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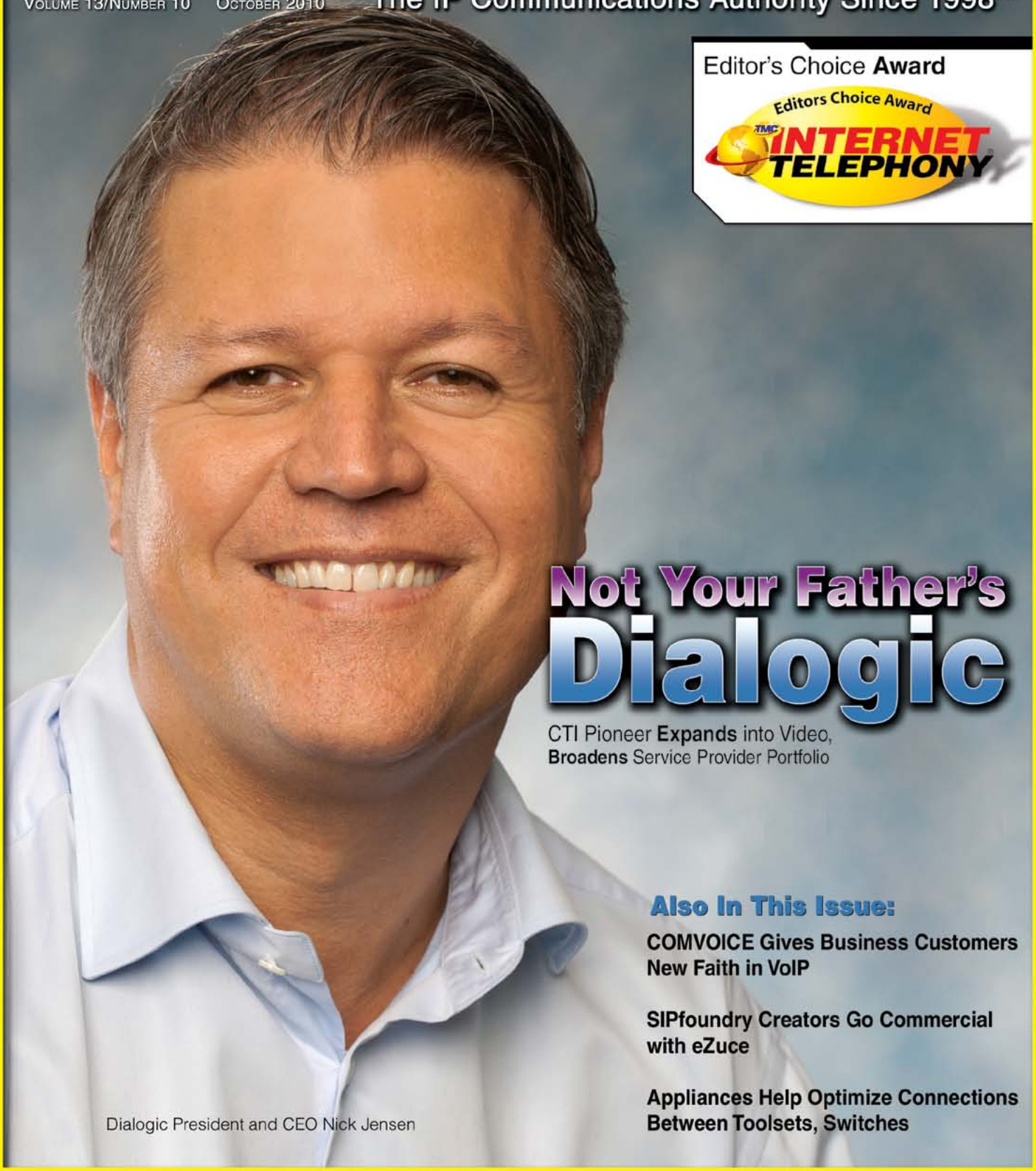

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Raise a Glass

For all of the less than uplifting stuff we've been hearing about employment, the stock market and the housing space, there is plenty happening on the up side.

That includes good news for telecom services in the third quarter, strong demand for key IP gear, an uptick in major tech M&A action, and at least a couple of promising developments out of Washington, D.C. I might also add that barely a week passes until I hear from another company that tells me how, despite the economy, it's been able to not only survive, but to thrive.

Nightly Business Report in late August noted that in the third quarter telecom services was the winning sector, up more than 10 percent, far outperforming the S&P 500, which was up less than 2 percent.

As for the demand for IP gear, a new study from Infonetics Research says demand for SBC gear remains strong. The success of SBCs resulted in the service provider VoIP equipment market (which also includes trunk media gateways, media servers, softswitches, and voice application servers) increasing to $564.7 million in the second quarter, up 5.3 percent from the previous quarter.

The IMS market also is seeing healthy growth, driven by the adoption of fixed line VoIP services and key operators in Asia Pacific and EMEA that are embracing IMS, Infonetics says. Worldwide IMS spending increased 33.5 percent between the first and second quarters of this year.

"The session border controller market is on fire, with worldwide revenue up 27 percent sequentially and up 70 percent from this quarter last year, a signal that IP-to-IP connectivity continues to overtake IP-to-TDM connectivity," says Diane Myers, directing analyst for service provider VoIP and IMS at the firm. "SBCs and media servers will be the main growth engines of the carrier VoIP equipment market for 2010."

Meanwhile, there has been plenty of high-profile mergers and acquisition activity in communications circles. That includes Intel's plans to buy security company McAfee and the wireless chip business of semiconductor company Infineon Technologies, and HP's bid to capture 3Par Inc. (at least that's how things stood at press time in early September).

Of course, consolidation can result in fewer competitors and choices for customers, and sometimes means higher prices. On the other hand, it can deliver economies of scale for the companies involved, and more complete solutions and robust suppliers for their customers. As I've noted before, M&A also indicates some level of optimism in the industry and of the business climate as a whole.

And while the federal government has not been able to deliver much good news in terms of the economy, there are a few potential bright spots out of Washington, D.C.

One is the fact that RUS and NTIA finally have doled out all the broadband stimulus awards (the deadline for doing so was Sept. 30). That means we should see hiring and spending start to pick up relative to these broadband builds in the next few months.

Elsewhere on the regulatory scene, the Obama administration reportedly is overhauling the rules for export of technology, which some folks see as a good thing considering the existing requirements are rather antiquated. The plan apparently involves the consolidation of some enforcement activities into a single agency and the development of a list of products that are restricted from export. The goal here is to make it easier for technology businesses to understand the rules and get answers to their questions about them, so they are not hamstrung from moving forward on export opportunities.

Here's to keeping your glass at least half full! **IT**

How the Internet Can Reduce Global Theft

A while back I left a GPS unit in a rental car. When I realized I wasn't going to get it back I called the GPS company because I remembered it was M2M enabled and, as such, I paid a $10 a month fee for Google search access and other online goodies for it. (I don't want to be offensive to any particular company, so I will refer to the GPS company supplying my device as PomPom.)

The first thing I did was cancel my account. The second was to ask that it not be enabled again if someone who takes the unit calls PomPom to start the service.

The call center agent for PomPom informed me that the company couldn't honor my request as the situation would be the same as a GPS unit being stolen from an electronics store. It's been many months, and I am still not sure what that comment means and, to be honest, it still bothers me that I paid for something that I lost and someone else can find the unit, call the GPS company and they both benefit.

This ties into what is a much bigger concern: the new and growing channel for stolen goods on the Internet. I have thought for a long time that there are ways we could reduce the immeasurable amount of theft in the world with simple technology.

I have thought for a long time that there are ways we could reduce the immeasurable amount of theft in the world with simple technology.

It isn't just the theft that costs us, though. It's also the hassle. Consider the precautions people take by purchasing insurance and alarm systems for additional billions of dollars a year. Moreover, when leaving items of value in a parked car or home, many people spend time hiding them or taking them out of the car/home and dragging them along to avoid theft. There is a tremendous inconvenience and annoyance factor associated with protecting valuable items, even if they are never stolen.

Since many valuable items have unique serial numbers on them, why not create a universal online registry of stolen products that would be checked before purchasing? For items that don't have these numbers, such as jewelry, they can be etched in via laser.

If such a system were implemented, then the value of a stolen GPS unit would be low and we may even see a person who finds a lost device returning it to collect a reward. Interestingly, I lost a wallet and a checkbook in the past decades and both times they were returned to me via the mail. I think the wallet had its cash removed; but still, at least I got it back with all the cards and other important information in it.

If we want to improve global productivity and reduce the amount of police reports filed, why would we not implement such a simple system? eBay, in fact, should be championing the idea as it is a publicly-traded company and at some point you have to assume the bad press from being the world's largest pawn shop will catch up with the company. IT

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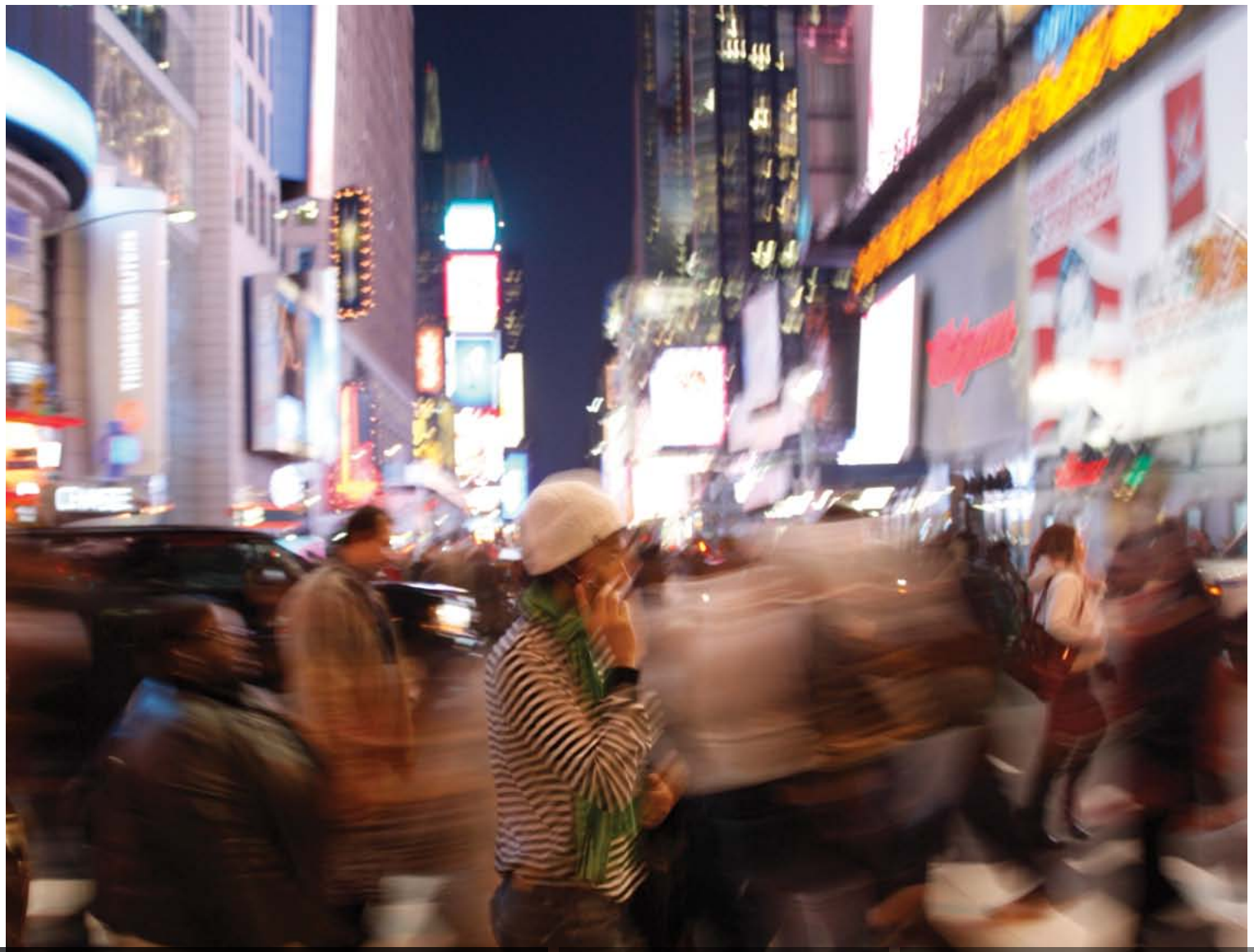

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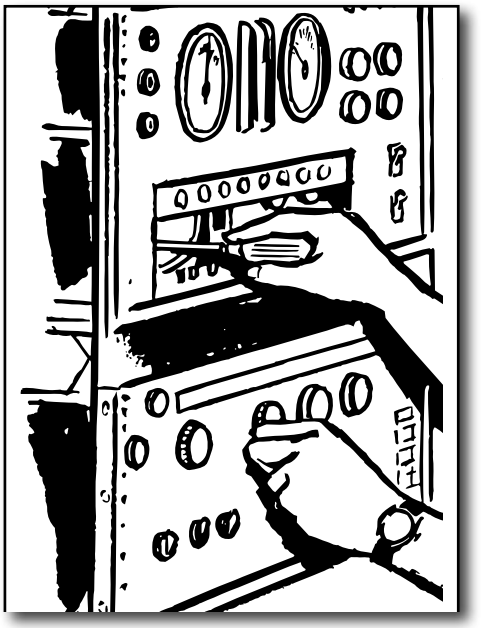

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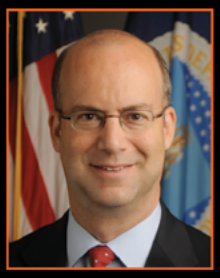

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By Paula Bernier

Various Forces Align to Forward the Smart Grid

The smart grid has gotten a lot of buzz and drawn a fair amount of dollars in recent months. Of course, the term smart grid means many things to many people. That's because there are a lot of angles and players involved.

