care process, from admitting to discharge, and then facilitating prepping for the next patient. Its newest application, Transfer Center, is used to automate and facilitate the transfer of patients between facilities, extending its process efficiency enhancements throughout the healthcare system beyond individual facilities. On the back end, hospitals are able to track their progress using analytical data, such as average time from bed request to availability, or average transport wait time.

Similarly, Avaya, combining its own healthcare portfolio with technology it gained from its acquisition of Nortel, is helping hospitals reduce down time by enabling more efficient tracking and utilization of assets to more effectively move patients through their care processes. Avaya, whose communications platform is already deployed at more than 4,000 hospitals, has taken its core solutions and developed purpose-built applications around them for the healthcare industry.

These include Nortel's Mobile Device Checkout and tracking technology, which uses barcodes to create a simplified, yet highly effective process for assigning wireless phones to staff, eliminating the challenges of knowing which device is attached to whom and where they are within the facility.

The Avaya Nurse Call Response System then ensures information, requests, or calls are immediately delivered to the best caregiver, based on qualifications, availability, and physical location. It also leverages IVR technology for asset location, dispatching, and response.

The Patient Admit Coordinator, an electronic workflow automation solution, leverages the communications network to accelerate the admission and discharge processes (traditionally paper-based processes), helping overcome overcrowding issues and enhancing the patient flow process.

And, its Patient Appointment Reminder capability provides automatic reminders to patients and collecting confirmations, reducing missed appointments and associated costs. It can also be used to remind patients to take their medication or to follow their exercise routines, reducing costly readmissions.

Looking at the healthcare process from a different angle, Symantec is addressing the need for increased storage for medical imaging, the need for which is predicted to grow at a rate of 20-40 percent annually. Its healthcare division has developed Symantec Health, which includes Symantec Health Safe and Symantec Health Image Share.

The former is a secure hosted storage and archiving solution, using a pay-as-you-go pricing model, designed to lower storage costs and operational tasks related to tracking, filing, and retrieving images. It also doubles as a BC/DR solution – in the instance a facility experiences network outages, all of its stored images will be safe and accessible from anywhere.

Symantec Health Image Share takes those image stores and allows for sharing between doctors and organizations. For instance, if I had injured my knee in Atlanta, a local physician would be able to contact my doctor in Connecticut, be granted temporary access to specific images of my old knee injury to determine whether the latest incident is new or the result of a pre-existing condition. He would also be able to upload new images, so my physician would then have a complete set of images if I need to see him for a follow-up visit upon returning home.

Polycom is leveraging industry standards to enable what it calls "connected healthcare" – seamless communication between the patients and various caregivers, regardless of location. Medtronics, with its focus on interop and standards, uses devices like its CareLink Monitor and CareLink Programmer to enhance data collection and delivery from patient devices to physicians, either manually or automatically. And there were many others, including a firsthand look at how the Microsoft Surface and Windows 7 touchscreen PCs are being used to increase collaboration between caregivers and patients.

But, at the heart of it all was a driving desire to facilitate better care for patients through the use of the latest communications technology. For more on these and other healthcare solutions, check out TMCnet's healthcare technology site (healthcare-technology.tmcnet.com). IT

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