Just as the Internet brought together IT and telecom, so too is the smart grid bringing together different forces to build this new thing – a thing on which no one yet has an entirely firm handle.

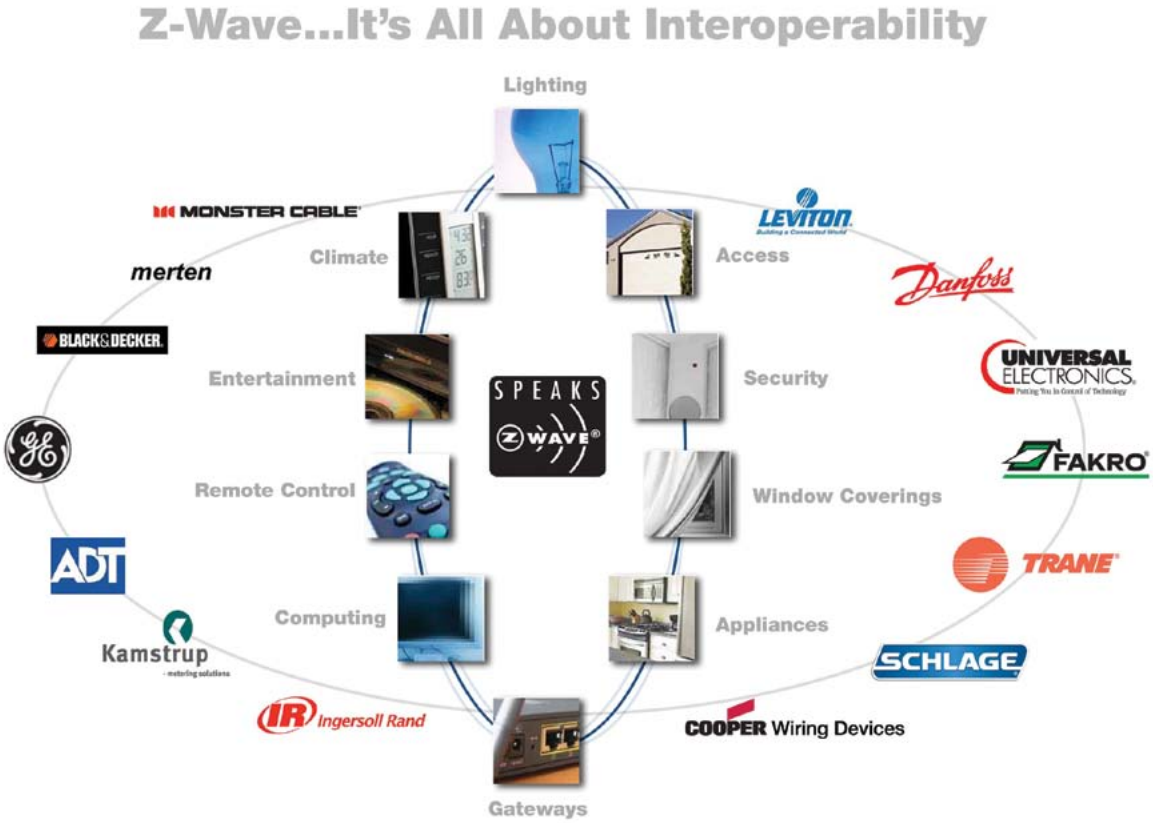
In the case of the smart grid, there are various vendors and service providers both on the energy and network fronts coming together. Because there are a whole lot of players involved, and a lot of pieces required, to make smart grid a reality, there's a need for standards. Not surprisingly, many of these companies and organizations want to weigh in about how things should be done in an effort to protect their interests and/or help move things forward. Some, like Cisco Systems and Itron Inc., are even trying goose the smart grid standardization process by forming little coalitions of their own.

In case you're not familiar with Itron, it sells end-to-end smart grid and smart distribution solutions to electric, gas and water utilities. The company claims it is the world's leading provider of smart metering, data collection and utility software systems, with nearly 8,000 utilities worldwide relying on its technology.

The Itron, Cisco strategic alliance aims to develop a standards-based, secure, IPv6-based implementation of field area communications to support smart metering, intelligent distribution automation and interfaces to the customer premises. The goal is to help ensure consistent and interoperable wired and wireless communications among the various components of the smart grid by creating a reference design. Itron also will license and embed Cisco IP technology within its OpenWay meters as well as distribute Cisco networking equipment and software as part of the deal.

"Our customers have reiterated that security, interoperability and open standards are critical to the success of their smart grid initiatives," says Philip Mezey, senior vice president and COO for Itron North America. "We are creating the first enterprise-class utility networking solution to utilize the scalable, reliable, highly secure technology synonymous with the Cisco name around the world. At Itron, we are enthusiastic about this effort and its potential to enhance utility communication networks around the globe."

The companies declined to define clearly the scope of the effort in terms of the network, or to provide a timeline for when they expect to release the reference design. But they said the reference design would be leveraged by Itron's existing solutions, and that they also expect to make it available to the larger market. And although the companies say their agree-



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ment has a worldwide focus, they're employing the 900mHz meshing wireless technology that is prevalent for this kind of solution in North America and other select areas of the world.

The partners also note that they've been active in standards efforts such as the Zigbee Smart Energy Profile, smart grid efforts under way at the IEEE, and various cybersecurity groups, and that they plan to honor popular standards as part of their joint effort.

Speaking of the IEEE, INTERNET TELEPHONY recently spoke with the standards association folks there to get an update on their smart grid work.

The IEEE is addressing smart grid standards on a number of fronts, but among its work is the creation of a document with definitions and interface points between all the involved entities within the smart grid. For example, it will include interfaces for communications between utility substations and a control or dispatch center, and interfaces to allow the energy network to exchange information with home energy management systems, explains Dick DeBlasio, the IEEE chairman of the coordinating committee on smart grid development efforts. DeBlasio also is chief engineer renewable electricity and end use systems directorate for the National Renewable Energy Laboratory.

> "It's very challenging, it's very contentious, because we're dealing with different tribes here."
>
> - IEEE's Dick DeBlasio

Work on that document, which will probably include between 500 and 600 interfaces, began in March of 2009. It is now 70 percent complete, and the goal is for the group to take its first vote on it by March 2011, he says.

"It's very challenging, it's very contentious, because we're dealing with different tribes here," DeBlasio says. But he adds that because different groups and industries are coming together on this, they sometimes think they're at odds, but they in fact are in agreement but are just describing things in different terms.

Another of the many smart grid efforts is the 160 member strong Z-Wave Alliance. It's not really a standards effort, just more of a group that has aligned behind a particular technology and is working to promote it.

This group's work stemmed from a technology called Zensys, now owned by Sigma Designs, that employs wireless mesh network technology that can be used in the home. The solution has been in the market for eight years and millions of products – from locks to thermostats to light switches – based on it have been shipped, says Mary Miller, director of marketing for the Z-Wave Alliance.

"It's really bringing home control to the masses," she says, adding that if you've ever seen an Apple commercial in which a vacationing family uses an application to turn off their home lights remotely, you've seen a Z-Wave demo.

With names like Black & Decker and Ingersoll Rand, among others, behind the Z-Wave Alliance, the Z-Wave technology would seem to have a nice foot in the door with the smart grid. But beyond just aligning behind a single technology, the Z-Wave Alliance represents an effort to enable the creation of a smart home that can be controlled – locally or remotely – using one home gateway device and one application, explains Miller.

Z-Wave solutions initially were sold through the builder/installer channel. Then the partners pushed into retail distribution at places including Amazon.com, Best Buy.com, Lowe's, Radio Shack and others. The security channel is its next target. Miller adds that the effort also has gotten a lot of attention from service providers, which are looking for additional sticky services to build their ARPUs and retain customers in a competitive market.

Yet despite all of the above-mentioned smart grid efforts, and numerous other activities on this front, Ray Bariso, executive director of solutions strategy in the operations solutions group at Telcordia, says that the first wave of smart grid deployments in the U.S. will not be standards based. That's because the federal government, which last fall awarded $3.4 billion to fund 100 smart grid projects around the country, is requiring the recipients of that money to spend it within 36 months, he says. That means these smart grid deployments will take place before all the necessary standards have been worked out and finalized.

While that is a less than ideal situation, it tends to be the way communications deployments often work. Indeed, standards tend to evolve and be added to over time as network requirements and technologies change. So, while we're just at the beginning of this thing we call smart grid – and the standards work around it is at an early and segmented stage – the work of standards and ensuring interoperability is never done. Such will be the case with the smart grid. IT

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By Fardad Farahmand & Mohan Palat

Beyond the Border

Differentiating IPX Services with Value-Added Features

VoIP traffic has been growing exponentially in recent years, as both enterprises and consumers increase their adoption of IP services. To keep pace with the demand, both fixed and mobile service providers steadily are migrating their core networks from TDM to IP. Examples can be found in enterprises that are transitioning from legacy PBXs to IP PBXs.

Organizations also are connecting to service provider networks with SIP trunks to transport both voice and data over single IP connections. In addition, mobile operators that are deploying LTE must use IP in their core networks, both for voice and data. Finally, popular over-the-top services, such as Skype, are driving a surge in VoIP traffic.

The result is that VoIP traffic definitely will continue its rapid growth in fixed and mobile networks for several years.

As all fixed and mobile networks migrate to IP to support the proliferation of IP applications, services and devices, the role of IP interconnect is quickly growing beyond basic border control.

The across the board migration to IP has highlighted IP interconnect networks and several forums are now defining the IP interconnect architecture. The most prominent of these – the GSM Association's IPX project – divides the interconnect into two distinct layers: the IP layer and the service-aware layer. The key to operating IP interconnect between service provider networks successfully is the service-aware multilateral interconnect mode of IPX.

IPX is critical for enabling end-to-end rich communication suite services between service providers because interoperability is key to the successful, widespread adoption of RCS, or any mass market service. E-mail's early days illustrate the importance of interoperability. Early e-mail systems were proprietary and users could only communicate with people within the same system, which drastically limited its usefulness as a communications tool. Only when e-mail became interoperable and universal did usage take off, making e-mail the foundation for daily communications for everyone around the world. Similarly, social networking, IM, presence, HD voice, videoconferencing, video share, file share and multimedia collaboration must work seamlessly across multiple operators to stimulate mass adoption.

Service-aware IPX can play an important role in driving interoperability between service provider networks by transparently processing or interworking these services when needed. Further, IPX can add valuable functionality for interworking some variations in signaling, media or version of the implemented standards. While service providers focus on implementing and deploying services, an IPX provider ensures that interconnect points are enabled, tested, and activated – and then provides interworking of services as needed. Following this model, each service provider works with a single IPX provider while each IPX provider works with multiple service providers. This allows services to interoperate faster across heterogeneous (fixed/mobile/cable) networks. For example, a smartphone from one mobile operator can communicate/interact through an IPX network with an integrated access device that is supplied by a cable operator on the other side of the globe.

IPX also helps expand the addressable market for over-the-top services, which have grown exponentially in VoIP minutes due to applications such as Skype. According to Skype's S1 IPO filing in August of 2010, it has 560 million registered users with 124 million users who are active each month. Of those users, 8.1 million pay an average of $96 per year for the service, primarily for SkypeOut. This is a VoIP service that connects the users to landline and mobile networks. To help connect Skype users on different networks, the IPX also provides useful interworking functions, such as transcoding Skype's HD SILK codec to AMR-WB for a GSM handset across the globe, or enabling connectivity between a Skype user and a public switched telephone network.

As the critical interconnection between different networks, a comprehensive IPX implementation must support security – denial of service protection; ACL; policing and encryption; quality of service – TOS bit marking of packets; CAC – call admission based on an agreed SLA; billing and settlements – generation of CDRs and infrastructure for settlements; interoperability tools – SIP message manipulation; and SIP or media profiles.

In addition to these basic border features, IPX providers can accelerate adoption of IP interconnect among several heterogeneous VoIP islands by providing some session-aware value-added services. These services can be divided into three broad categories: signaling interworking, media transcoding, and centralized routing and policy.

Many legacy MSCs that are currently deployed do not support SIP-I but do support BICC over IP. An IPX can support BICC to SIP-I interconnectivity, which enables the large pool of mobile operators with legacy MSCs to interwork with IP networks. SIP-I is the signaling protocol of choice for carrier intercon-

nect and is defined by the International Telecommunication Union in Q.1912.5 profile C. When carrying international calls, however, switches may include various international flavors of ISUP in SIP-I. The IPX must be able to interwork these variations of ISUP and deliver the desired version of ISUP to each peer.

By transcoding from one form of HD codec to another form of HD codec (like from SILK to 722.2), or from one wireless codec to another (like from AMR to EVRC), the IPX can interconnect heterogeneous networks. Video codec transcoding or transrating is an extension of this IPX capability.

The IPX can interwork various network and transport layers for enabling traffic between multiple peers, including UDP/TCP/SCTP, IPv4/IPv6, TLS/IPSec, RTP/RTSP, and so on.

ENUM started many years ago in IETF as a public translation database of end user service addresses. More recently it has become a technique for improving intercarrier routing. The GSMA Pathfinder is an example of such usage. IPX providers can deploy a centralized routing engine using ENUM, which lets the members of the IPX provider federation populate their address information into the routing engine through standardized interfaces. Using this technology enables IPX providers to add new members quickly and provide an easy way of integrating their new routes into the federation.

The IPX network needs a centralized router and policy engine that provides one centralized routing database for all interconnection points . The IPX provider should be able to route traffic efficiently using the most economically suitable route based on the QoS and pricing agreements with all peers. The centralized routing and policy engine should be able to use a variety of SIP parameters and headers as well as the information from the ENUM database to route the traffic for various services.

As all fixed and mobile networks migrate to IP to support the proliferation of IP applications, services and devices, the role of IP interconnect is quickly growing beyond basic border control. An IPX provider can leverage its capabilities for value-added signaling interworking, media transcoding, routing and addressing to support its customers' service velocity, business growth and service usage across disparate networks worldwide. IT

Fardad Farahmand is senior architect and Mohan Palat is product manager at Sonus Networks (www.sonusnet.com).

Viewpoint: Voice of the Customer

By Elaine Cascio

Multichannel Meltdown

As consumers, we're all channel surfers – if one channel doesn't meet our needs, we try another. But recently, I had an experience where none of a company's channels worked for me.

My sister returned one of my items for repair about 25 miles away. When I got it back, it worked for a while and then quit. Ninety-day service warranty in hand, I called the company to see if I could return it to a location closer to my home. I couldn't find the number of the service center on the IVR, so I pressed zero. The central contact center agent said that I could bring the item back to any location. When I asked about hours for service centers near me, I heard an audible sigh. She grudgingly gave me the hours for one location.

So, I decided, let's try the website. It's a busy screen and I didn't see a store locator, but there is a link for repair services. I entered my zip – oops – a pop-up said that repair service was down, but I could call them or schedule a callback (but I had tried that already). I went back to the main page and finally spotted the words Find a Store in tiny, light-colored print at the top right.

I called my local service center, but they discouraged me from bringing the item there and suggested that I bring it to a center 15 miles away. They'd been waiting for repair tags from the parent company for over a month, they told me, and without these tags they can't send anything out for repair.

Ultimately, I used at least four channels (IVR, contact center, website, service center) before I was able to get my item repaired. And the repair site was at an inconvenient location.

This experience reinforces why it is important for all of us to put ourselves in our customers' shoes and understand their experiences at key moments of truth. Look at ads, respond to them, make a purchase and actually try the item. See what it's like to get warranty service. Map each experience and list all the satisfiers and the dissatisfiers.

Where are the gaps between your customer contact strategy and the reality of the experience? Are there processes, training, tools, and data you can leverage to meet your goals and increase satisfaction? Focus on creating not just positive interactions, but better cross-channel experiences. IT

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

Thinking IT Through

By David Yedwab

UC as Part of the Enterprise's IT Plan

Many observers of the evolution of UC have concluded that complete solutions (whatever those are) will have to be multi-vendor, as no one vendor does everything. This was reinforced in Gartner's latest UC Magic Quadrant, in which Gartner concluded that, "there is no best approach, and no vendor offers everything an enterprise needs for communication."

So, how does an enterprise get a complete solution? How do the best-of-breed components get integrated? How do they get installed and tested? Who isolates and fixes troubles? And, most importantly, who does the cost-benefit analysis to determine if the business case claims for enormous benefits for installing the solution are being met?

Wow. That sure sounds like a lot of questions – many of which have no simple answer and may be part of the reason, along with the economy, that UC deployments have been slower to grow than expected. I posit here that the reason for this slow take up is the sheer complexity around the issues that need to be addressed, and there really is no simple solution.

As my colleagues at UCStrategies have voiced and confirmed in many engagements, the road to UC needs to begin with a plan for what is wanted to be accomplished. The plan needs to be comprehensive and needs to include reasons, justifications, roadmaps, implementation plans and programs as well as how the budgetary needs are to be achieved. The plan may also need to show how this plan should be prioritized within all of the other plans/programs within IT – such as virtualization of data centers, investigation/expansion of cloud services, etc.

Should UC be started as a pilot/proof on concept within a part of the organization, such as mobile workers or product development – where UC benefits are likely to be clear and measurable? Actually, this might not be a bad idea, as such a pilot/trial may even be able to be self-funded by eliminating some other expenses (such as some travel or excessive cellular costs). Certainly the organization participating in the pilot needs to believe that there will be benefits and that their key business processes can be improved.

So, the first step to a successful UC deployment is either to build an initial UC plan and fit it into the overall IT plans recognizing that UC has been shown to deliver significant top-line and bottom-line benefits to many organizations in many industries across the globe; or, initially, use your knowledge of you organization to identify a logical pilot and move that forward rapidly.

I'm very interested in learning which road you and your organization choose. IT

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

By Alan Murphy

Virtualization Enables Service Isolation

I think we can all agree that virtualization in the data center allows new, more flexible system deployment models throughout the application stack. Virtualization – and specifically the virtual machine – gives us more control over how we deploy applications and their associated services, where those services reside at any given time, and when we add and remove those services. That flexibility is the core tenant for IT agility.

One of my favorite agile use cases for virtual deployments in the data center is service isolation. Service isolation is an extremely flexible deployment model that gives us granular control over the how, where, and when we manage our applications. Resource segmentation is the most common form of service isolation, where virtual platforms have the ability to isolate and restrict virtual machines and their processes to individual hardware components such as CPUs. Resource segmentation is also a critical component of advanced virtual data center tools such as fault tolerance, live virtual machine migration, and network virtualization. But resource virtualization is only the beginning.

Another major form of service isolation offered by virtualization – and one that's near and dear to my heart – is isolating the entire application function at the virtual platform level. At a macro level, using virtual machines for QA testing, for multiple desktop images, and for specific functions in the data center are all examples of service isolation.

In the data center, most of us virtualized our Apache Web servers first, choosing to isolate that one particular Web services function for virtualization. Over the years we've moved through all the app tiers, virtualizing the presentation tier first, then the logic tier, and eventually even the data tier. And every time we chose to virtualize one of those tiers or a tiny subset of the application stack, we were invoking service isolation.

Applications that carry a heavy computational load are prime candidates for full service isolation, and those virtualized application services can be given very explicit sandboxed areas in which to live. A cluster of four physical CPU cores can be bound together and presented to the virtual machines as one very powerful virtual CPU, a CPU that's not shared by any other system or by any other applications. In modern server platforms this system of isolation can be repeated multiple times on the same physical device. This allows us to recreate completely the hardware appliance model – often times with better performance results – in the virtual platform, where as before service isolation required hardware isolation (and a lot of data center real estate).

Security is another great example of service isolation. We may want to deploy isolated firewall devices for different parts of our network so that each virtual device can be individually managed while providing specific firewalling services: one for internal users, one for external users, and one for external partners. We can do this with service isolation by virtualizing the firewalls and deploying them in each segmented portion of the network, even if those segmented networks are all connected to the same physical server that's running all three firewall instances.

When you combine these two examples of service isolation into one dynamically provisioned system, you get some cool solutions. For example, a DoD contractor may need to crunch very large numbers for CGI renderings. When the contractor logs into its environment through an isolated firewall, new virtual machines can be created dynamically just for that contractor, assigned to its own very powerful virtual CPUs, and only available during the duration of that specific session. When the contractor is done crunching numbers and logs out, those virtual machines are destroyed and the CPUs released to the next contractor that logs in. That's really where we see virtualization enabling IT agility down to the service and user levels.

Service isolation doesn't necessarily have to equate to virtual machine isolation. Today, service isolation is achievable by assigning individual virtual machines to individual tasks, but tomorrow we'll be able create service isolation on the application level. With true application virtualization – where the app is no longer bound to a base OS and forced to run in a virtual machine container – we'll be able to isolate further the individual application components. Individual tasks, such as virtualizing user logins to a Web application or binding individual Exchange mailboxes to hardware, can be isolated in the same way we isolate firewalling functions today.

Service virtualization is achievable with physical devices as well; however, complete physical isolation isn't as flexible or mobile as virtual service isolation. Virtualization allows us to implement a level of service isolation that's not nearly as approachable in the physical world and to take full advantage of our application infrastructure. IT

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

Next Wave Redux

By Brough Turner

Net Neutrality is the Wrong Fight, Especially for VoIP

U.S. local access and middle mile communications are a monopoly or, at best, a duopoly. Clearly some regulation is appropriate. But network neutrality is a poor substitute for the rights we had throughout most of the 20th century and it's a poor match for what VoIP needs.

Network neutrality is about allowing any application to run over an Internet connection. It mandates open access via an undifferentiated IP connection to the Internet – a layer 3 connection. Until the late 1990s, we had open access to lower layer connections (layer 2 and even lower) at regulated rates of return; for example, T1 lines and even bare copper alarm circuits.

Which layer is important because open access permits innovation. The Internet itself could not have emerged without open access to lower layer facilities like T1 and modems on voice circuits. But by fighting for network neutrality, we're ceding access to lower layers, effectively giving up on future innovation at those layers. Yes, T1 lines are still available. But with today's unregulated monopolies, T1 pricing remains tied to the early 1990s cost of voice circuits, despite 15 years of innovation and Moore's Law progress.

Internet telephony benefits from lower layer access because we benefit from priorities. Within the enterprise, we use Ethernet priorities or DiffServ to give priority to VoIP traffic. Internet access services don't support priority, so we purchase two separate Internet access links, or we use an Internet access link plus a SIP trunk, or we contract with a CLEC that leases a T1 line on which it can prioritize voice over Web browsing. Network neutrality doesn't help VoIP because it only applies to undifferentiated layer 3. We need a market where there is open access (at reasonable rates) via layer 2 or below. Then we'd have options for priority on access circuits, and we'd see competing carriers offering services we could use.

Of course open access at layer 2 is exactly what we had in law and in regulation in the U.S. for most of the 20th century. It came in the form of common carriage and regulated rates of return, and it applied to T1 trunks and to voice telephony. Today, many countries mandate open access to ADSL lines at layer 2. In each case, a vibrant market has evolved with many ISPs offering a variety of layer 3 services. The result is lower costs for Internet connectivity and, when other regulatory issues don't intervene, lower costs for VoIP.

There is a real value in fostering innovation at as many levels as possible. But network neutrality means ceding hope for innovation below layer 3. Let's not give that up. IT

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

Tech Score

By Jeff Hudgins

An Evolutionary Pathway to Cloud Services

Do you work for one of the many organizations asking: How can my company get started with cloud computing? If so, first look at what some of the early adopters and market leaders consider the cloud's true benefits. Surprisingly, cost reductions do not top the list. The ability to scale capacity on-demand – with costs that match true consumption – offers businesses the flexibility they need to compete. The real question is: Are you cloud ready? According to Forrester Research surveys that were correlated with customer interviews, only about 5 percent of enterprise IT shops have enough experience to activate cloud computing.

The application deployment challenges that an OEM or ISV must overcome are equally alarming, and complicated by the standardization issues with which cloud providers are struggling. Most cloud providers today are not achieving sustainable profit around their cloud offerings as a result of high capital expense, low operational efficiency and high customer turn over. Vendors beware.

OEMs and ISVs want the public cloud to reach broader markets while their applications leverage an inexpensive and easily accessible way to share and provision information. But the public cloud's lack of automation and management tools causes these vendors to support a wide range of cloud standards, increasing their costs. One option is the internal or private cloud, which is hosted and highly controlled within a data center. Private clouds can leverage standard processes and protections, but they tend to be limited in size and scale. However, the end customer must incur the full capital and operational costs for the physical resources – back to square one.

It's the seamless integration between public and private cloud infrastructures that promises the greatest value. A hybrid cloud structure can provide a multi-tenant environment built on rented resources that are dedicated to a single client. This helps to defer the high capital and operational expenses of an internal cloud. Hybrid resources can more easily grow or shrink in size as needed by simply renting more resources but providing more custom SLAs.

The tools needed to create a hybrid cloud are emerging. Hybrid cloud appliances offer a hardware/software solution that leverages the public cloud for non-core functions such as e-mail, and retains control over sensitive data that the end customer is not ready to share in a public cloud (such as medical records). The cost of the hardware acquisition is lower, but the level of control, automation and security around key data is secure. IT

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

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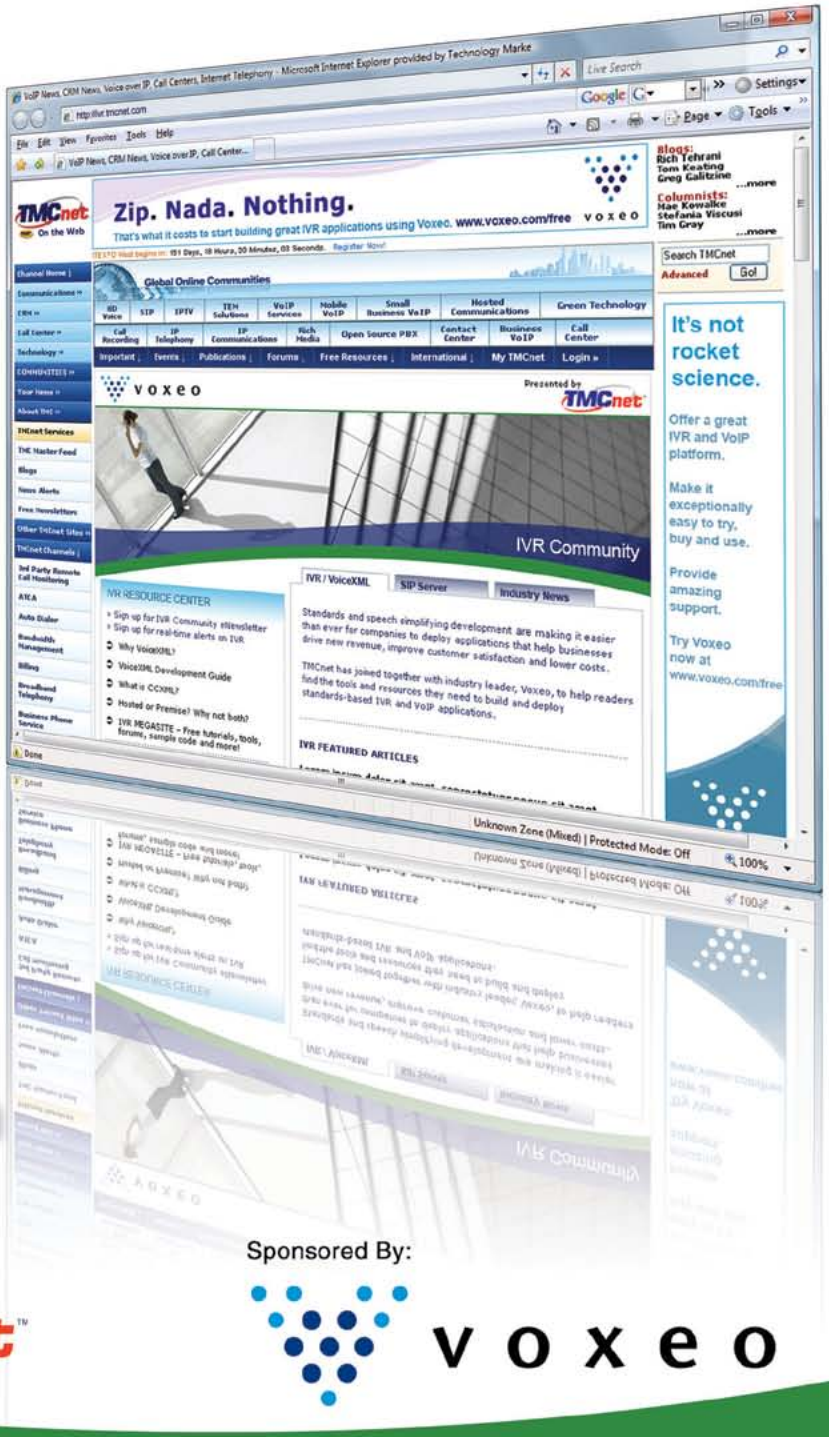

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Disaster Preparedness

By Rich Tehrani & Max Schroeder

21st Century White Knights

Organizations need to work continually at protecting themselves from business interruptions by implementing a business continuity plan. Of course, human nature being what it is, we tend to procrastinate until the black knights are storming the castle. At that point, it may be too late for the white knights to save your company or organization.

Today's black knights wield weapons with names like power outages, floods, ice storms, viruses, legacy communications and other nastiness. Instead of Excalibur, the white knights wield swords named virtualization, SIP trunking, SaaS, VoIP, FoIP and unified communications. Just like King Arthur's sword, these weapons also seem to be imbued with magical powers.

In Medieval times, royalty incurred substantial costs in keeping their knights in food, weapons, housing and horses. However, the knights did prevent the sacking of the castle so the expense was justified. With today's white knights your costs are limited to the purchase and implementation of the solutions they recommend. Plus many of the solutions pay your organization back with reduced overhead, increased efficiencies, lower communications costs and employee mobility. In other words, it reverses the standard definition of protection money. The castle is protected, yet the castle dwellers make a profit – sort of magical if you think about it that way, isn't it?

The column's authors have had some fun writing this piece about knights and magic. Presenting serious subjects in an entertaining format can also facilitate information retention like the ongoing message of this series – act today to protect your castle. There is nothing entertaining about a disaster, and telecommunications resellers really are white knights wielding 21st Century swords. Call your reseller today to discuss your requirements.

Many of you will be reading this column while attending ITEXPO West 2010. If that is the case, make sure you research the many BC solutions being presented by exhibitors and speakers. In addition, for some guidelines on how to make best use of your ITEXPO experience, please refer to the August 2009 Column - An Investment in Business Continuity, which can be found at http://tmcnet.com/36504.1. 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.

Regulation Watch

By William B. Wilhelm and Jeffrey R. Strenkowski

Broadband Stimulus May Mean VoIP Opportunities

On Aug. 18, the Department of Commerce and USDA's Rural Utilities Service announced $1.8 billion in awards for 94 Recovery Act broadband projects in 37 states. The announcement was just the latest in a string of awards granted by the agencies over the past year, which aims to deliver up to $7.2 billion earmarked by Congress. However, the funding announcements window for these programs is closing, as Congress has required the agencies make all Recovery Act awards by Sept. 30 (of last month).

Between presstime on Aug. 20 and the Sept. 30 deadline, the USDA was expected in September to fund another 65 projects for last-mile broadband services, satellite broadband, and related projects at approximately $450 million, and the DoC was expected to award between $1 billion and $1.7 billion on a similar number of projects, aimed at public safety, community infrastructure, broadband mapping, and public computing.

Over the next two to five years, these broadband stimulus projects will boost broadband speeds and last-mile deployment, especially in rural and other underserved areas. This undoubtedly will give VoIP providers and vendors more opportunities to market products to consumers in areas that previously lacked the infrastructure needed to support such services in the past.

Broadband stimulus funding also is contingent upon an awardee commitment to follow the principles of the FCC's Internet Policy Statement, which among other things requires ISPs to let users choose whatever devices and applications they like without interference from the carrier. The agencies also have required awardees to not favor any lawful Internet applications and content over others and offer interconnection where feasible at reasonable rates and terms. These measures should help pave the way for VoIP application providers and equipment vendors to benefit from the increased broadband penetration expected from these programs over the coming years. 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).

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Ask the SIP Trunk Expert

By Steven Johnson

UC and the New Role for Incumbent Telecoms

The IP industry is constantly evolving – end users and manufacturers are all looking to stay one step ahead of new trends. Unified communications is an important one, and at the ITEXPO in October UC is once again in the spotlight.

Where does UC adoption stand? What sectors are utilizing UC the most? Has UC finally come of age?

One thing is clear – SIP trunking is driving UC adoption. SIP trunks are a cost-effective way to implement SIP-based VoIP, and once that architecture is in place you're ready to use all the applications, reap all the benefits that UC has to offer. This makes the value proposition and the road to UC clear for end users, IP PBX vendors and ITSPs.

What about incumbent telecom operators? Where do they fit in?

It is critical to understand that the incumbents need and want to be the operators they've always been. However, they cannot survive if their focus remains on delivering POTS globally. Incumbents need to deliver unified communication connectivity globally – that's their niche, and that's where they'll be successful.

Carriers' futures lie in being more than bandwidth providers. Incumbents must embrace unified communications as a business model, because that's the best way, the most cost-effective way, a clear way for them to redefine their niche and ultimately generate revenue. This is how they will survive as operators on the fixed network.

Yet UC still seems to be on the brink of that tipping point. So what is holding back global unified communications today? Is it that UC is still blocked, still unable to reach outside of the LAN to extend to the mobile workforce, outsider users, etc.? Perhaps we as an industry need to clarify what UC is and its benefits, and talk more about how to implement it in a very simple, straightforward way. And, just as important, the incumbents need to jump on the bandwagon as well.

At the new SIP Trunk-UC Summit we'll address these pressing issues and much more. We hope to see you there. IT

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

E911 Watch

By Nick Maier

Going Mobile in the Enterprise? Make Protection Part of Your Strategy

If you have mobile users in your enterprise, I have one question for you to consider this month: Are you harnessing the power of mobility or simply doing your best to hang on and meet the demands of a wave of individuals wielding smartphones?

The migration from hanging on to harnessing begins with a mobility strategy. In a recently published white paper, Strategy Analytics recommends that "organizations should focus first on the target audience for mobile solutions, and second on what are the most appropriate and beneficial applications to a particular role or job function. Only when those two questions are answered satisfactorily… can decision makers go about determining the most appropriate mobile computing platform for the group and/or individual."

In addition to asking and answering important questions like these two, an enterprise mobility strategy should include a plan for protecting mobile users. For example: How will they be found in the event of a 911 emergency?

As they say, with power – mobility in this case – comes great responsibility. Your network needs to be able to track the location of mobile users in real time as they move about. Then, this location information needs to be ready for delivery to emergency dispatchers when a 911 call is placed. It doesn't take much imagination to picture emergency responders showing up at the reception desk of a building and asking how they can find the person who called 911.

Fortunately, solutions exist today to help telecom and IT professionals deliver this real-time, mobile protection. Third-party solution providers such as RedSky are working with the major Wi-Fi network providers to track, manage and deliver this life-saving location information. There also are apps available for smartphones designed to address this issue.

The right solution for your enterprise all depends on your mobility strategy. IT

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

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By Hunter Newby

Go Nymgo Go!

Nymgo, pronounced nim-go, has an interesting voice business model. It's a SIP-enabled international voice termination provider that offers SIP interconnect to business gateways as well as to individual end users on fixed as well as mobile devices. Access to wholesale international voice rates from a mobile phone is a model that many have sought, but Nymgo seems to have found the way to make it work – profitably.

Since the service is a SIP-based interconnect the company can and does target the users of Skype, Fring, Nimbuzz and other P2P VoIP operators. The best part for Nymgo is that every one of its customers is a paying customer. It does not offer a free peered VoIP service. So, basically, the company can cherry pick the savvy users that make international calls and take the SkypeOut business away from Skype and the similar offerings from the other P2P providers.

A Nymgo representative notes that a call to India with Nymgo is $0.013 per minute compared to $0.092 with Skype, which adds up to significant savings when making a lot of calls. The rep says that according to Skype's IPO filing, that company counts about 8 million paying users. By comparison, since late 2008, Nymgo has amassed nearly 2 million users – almost a quarter of Skype's comparable users – in a short amount of time.

The P2P VoIP peering providers have always had the challenge of success issue, which is, if everything is on-net and free peered, then what happens to their off-net termination business that generates revenue? The Nymgo service adds a new wrinkle to this, but it also faces the same challenge. The new wrinkle is that the company is attacking the P2P VoIP peering providers off-net termination revenue with its own lower cost offering, thus taking the business away from competitors. At the same time, as more people free peer with each other, the need for off-net decreases.

So, as I recently asked Omar Onsi, founder and CEO of Nymgo, how does the company survive if its revenue comes from the off-net termination?

"This is the big question." Onsi says.

Doesn't P2P kill long-term revenue from billed minutes?

Access to wholesale international voice rates from a mobile phone is a model that many have sought, but Nymgo seems to have found the way to make it work – profitably.

"Yes, generally," Onsi replies. "Maybe they'll make money from ads. I think this is far down the road though, but definitely in the far future I think this is what will happen. For now it is all a volumes game given the rate to terminate."

So, how does Nymgo differentiate itself in this market right now?

Onsi says that: "Since 2008, Nymgo has had 2 million downloads and all customers are paying. Last year 400 billion minutes were terminated all around the world. Nygmo goes after all international minutes and not just one group. We target ex-pat communities, travelers and others. End users are the biggest user group for us."

Clearly there is a market for telephone calls (full-duplex, audio SIP sessions to be specific in this context), and there is still revenue associated with it. What is amazing is how small the margins have become and how they can be meaningful with volume, but only to a small organization. The larger the company the more willing and motivated it becomes to just throw voice in with a bundle. The flat-rate voice offering becomes more meaningful as it represents a fixed revenue line item for the service provider in what amounts to an access charge for transport. In the SIP-enabled VoIP termination business this line item is not possible since that function is already being billed for by the ISP. That then only leaves the revenue from terminating minutes.

What happens if/when all of the major telecom and cable companies in the world peer? Then they can interconnect their private SIP clouds and the entire concept of international long distance will be gone to some extent, at least for the majority of the population living in the broadband-connected regions of the countries in the world with SIP VoIP operators. There will always be a need for off-net voice termination for places like the Scott Base in Antarctica, but it will become less and less.

The question is: How long will billed minutes last? It depends on the penetration rate and availability of true multilateral peered endpoints. When the day comes that the vast majority of people and machines are peered and there is no longer an off-net VoIP endpoint to bill for call termination maybe someone will ask, "Where did the Nymgo?"

Until then, the low-margin, high-volume calling race continues.

Go Nymgo Go! **IT**

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

By Tom Keating

Yealink SIP-T28P Review

Yealink, a Chinese manufacturer of IP phones, is starting to make inroads in the U.S. market with its line of VoIP phones. Several months ago Yealink sent me a Yealink SIP-T28P IP phone to review. The SIP-T28P is a six-line phone sporting a large 320x160 LCD screen and has full HD voice support (wideband codec, wideband handset, wideband speakerphone). The SIP-T28P was one of the first IP phones to support the G.722 wideband codec that is now all the rage in the VoIP market.

My first impression of the SIP-T28P was that I liked the large LCD and the sleek ergonomic design, which had large, easy to press buttons and a useful four-way arrow navigation keypad.

I connected it to our network and logged into the Web admin page to configure the phone. The Web interface was easy enough to navigate. I had no trouble adding the SIP credentials, configuring the NTP server, adding speed dials, and other various configuration options.

The Web interface displays a message when the phone is registered so you know immediately if you put the SIP credentials in correctly. I have to say, I really loved how every change I made didn't require a reboot. I've never tested a phone that didn't require a reboot, especially after putting in the SIP settings. Even after putting in the SIP settings on the SIP-T28P, I didn't have to reboot. It auto registered immediately.

In any event, after registering the phone on an Asterisk-based IP PBX I made a test call. The voice quality was excellent. I switched over to speakerphone mode, and it too had excellent quality with no echo. I definitely noticed a difference with the wideband HD support on this phone.

From the Web interface you can manually add contact names or even import them. This is useful if you want to convert the caller ID phone number to the person's name. You also can add the caller to the blacklist section and the caller will automatically be sent to your voicemail.

The dial plan is a little bit different than some of the other IP phones I'm used to. It does allow for matching a digit or a range of digits and you can replace digits, but I couldn't seem to figure out how to send a terminator key to end the dial string and cause the phone to dial immediately. I could manually terminate the dial string by pressing the # key on the phone, but I find that a bit of an annoyance. I prefer to just dial the phone number and have the phone recognize when I press the last digit (by matching the dial plan) and simply dial the number.

There was a bit of a workaround. Under the dial plan was a feature called Dial Now. I was able to add my phone's extension to the list (149). Then when I dialed from the Yealink to x149 it dialed it without requiring me to press #. Still, it was about a 0.5s delay before it would dial and not quite instant. Also, this workaround is only for 10 phone numbers and not for matching any phone number you dial.

The hotline feature is pretty nifty, though it probably has very niche applications. You simply put a phone number into the hotline field and it will instantly dial that number when you pick up the handset (both internal extensions and outbound numbers work). This is great for CEOs/executives to reach their personal assistants instantly, and vice versa.

Another interesting feature that ringtone fans will certainly like is that you can upload your own ringtone to the phone. The phone supports NTP servers for keeping the phone's clock accurate and it supports daylight savings time. It also supports auto provisioning via TFTP/FTP/HTTP/HTTPS. It's worth mentioning that the SIP-T28P supports both PoE and the use of an AC adapter. One last cool feature is that you can customize the Yealink logo using your own grey scale image.

Overall, I really liked the SIP-T28P. The large LCD was very easy to read and the HD components (wideband codec, handset, speakerphone) truly gave this phone superb sound. Both the Web interface and the LCD were very easy to navigate to perform functions or change configurations. The phone never crashed on me once in the few months that I tested it. It's very reasonably priced at $189 for such a feature-rich HD phone, and I wouldn't hesitate to recommend it. IT

Tom Keating is the chief technology officer and vice president of TMC, the parent company of INTERNET TELEPHONY magazine. He also runs TMC Labs.

RATINGS	SCORE
Installation	★★★★★
Features	★★★★½
Usability	★★★★☆
Performance	★★★★★
Value	★★★★½
Overall	★★★★½

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By Paula Bernier

SIPfoundry Founders Go Commercial

The guys who established SIPfoundry have gone commercial. Their new company, eZuce, aims to deliver all-software-based telephony solutions akin to what Microsoft provides. The twist is that the eZuce solution will offer the added benefit of being open source and its go-to-market will be 100 percent indirect.

Martin Steinmann, eZuce's co-founder and president, says his company delivers the first open software UC solution to hit the core of the enterprise market. Asterisk has been in the SMB market for a long time, and analysts in 2008 said open source had reached about 18 percent share of the SMB market, he notes.

"We are now taking this model into the core of the enterprise market," he says. "We continue where Asterisk left off. I think we are the only credible successor to an open source product in the broader UC market."

The privately owned company, headquartered in Newburyport, Mass., was founded in February by Steinmann and Jerry Stabile. The company got a seed round of financing in May, and expects to do a Series A round this fall.

"eZuce is new company, but it's not your typical startup," says Steinmann. "We are new, but we start out with a mature product, the product that is in the market, that is in the channel, that is referenceable, that is known to work, and is a really serious solution that competes in the mid enterprise market."

The idea is to deliver and support a complete solution that replaces legacy PBXs like Nortel CS-1000s, Meridian-1, Aura products and Cisco CallManager. The eZuce solution, which in addition to telephony addresses video, instant messaging and presence, also will compete with the Microsoft offer, but Steinmann spent more time emphasizing the fact that Microsoft's all-software PBX model is the way to go and pushing the message that it poses a significant threat to the traditional PBX outfits, than discussing eZuce's strategy to challenge Microsoft or Asterisk.

"We think the software model and open source economics really unhinge the incumbents' model," says Steinmann. "I've been inside Nortel. I've run the P&L. I know how it looks, and the price differential between what Microsoft introduced based on a software model. And that gets compounded as you add the open source economics into this. [So it] is so vastly different from the current established pricing model in this PBX market that the P&Ls of incumbent vendors just can't compress to that level.

"And then we deliver what customers and partners really want," he continues, "and that is an IT application, communications as service, and the solution that comes in at a significantly lower cost."

Steinmann adds that Avaya's purchase of the Nortel assets is creating an opportunity for a new player like eZuce to get a foot in the door with both customers and channel partners.

"I think the opportunity, to a certain extent, specifically at the operating level, created by the Nortel-Avaya merger was Nortel's next-generation solution and migration

eZuce's Jerry Stabile

eZuce's Martin Steinmann

path for the Meridian-1 product was simply not a fit for Avaya," explains Steinmann, who was Nortel's general manager of SMB voice prior to its acquisition by Avaya.

"Back in June of 2009 we announced at Nortel that the technology that open UC and eZuce are based on really is the official migration path from a Meridian-1, CS-1000 hybrid system to an all- IP, all-SIP, IT application," he says. "Avaya instead, in our view, proposes what I would call a lateral migration to Aura. It's a forklift replacement of an old PBX, and you put in another old PBX. I think a lot of channel partners initially were really interested in that then, but after a little while looking at it more deeply realized what this really is."

While Nortel outsourced all services revenue to the channel, Steinmann adds, Avaya runs a significant services operation with trucks and feet on the street, so that business competes with what Nortel partners have been doing on their own.

As a result, eZuce is stepping in, and had expected to announce its partner program late last month. In a late August interview, Steinmann told INTERNET TELEPHONY magazine that eZuce was working with "very major channel partners," some of which have been significant Nortel partners in the past. He says eZuce expects to partner both with MSPs and folks on the traditional voice and VAR side. IT

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By Peter Radizeski

Rich Calling Has Started

I've been looking at the review for 8x8's Virtual Office Pro today. It seems like a Web-based portal for a fully functioning PBX including call rules, auto attendant, music on hold, and even includes Web conferencing. Easy to use is key.

Google Voice undoubtedly scared some companies – probably more than MagicJack, Vonage or Skype. GVoice has too much consumer muscle behind it. It's free. But it's not easy to dial through.

MagicJack just went free with MagicTalk.Vonage has mobile apps to help everyone make cheap calls on their cell phones. (Who really needs that with all-you-can-eat plans and declining voice minutes?)

Then you have Phone.com rolling out lots of Google-like features plus mobile apps, greetings, text voicemails, one-number service, whitelist and global DIDs – all available through a much cluttered front page.

Then we have the Ringio service, which is aimed at small business. The best part of this service is the intelligence in call routing. If Joe calls in on Monday and talks to Peter, then calls back on Tuesday, it remembers that Joe spoke with Peter; so instead of a tree, Joe gets a simple question: "Want to talk to Peter?" That's great customer service.

Ultimately, cell phones will represent mobility and convenience, but lousy call quality and spotty reception. (We already are seeing network congestion and increased dropped calls). The mobile PBX may gain hold some.

With teleworkers, distributed workforces, online collaboration, and the rise of the freelancers (contractor, 1099 worker), hosted PBX in many flavors is going to be adopted heavily.

Differentiation by the VoIP providers will be required to cut through the crowd. Some providers may just go specialize in niches and integrate vertically by being more than just a cloud communications provider, but an apps service provider with security, storage, and integration of data and communications. Rich calling is just the start. IT

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

The Channel & AGENT NEWS

http://tmcnet.com/37670.1

Alarmtraq, Tigerpaw Integrate Avaya Solutions

Tigerpaw Software Inc. has teamed with Reilly Telecom, the people behind AlarmTraq, to integrate the professional business automation software tools of Tigerpaw with the remote management and monitoring capabilities of the AlarmTraq solution. Reilly Telecom sells remote alarm monitoring and management solutions for Avaya dealers in the SMB and large enterprise markets. The integration of these solutions creates a robust application set for monitoring alerts in Avaya and seamlessly opening and managing tickets in Tigerpaw.

www.alarmtraq.com

www.tigerpawsoftware.com

http://tmcnet.com/37671.1

NComputing Expands Channel Effort

Desktop virtualization outfit NComputing has introduced an expanded channel partner program. The program was designed to provide corporate IT VARs and system integrators with improved revenue, margin and customer opportunities from the fast-growing desktop virtualization market. NComputing channel partners will have access to the company's desktop access devices, sales, marketing and technical support, and lead generation.

www.ncomputing.com

http://tmcnet.com/37672.1

Companies Helps Partners Rise to the Occasion

Rise, a division of U.K.-based Fasthosts Internet Ltd., has expanded its channel-focused cloud computing offerings for small to mid-sized businesses in North America. The company also announced its first U.S.-based channel partner, Titanium Ant. Through Fasthosts, the U.K.'s largest Web hosting company, Rise leverages more than a decade of experience delivering hosted services to businesses. Using the company's hosted infrastructure services, partners can provision a range of managed and unmanaged services, including e-mail, storage, back up, e-commerce, and Web hosting.

www.rise-partners.com

http://tmcnet.com/37673.1

Expertus Introduces Social Learning Platform

Global software companies are increasingly reliant on a network of partners to sell their products, so revenues and profits deeply depend on resellers' collective product knowledge and sales skills. However, a common challenge for learning organizations is finding effective ways to provide relevant, accessible information to this critical set of learners. Expertus recently announced the launch of ExpertusONE – a social learning platform that brings together formal, informal and collaborative learning for all audiences across the enterprise, including employees, customers and channel partners – to help address this issue.

www.expertusone.com

http://tmcnet.com/37674.1

RES Software Picks Arrow ECS

Arrow Enterprise Computing Solutions is the exclusive master agent for RES Software in North America. RES Software has authorized Arrow ECS to manage the two-tier distribution business for its desktop solutions, as the company expands its footprint in the channel. Arrow ECS will support RES Software master agents in North America for presales, quoting and configuration assistance.

http://ecs.arrow.com

www.ressoftware.com

By Jay Krauser

Unified Communications Within the Retail Market

The retail industry has undergone significant change within the last decade, requiring small storefronts and large chains alike to alter their traditional business strategies. Integrating unified communications to optimize business processes helps retailers improve quality and efficiencies that increase sales and create differentiated products and services within the market. While the retail industry spans an array of sectors, most businesses are affected in some way by the same trends. Volume discounters and low-cost retail chains currently dominate the market. Brick-and-mortar establishments now compete with each other as well as online retailers. And, the Internet expands customer options, creating a competitive landscape that spans the globe.

In such a competitive market, customers are likely to remember and return to retail establishments that have exceeded their expectations. Retailers can leverage UC to enhance communication at every level of the purchase cycle, to enhance the customers' shopping experience and drive loyalty.

UC integrates voice and data, allowing retailers to combine an array of wired and wireless technologies and devices to enhance service and create a unique customer experience. A large sporting goods chain, for example, can leverage portable handsets to allow employees to access inventory, compare competitor prices and access product information at other store locations, in real time, without ever leaving the sales floor. Grocery stores can tie RFID technology into their rewards program databases to track customers' purchasing habits to personalize future marketing efforts and enhance the shopping experience. Clothing stores can implement in-store kiosks to help customers self-assist with returns, allowing store associates to focus more attention on customers making new purchases. By leveraging UC to streamline tasks at various points of customer contact, retailers can improve employee productivity and customer satisfaction.

UC strengthens chain store management. Store managers work with warehouse managers, mobile district managers and multiple staff at the corporate headquarters to ensure inventory. With so many different groups involved, UC helps to alleviate many of the communication bottlenecks that can delay problem resolution. Presence allows them to locate key parties to solve issues. Desktop clients allow them to set up quick, impromptu conference calls about unexpected challenges related to supply chain, marketing and promotional matters. UC reduces communication delays, giving store managers and personnel more time on the floor, more time with customers and time to concentrate on other responsibilities.

Through UC, retailers might communications-enable key business applications to share important data about store performance or operations. For example, integrating point-of-sale and inventory control systems has long been a means to ease inventory management for specific locations as well as across an entire retail chain. Communications-enabling inventory control software also can help retailers identify and share opportunities for location-specific circumstances (like unusual weather conditions, population influx, etc.), enabling them to deliver more quickly the appropriate types and amounts of products and services to meet demand.

By leveraging UC to streamline tasks at various points of customer contact, retailers can improve employee productivity and customer satisfaction.

UC can deliver high value to the retail industry. The best business strategies are those that create value at every direct and indirect customer touch point, providing more strategic options and greater opportunities for differentiation. IT

Jay Krauser, general manager and senior technology strategist for NEC Corp. of America (www.necam.com).

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- » Feature articles
- » White papers

http://fixed-mobile-convergence.tmcnet.com

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Sponsored by: BlackBerry

http://tmcnet.com/37677.1

LG-Ericsson USA Makes Its Debut

LG-Ericsson USA has launched its brand into the North American market. The company intends to offer a wide-ranging portfolio of scalable, back-to-back data and voice networking solutions for SMBs and large enterprises. LG-Ericsson USA has its headquarters in Irvine, Calif. LG-Ericsson USA, which was previously known as Edgecore Networks, is a joint venture between Korean-based LG-Ericsson Co. Ltd. and Taiwan-based Accton Technology Corp.

www.lgericssonus.com

http://tmcnet.com/37678.1

Evolve Targets Business Customers

Cincinnati Bell has formed a new subsidiary, Evolve, to offer businesses of all sizes VoIP, cloud-based phone and data services. Evolve offers service packages that combine local and long-distance phone services, high-speed Internet, MPLS access and conferencing. It sells both cloud-based solutions and offers that interface with a customer's new or existing telephone system.

www.evolvebusinesssolutions.com

http://tmcnet.com/37680.1

Big Blue to Buy Marketing Outfit

IBM plans to acquire Unica Corp. for approximately $480 million. The latter organization is a publicly held company out of Waltham, Mass., that hawks interactive marketing, Web campaign and analytics solutions. The planned acquisition is just IBM's latest move to expand its portfolio of software designed to help companies automate, manage, and accelerate core business processes across marketing, demand generation, sales, order processing and fulfillment.

www.ibm.com

http://tmcnet.com/37682.1

Intermedia Builds Bridges

Hosted Exchange provider Intermedia is launching an offer called Conference Bridges. This is an add-on to its existing hosted Exchange solutions. With the new addition, customers will be able to host conference calls featuring dial-in numbers and pass codes for a flat monthly fee. A bridge number can be set up for an individual user or be shared by a department or company.

www.intermedia.net/bigUC

http://tmcnet.com/37683.1

Phreedom Taps AIS

American Internet Services, a collocation provider of data center and connectivity solutions, has announced that Phreedom Technologies has expanded its technology footprint into the AIS Phoenix data center. Phreedom Technologies is a managed IT solutions provider in the Arizona market, specializing in Microsoft enterprise technologies, Cisco networking, storage and server virtualization, disaster recovery and network monitoring.

www.americanis.net
www.phreedom.com

http://tmcnet.com/37679.1

Panduit, IBM Partner

Expanding its collaborative relationship with IBM, Panduit Corp. is partnering with the technology giant to bring large modular, plug-and-play data centers to market. Enterprise Modular Data Centers are large modular data centers designed in smaller, standardized modules with the capability to plug in additional capacity, such as power and cooling, over time as needed. This approach enables clients to bring new, highly scalable data centers online three to six months sooner than a custom-designed version.

www.ibm.com
www.panduit.com

http://tmcnet.com/37698.1

Andover First of New Data Centers

PAETEC Holding Corp. has announced the opening of its new smart data center in Andover, Mass., approximately 24 miles north of Boston. PAETEC caters to medium and large businesses, enterprise organizations and institutions in financial, government, health care, higher education, and hospitality industries across the United States. The new data center kick starts the company's expansion plan, which is scheduled to take place over the next 18 months and involves the opening eight more data centers across the country, with new centers in Houston, Milwaukee, and Phoenix scheduled for later this year.

www.paetec.com

http://tmcnet.com/37699.1

Report Forecasts $16.8B UC Market

Global Industry Analysts Inc. has projected that by the year 2015 the market for the unified communications products will reach $16.8 billion. The firm's report titled "Unified Communications: A Global Market Report" provides a review of market trends, growth drivers and challenges around IC.

www.strategyr.com

http://tmcnet.com/37700.1

Forum Addresses Cloud Storage

CloudStorageStrategy.com has introduced a Cloud Storage Business Model for Enterprises to help IT decision makers who are considering cloud storage. Underwritten by Mezeo Software, a provider of a deployable cloud storage platform for enterprises and service providers, CloudStorageStrategy.com is a forum for industry thought leaders to exchange insights and observations on the evolving cloud storage space and technology. The Cloud Storage Business Model for Enterprises was announced at the VMworld 2010 Conference this fall.

www.cloudstoragestrategy.com/emodel
www.mezeo.com

digium | Asterisk

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If you are in the market looking to purchase a new phone system, chances are you'll be looking at an IP PBX. The IP PBX market has been growing steadily, which means there are a plethora of choices and options. And, with all the choices you face, it can get quite confusing.

The IP PBX Global Online Community is an excellent resource for companies and individuals who are facing the difficult decision of purchasing a new phone system. This community features breaking news, in-depth feature articles, case studies, links to white papers and webinars… all the information you need if you are charged with learning about the current state of the market and making a purchasing decision.

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HTTP://IP-PBX.TMCNET.COM
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http://tmcnet.com/37710.1

HD Audio Coming from Verizon

Verizon Business expects to provide full-blown HD voice support by the end of the year. The news came as part of the company's VoIP IP Enterprise Routing, or VIPER, announcement. VIPER is being offered to enterprises as an opt-in cost-saving feature where business-to-business VoIP calls on the Verizon Business network are routed directly via SIP, eliminating domestic and international per minute calling charges.

www.verizonbusiness.com

http://tmcnet.com/37711.1

Government Funds Satellite Efforts

EchoStar has received a $14 million broadband stimulus award to offer satellite broadband service to rural residential and commercial subscribers. Spacenet got an $8 million award, which will allow it to offer satellite broadband service to rural residential subscribers in Alaska and Hawaii. Hughes Network Systems garnered $59 million to provide satellite broadband service to rural residential and commercial subscribers nationwide. And WildBlue won $20 million to provide satellite broadband service to rural residential and commercial subscribers in the West and Midwest.

www.echostar.com
www.hughesnet.com
www.spacenet.com
www.wildblue.com

http://tmcnet.com/37712.1

Web-to-Video Seeing Good Growth

The growth of Web-to-TV video is happening faster than most people expected, says In-Stat. By 2014, there will be 57 million U.S. broadband households viewing full-length online video on the TV, according to the research firm. Revenue associated with this Web-to-TV video content is expected to grow from $2 billion to more than $17 billion over a five-year period.

www.instat.com

http://tmcnet.com/37713.1

2Wire to Be Acquired by Pace

Pace plans to buy 2Wire Inc. in a $475 million deal aimed at enabling Pace to strengthen its position in the Americas and enter the tier 1 telco market. Both are players in the residential gateway space, with 2Wire claiming the No. 1 position in this category relative to the U.S. telco arena. 2Wire, which was founded in 1998 by former members of PictureTel and Polycom, serves such top-tier customers as AT&T, Bell Canada, BT, EMBARQ, SingTel and Telmex. The supplier is currently owned by a consortium of AT&T, Alcatel-Lucent, Oak Investment Partners and Telmex.

www.2wire.com
www.pace.com

http://tmcnet.com/37716.1

ADTRAN Wins Access Deal

ELOS Telephone Inc. has tapped ADTRAN to provide the Total Access 5000 Multi-Service Access and Aggregation Platform and Total Access 300 Series ONTs. The value of the deal was not disclosed. The service provider plans to use the gear to provide both fiber-to-the-home-based and broadband DLC services. That deployment will include a broadband stimulus effort through which NTELOS will deliver GPON-based services to 9,000 homes in Alleghany County, Va., and the border of West Virginia.

www.adtran.com

http://tmcnet.com/37714.1

Broadband Wireless Providers Merge

In an effort to achieve greater scale, Airband Communications and Sparkplug Communications have merged. The deal, for which the financial details were not disclosed, creates the largest fixed wireless company for businesses in the U.S., according to the company – which is headed by the former Sparkplug CEO, but goes by the name Airband. A move by Sparkplug to combine with another service provider was expected, as indicated in a June 16 TMCnet story titled "Sparkplug CEO Expects Further Consolidation in Fixed Wireless Broadband Space."

www.airband.com

http://tmcnet.com/37715.1

CardStar Garners Telco Investment

Verizon has put $400,000 into CardStar. The investment in the Boston-based outfit, which offers an app that enables Android, BlackBerry and iPhone devices to store membership cards in one place, was made by Verizon Venture, the VC arm of the carrier. Verizon's idea with this effort is to blend reward programs with the digital wallet and mobility technology.

www.mycardstar.com
www.verizon.com

http://tmcnet.com/37718.1

Telco Revisits Yellow Pages

AT& is leveraging the Yellow Pages brand for an online effort – but it's using a groovy abbreviated name and a tag line that seems to draw both on the hip trend of buying locally, and on the popular movie Eat, Pray, Love. The effort – which appears to be AT&T's move to get more ownership of users' online experiences in an age in which Google and Bing loom large – is called YP.com. AT&T says that the "vibrant, image-based" YP.com interface "encourages users to eat, play and live – locally."

www.att.com

http://tmcnet.com/37725.1

NTT DocoMo, DNP Partner

Japan's largest cellular service provider has a deal with Dai Nippon Printing to develop an electronic reader targeted at novel and manga comic readers. The device will leverage NTT DoCoMo's content distribution and payment systems, and DNP is expected to provide the digital bookstores. DoCoMo has more than 56.5 million registered users, which accounts for about 50 percent of Japan's cellular market.

www.dnp.co.jp/eng/index.html
www.nttdocomo.com

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On TMCnet

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http://tmcnet.com/37727.1

Chip Giant to Acquire Infineon Unit

Intel is plunking down $1.4 billion to buy Infineon's Wireless Solutions Business. The deal, expected to close in early 2011, will add to Intel's Wi-Fi and WiMAX capabilities.

www.intel.com

http://tmcnet.com/37728.1

First to Market with LTE: MetroPCS

MetroPCS Communications last month was expected to begin offering services based on LTE technology in Dallas and Las Vegas. Samsung Electronics Co. Ltd. is supplying the equipment in Las Vegas. This launch – if successful – will put MetroPCS ahead of Verizon Wireless in the race to be the first to market with LTE.

www.metropcs.com

www.samsung.com

http://tmcnet.com/37729.1

Motorola Gets Stimulated

Motorola Inc. was among several companies to be awarded millions in government funding as the Obama administration announced $1.8 billion in new broadband stimulus grants and loans. Motorola received a $50.6 million award to build a new wireless broadband network in the San Francisco area for police, firefighters and other public safety officials. The network will leverage LTE technoloy on 700mHz frequencies to provide mobile broadband service to public safety first responders.

www.motorola.com

http://tmcnet.com/37730.1

Mobile Offload Forecast to Boom

One proven way to maximize the availability of mobile network bandwidth is to offload as much traffic as possible onto Wi-Fi or other fixed networks. And if ABI Research is correct, nearly half of all mobile traffic will be diverted to the fixed network by 2015. Today, about 16 percent of mobile data is diverted from mobile networks today, and that is expected to increase to 48 percent by 2015, the firm predicts.

www.abiresearch.com

http://tmcnet.com/37731.1

Report Clarifies Satellite Data

The FCC notes that 14 million to 24 million Americans cannot buy connections running at 4mbps or faster in the downlink. Technically, that is not correct. HughesNet, for example, already offers a 5mbps tier of service, and there is no doubt the other providers will offer such speeds with their next round of satellite launches. Satellite service is far more expensive than fixed network service or even mobile service, but, technically, there are very few U.S. homes that physically are unable to buy a 5mbps service.

www.hughesnet.com

http://tmcnet.com/37732.1

Sprint Peel Cracks Connectivity

It may have fallen out of the spotlight in recent years, but when it comes to wireless communications, Sprint still has a few tricks up its sleeve. Indeed, the company has a new product, manufactured by ZTE, called the Sprint Peel that promises to bring 3G connectivity to the Apple iPod Touch. It offers connectivity to the Sprint EV-DO Rev. 0 3G network, effectively working as a portable Wi-Fi hotspot, for the iPod Touch, which is not specifically positioned and marketed around that network or for that purpose.

www.apple.com

www.sprint.com

http://tmcnet.com/37733.1

Vendor Offers Some Good News

Motorola has been going through a lot of changes lately, so it probably shouldn't come as a surprise that sales at the equipment company fell for the quarter. However, there is some good news to this story: Both earnings and revenue for the quarter beat analyst expectations, and profit actually increased.

www.motorola.com

http://tmcnet.com/37734.1

Moloney to Head Motorola Mobility

Daniel M. Moloney has been tapped as the president for the Motorola Mobility business. That's the cell phone unit Motorola Inc. aims to spin off as a publicly traded company early next year. According to a recent report on the matter, the 51-year-old executive, who previously served as president and CEO of electronic component manufacturer Technitrol, was expected step into his new post last month.

www.motorola.com

http://tmcnet.com/37735.1

Credit Card Giant Buys DataCash

MasterCard plans to buy European payment provider DataCash for $520 million. The move is expected to enable the credit card giant to better address mobile and other e-commerce opportunities. MasterCard's plan is to "expand DataCash's platform and launch MasterCard's new generation of e-commerce, mobile commerce and other payment products, enabling merchants to quickly accept these new forms of payments with minimal integration challenges."

www.datacash.com

www.mastercard.com

http://tmcnet.com/37736.1

Wireless Prices Have Been Halved

The average price for U.S. wireless service in 2009 was about 50 percent of the price in 1999. In other words, prices have fallen by half in a decade, according to the Government Accountability Office. That does not mean growing concentration in the industry could not become a problem. Indeed, the GAO thinks the Federal Communications Commission should spend more time and effort monitoring ongoing concentration in the wireless industry.

http://tmcnet.com/37737.1

Free App Lets Netflix Stream to iPhone, iPod Touch

Netflix for the iPhone and iPod Touch has arrived. As a result, Netflix members on plans starting at $8.99 a month can watch a vast selection of TV episodes and movies streamed to their iPhone or iPod Touch devices at no additional cost.

www.netflix.com

http://tmcnet.com/37738.1

Nokia, Intel Lab to Address Mobile 3D

Intel and mobile phones maker Nokia have launched a joint laboratory that will focus in part on developing 3D user interfaces for mobile devices. The center will be part of Intel's European research network, called Intel Labs Europe, and will be located at the University of Oulu in Finland, near Nokia's headquarters. Lab workers will reportedly focus on making 3D games and movies for mobile devices.

www.intel.com

www.nokia.com

http://tmcnet.com/37661.1

Business Magazine Recognizes Tellennium

Telecom consulting and financial services firm The Tellennium Group was listed by Inc. Magazine as one of the fastest growing, privately-held companies in the U.S. This year marks the fourth year in a row Tellennium has appeared in Inc. Magazine. Since its creation in 1999, Tellennium has experienced double-digit growth every year, and company officials said that this can be attributed to the company's expertise and objective approach to consulting, and also its continued growth and development of telecom expense management solutions.

www.tellennium.com

http://tmcnet.com/37662.1

MDM App Available at Apple App Store

Tangoe Inc., a provider of enterprise communications lifecycle management software and related services, announced its Mobile Device Manager App is now available on the Apple App Store. Tangoe's MDM App enables businesses to deploy, upgrade, and fully manage iPhones by providing comprehensive device and data security, user authorization, dynamic cost management, centralized policy control, automated device configuration, application management, self-service device deployment, troubleshooting, and asset tracking.

www.tangoe.com

http://tmcnet.com/37663.1

Emida Intros New Offers

Nine new products and services that add significant revenue options for Emida's U.S.-based customers have been introduced by Emida Technologies, a player in the global prepayment and value transfer market. New are top-up, bill pay and money transfer options, among other stuff.

www.emida.net

http://tmcnet.com/37665.1

AOTMP to Offer TEM, Wireless Mobility Management Courses

Fixed and wiireless telecom professionals can go back to the classroom Feb. 14-16 in Orlando to take part in six hours of live training in telecom expense management and wireless mobility management. AOTMP University offers staff development, training and certification packages to educate professionals, with a focus on financial and operational efficiency.

www.aotmp.com

http://tmcnet.com/37666.1

LiveCast to Simplify Billing

Verizon Wireless and LiveCast Media together have introduced a new simplified billing system for live mobile video enterprise solutions. Enterprise customers of Verizon Wireless will use LiveCast Media to track all mobile spending in one place. LiveCast provides a complete solution for streaming live video from the field. The company's product line features low-latency applications for monitoring and output of many live mobile streams simultaneously, such as high quality SDI outputs.

www.livecast.com

www.verizonwireless.com

http://tmcnet.com/37667.1

Paper Offers TEM Tips

Telesoft, which offers fixed and mobile telecom expense management software and services, has published a new white paper, "New Priorities for Today's Challenges," focusing on cutting spending while offering more services to employees through better asset management; optimization of service plans; and improved accountability for wireless expenses. The white paper is the fifth in a series informing enterprise managers on how to develop an efficient telecom expense management strategy. Telesoft's new report explains the method for cutting costs through asset management, accountability, educating employees and other methods of expense management.

www.telesoft.com

http://tmcnet.com/37668.1

MTS Reports $3.1M in 2Q2010 Revenue

Mer Telemanagement Solutions Ltd., which sells telecommunications expense management and customer care and billing solutions, reported in its second quarter 2010 financial results revenues of $3.1 million. That compares to $2.9 million revenue earned during the same quarter in 2009 and during the first quarter of 2010. The company's operating profit was $42,000 in the second quarter of 2010, while the company has suffered an operating loss of $394,000 during the second quarter of 2009.

www.mtsint.com

By Paula Bernier

Valicom COO Talks TEM

How This Company's New SaaS Offer Could Disrupt the Market

Paying bills is no fun. Reviewing them is even more of a chore – and one for which few of us are ideally suited. Yet, considering 3 to 6 percent of enterprise gross revenue is spent on telecom, businesses that don't closely read and understand their bills are likely to be overpaying for their services, and the resulting losses can be significant.

Jeff Poirior, chief operating officer with Valicom, recently spoke with INTERNET TELEPHONY about the challenges of telecom equipment management, how TEM is now moving within reach of a greater number of companies, and what the Madison, Wisc.-based company is doing to address the requirements of both large and medium-sized business customers.

How does Valicom help companies save money?

Poirior: We start with the CSR, or customer service record, and we use that as the inventory base to create the inventory in our database for our clients. We go through it to make sure the services or the circuits they're getting billed for match what we're finding in the CSRs. Then we go into contracts.… We negotiate in contracts and just deal in telecom every single day, so we would be very much aware of any promotional offerings. [If] the client got [a particular deal] on the East Coast but are being told they can't get it in the Midwest, we might be able to say 'Sure they can, because we just did it for [another] client.'

We do benchmarking. Clients have hired us just to do benchmarking for a specific vertical.

We do full invoice auditing.

And another area we do for both wireline and wireless is optimization. For example, we have clients with anywhere from a few hundred to a thousand of wireless devices and … we look at that and say 'OK, what kind of pooling plans can we come up with?'

How has TEM evolved over the years?

Poirior: Competitors out there today are doing the contingency [model], where they'll say 'provide me three months of your bills and we'll audit those, and if we find savings we get to keep X percent of the savings.' [But] our feeling is that's really more transactional based than relationship based, and it's kind of a one time, get in and get out [model].

The existence of the TEM industry, in my opinion, started off that way. Unfortunately, it has a tendency to become very tenuous, where the [company] might say 'We led you to that savings opportunity.' Sometimes people are finding hundreds of thousands of dollars, and the client is very reluctant to give 50 percent of that away.

What's a better way?

Poirior: What we sell is the option of outsourcing. We'll have clients that will come to us and say, [for example,] 'We're really good at contract negotiations, but we don't do a good job at inventory and deep dive audits.'

I understand Valicom also now offers SaaS-based solutions.

Poirior: The newest piece that we launched, in February of this year, is the SaaS version of our proprietary software called Clearview. In 2009 we completely reviewed the competition and found the middle market was severely underserved as it relates to telecom expense management. We decided that we are still going to continue to serve the enterprise-level market. But we are also going to share the 20 years of expertise we've collected, and that we have woven into our software, to offer this to the middle market. Quite frankly, we are trying to disrupt the market.

TEM is becoming a growing challenge – and requirement – for companies of all sizes in light of the number of services and providers from which to choose. Explain why.

Valicom's Jeff Poirior

Poirior: Part of it is the complexity. What companies have typically not been able to respond with is to add a lot of on-site resources that are trained in telecom specifically and are dedicated to this. Typically what we have [seen at many companies] is receptionists have responsibility to review bills. A lot of organizations, even government, might say 'if the bill is within 15 percent of the previous month's bill we'll just pay it.' But no one has [checked] if the original bill that is billing from is accurate in the first place.

What kinds of billing errors are most common, and why are they happening?

Poirior: Most of the billing errors that we're seeing are just flat out neglect…. We've had clients that have said 'We shut down those services; we haven't even had that building for years.'

They may have put in an order to the carrier to disconnect circuits, but [the carrier] never did. So the biggest things would probably be follow through and awareness. IT

For more information on TEM, visit www.tmcnet.com to get Valicom's white paper, titled "Can Telecom Expense Management SaaS Solutions Lower Telecom Costs For Mid Market Companies?" For a direct link to the document, try http://tmcnet.com/35571.1

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By Frederic Dickey

Open Source VoIP the Right Way

The implementation of open source voice over IP solutions has graduated from niche status to become a viable and increasingly popular approach for enterprise voice services. A 2009 research study by the Eastern Management Group reported that open source PBXs captured 18 percent of the 2008 market – a 40 percent increase over the previous year, and more market share than any traditional PBX manufacturer.


Frederic Dickey

Platforms based on Asterisk and FreeSwitch offer IT managers comparable features to traditional telephony systems and prove more cost effective and easier to deploy and maintain. Despite the simpler and less costly approach, however, certain steps must be to taken to ensure maximum scalability and optimum voice quality in deployment of an open source VoIP system. Because VoIP runs on data networks, because open source telephony systems run on standard computing systems, and because these systems run on standard OSs, more careful attention must be paid to addressing capacity and quality issues that are either not as prevalent or not considerations at all in traditional TDM implementations.

Putting voice on a packet network and running telephony systems on standard computers change the rules of the game. As a result, there are several important hardware and software considerations to make to make sure all quality and capacity issues are addressed and the benefits of open source VoIP are fully realized.

Determining Optimal Payload Size

Voice traffic is placed into a packet network using the real-time transport protocol, or RTP. The nature of packet networks is such that a certain length of speech must be accumulated before sending out the packet, which consumes the processing power of the CPU. This means that determining optimal payload size can be a tricky task. If payload size is too large, the quality of the conversation can be adversely impacted because of the introduction of too much delay – which can result in awkward conversations with people talking over one another.

Typically, a range of between 25 and 150 milliseconds end-to-end delay is acceptable. To account for other delays such as jitter and voice compression/decompression, 30 milliseconds tends to be the upper limit. That means that the computing platform will create RTP packets for every single conversation at 30-millisecond intervals, ensuring a smooth conversation.

The Importance of Echo Cancellation

Echo is prevalent in any telephone network. In traditional telephony networks, echo was typically an issue only for overseas calls, or calls with roundtrip delays of more than 30 milliseconds. But in the case of VoIP, delays for calls are typically longer, which makes echo more perceptible to the human ear – so good echo cancellation is required on all calls, even if the call is between colleagues who are in cubicles next to one another.

Echo cancellation algorithms are very complex and processing intensive. While they can be implemented in software, this task is more appropriately addressed by utilizing specialized DSPs on telephony boards that can handle the load, which frees up the computing platform to process other important tasks. The VoIP phones selected for an open source implementation should be equipped to address echo cancellation as well, including the reduction of acoustic echo.

Selecting the Right Hardware

To prepare for an open source VoIP deployment, the configuration of the servers used to run the system must first be addressed. To ensure a scalable, reliable deployment, CPU occupancy and memory should be run in steady mode under 60 percent load to allow for peaks in traffic. RAID storage solutions should be utilized to maintain continuity and ensure adequate capacity to allow for functions like call data records and voicemail recordings.

Most standard computing systems do not come equipped with telephony interfaces, so accommodating an open source VoIP deployment means purchasing and installing PCI or PCIe boards. These boards are not created equal, so careful consideration should be given to ensure an optimal deployment with the right features and functionality.

Telephony boards must continuously transfer voice buffers to the host CPU, so having the ability to configure the frequency at which this is done will help optimize the performance of the CPU. Some boards are hardwired to interrupt the CPU at every millisecond for every call to perform this task, while others are configurable for longer periods so that the CPU can be relieved to address other tasks. As with RTP packet sizes, there is a fine balance to keep between CPU occupancy and delays introduced.

On-board echo cancellation and on-board tone detection are other functions that take processing power away from the CPU and must be configured correctly. In addition, on-board HDLC framing, which is required to pass call control protocol data such as ISDN D-channels from the network to the host, consumes CPU cycles.

There are many other considerations, such as network design, on which we have not touched. But clearly, deploying an open source VoIP systems introduces a lot of changes and requires careful consideration of many network settings and functions, as well as the right selection of hardware and computing platforms. When deployed correctly following these guidelines, VoIP systems based on open source can provide high-quality and efficient voice communication for enterprises. IT

Frederic Dickey is director of marketing and product management at Sangoma Technologies (www.sangoma.com).

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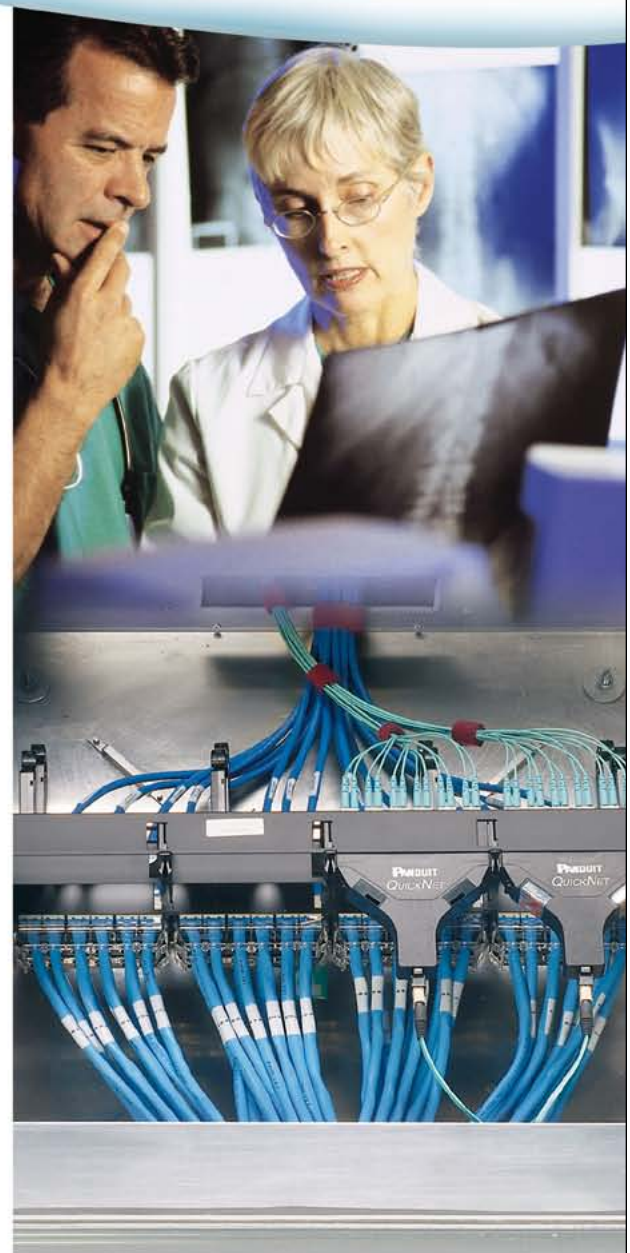

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http://tmcnet.com/37701.1

IBM Discusses Change

With businesses becoming increasingly dependent on their software, development teams are now tasked with delivering products faster and are under constant pressure to reduce costs, improve quality and provide auditable governance and compliance. Software change management tools can greatly help with that, and the open source tools in this category are gaining acceptance among the development community. In one of its White Papers, "Extending Open Source Tools For More Effective Software Delivery," IBM discusses the many benefits of adopting open source tools for this application.

www.ibm.com

http://tmcnet.com/37702.1

OTRS Help Desk Goes Mobile

Open source help desk and ITIL-compatible IT service management solutions company OTRS has released a free iPhone and iPad app for mobile service management, empowering mobile workers to input service ticket information on the go. The new app changes the way businesses deliver support and services to their customers by providing 24/7 mobile access, without the need for a desktop or laptop. The OTRS service management platform is distributed free of charge under an open source license, and is used by support organizations, customer service teams and IT departments worldwide.

www.otrs.com

http://tmcnet.com/37703.1

Summer to Headline AstriCon

Mark Summer, veteran open source technologist and humanitarian, will deliver the keynote presentation at the seventh annual AstriCon Open Source Telephony Conference and Exhibition 2010, the longest running conference devoted to the Asterisk telephony platform. Summer's keynote will complement the conference theme of "Asterisk: The World is Calling." This year's event, from Oct. 26-28, near Washington, D.C., brings together an expansive group of developers, enterprise IT professionals, resellers, integrators and other Asterisk enthusiasts to celebrate the world's most widely used open source telephony software.

www.digium.com

http://tmcnet.com/37704.1

Firm Promotes Cloud Interop

Red Hat is promoting new developments in its Cloud Foundations portfolio that aim to create more consistency between enterprise applications and the cloud. IDC's recent research indicates open APIs and interoperability are essential to customers considering the cloud, yet notes that 80 percent of enterprises cite the lack of interoperability standards as a challenge in adopting cloud computing services. With Cloud Foundations, Red Hat is on the right track with cloud by accelerating interoperability and portability to prevent cloud lock in, according to IDC researchers.

www.redhat.com

http://tmcnet.com/37705.1

GoAhead Tapped by Ericsson

Ericsson has selected GoAhead Software's OpenSAFfire for its commercial distribution of the Open SAF open source high availability software project. According to company sources, this selection by Ericsson marks the rapid maturation of the OpenSAF project. In March of this year GoAhead had announced its move to OpenSAF-based solutions and also the simultaneous acquisition of the Avantellis product line from Emerson Network Power.

www.ericsson.com

www.goahead.com

http://tmcnet.com/37706.1

Clearwire, Funambol Partner

Open source push e-mail and mobile sync provider Funambol has launched Funambol DM Carrier Edition, which is reportedly the world's first commercial open source device management solution for WiMAX. Developed in conjunction with Clearwire, the solution facilitates the management of WiMAX devices wirelessly.

www.clearwire.com

www.funambol.com

http://tmcnet.com/37707.1

Black Duck Contributes to SPDX

Support for two compliance initiatives led by the Linux Foundation has been announced by Black Duck Software. Resources to develop a specification for exchanging software license information were contributed by Black Duck through the company's participation in the Linux Foundation's FOSSBazaar SPDX working group. SPDX Committee Co-chair Phil Odence, the vice president of business development for Black Duck, says: "The SPDX group's objective is to create a set of data exchange standards that will enable companies and organizations to share license and component information for software packages."

www.blackducksoftware.com

www.linuxfoundation.org

http://tmcnet.com/37708.1

Forrester Validates Actuate

Actuate Corp., which sells value-added offerings for BIRT, has been validated as a leader in the "The Forrester Wave: Open Source Business Intelligence or BI, Q3 2010" report. According to the document, Actuate BIRT reports can be used for mass report distribution and highly complex BI applications like interactive online customer statements. In the most recent addition, Actuate also added BIRT data objects that are useful in disk- or memory-based OLAP-style analysis.

www.actuate.com

www.forrester.com

http://tmcnet.com/37709.1

CloudStack Adds New Support

Cloud.com's CloudStack now supports VMware vSphere 4.1 and VMware vCenter Server. This new support enables enterprises and service providers that already have standardized on VMware virtualization technologies to extend their capabilities into the cloud without requiring changes to their existing infrastructure or virtualization management tools. Cloud.com says it delivers all of the essential components used to build, deploy and manage multitier and multitenant cloud applications in a simple to install software package.

www.cloud.com

By Rich Tehrani & Paula Bernier

Not Your Father's Dialogic

CTI Pioneer Expands into Video, Broadens Service Provider Portfolio

Dialogic in the mid-nineties was the major company producing hardware and software building blocks in what we at the time called the computer telephony, or CTI, arena. The company's DSP resource boards at first powered simple voicemail systems. Over the years, however, Dialogic has been active in mergers and acquisitions, and continued to expand its portfolio to deliver a wider variety of platforms to enable value-added services.

The expansion has not abated.

Dialogic this spring announced plans to merge with Veraz Networks in a deal that could close as early as this month. Meanwhile, the company is working on a strategy to expand its play in video.

President and CEO Nick Jensen is leading the charge. He's the charismatic figure responsible for rescuing and reinvigorating Dialogic.

Jensen's former company, EiconNetworks, bought Dialogic from Intel in 2006 after the chip maker opted to divest those assets. Intel had purchased Dialogic in July 1999 in an effort to increase its play in the communications space. But Intel eventually realized telecom components were not its core market, so it put those assets on the block a few years later.

EiconNetworks was ready to play let's make a deal. Dialogic was a good match for the company, which got its start selling X.25 cards and modems, but saw that business erode with the arrival of IP technology. As a result, it began introducing products that competed with Dialogic boards. So when the Dialogic opportunity came along, EiconNetworks jumped.

Realizing the value of the Dialogic name, Jensen resurrected it. He then proceeded on a spending spree.

The new Dialogic in 2007 purchased Cantata, which was the result of the combination of Brooktrout, a leader in fax servers; Excel, known for its programmable switches; and SnowShore, which sold IMS-based IP media servers. A year later came the NMS deal, which gave Dialogic boards that service providers use to deliver color ring back tones, network-based voicemail and the like.

Then, in May of 2010, Dialogic announced its latest merger partner: Veraz Networks.

Veraz in the last four quarters had revenues of about $65 million. But while the Veraz deal is only slightly larger than the Cantata and NMS ones in terms of revenues and the number of employees involved, it's significantly different because it will transform Dialogic from a private to a public company.

Nick Jensen

Following the close of the merger, Dialogic will be listed on the NASDAQ. The company has registered for the ticker symbol DLGC, which was the old Dialogic symbol in the 1990s.

The combined company will have revenues of greater than $250 million. Dialogic shareholders will own approximately 70 percent of the new company, with Veraz shareholders getting the remaining 30 percent. Jensen will remain as CEO of the larger Dialogic; Doug Sabella of Veraz will be the new COO.

Among the primary motives of the Veraz deal is to get publically traded currency to do even more deals, says Jensen, who adds that Veraz has plenty of cash.

"Nick has been consistent in saying it's part of our DNA and we will do more" mergers and acquisitions, says Jim Machi, senior vice president of marketing at Dialogic. "But there's nothing imminent."

Veraz also will give Dialogic a bigger presence with service providers, an area in which Dialogic expects to see growth. The company brings to the table a bigger gateway; bandwidth optimization tools; and a session border controller.

"While the capability of mobile networks around the world has been steadily expanding, the future will bring even greater demands on the networks due to the unprecedented growth in global mobile data and video traffic," says Jensen. "By combin-

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ing Dialogic's proven expertise in application enablement for voice and video with Veraz's leadership in voice, data, session control, security, and transport, we will be creating a company with innovative products that will enable our customers to unleash the profit of video, voice and data for 3G/4G networks."

More than 80 percent of the Fortune 2000 companies and service providers worldwide rely on Dialogic's application-enabling technologies. Those technologies include board-level IP/TDM products including the DM3 line (a homegrown Dialogic solution), the CG (from the NMS acquisition) and TR1034 fax boards (that came from Brooktrout). Dialogic also sells software-based multimedia solutions under the brand PowerMedia; Machi says this is where the company is focusing a lot of its video development. And Dialogic's current 1U platforms include BorderNet TDM/IP gateways, the Vision family of video gateways, a media development platforms called MSP, and a signaling gateway called SIU. These are products on which developers including Interactive Intelligence and Unisys, and service providers, build applications like IVRs or voicemail systems – or such applications with an added video component.

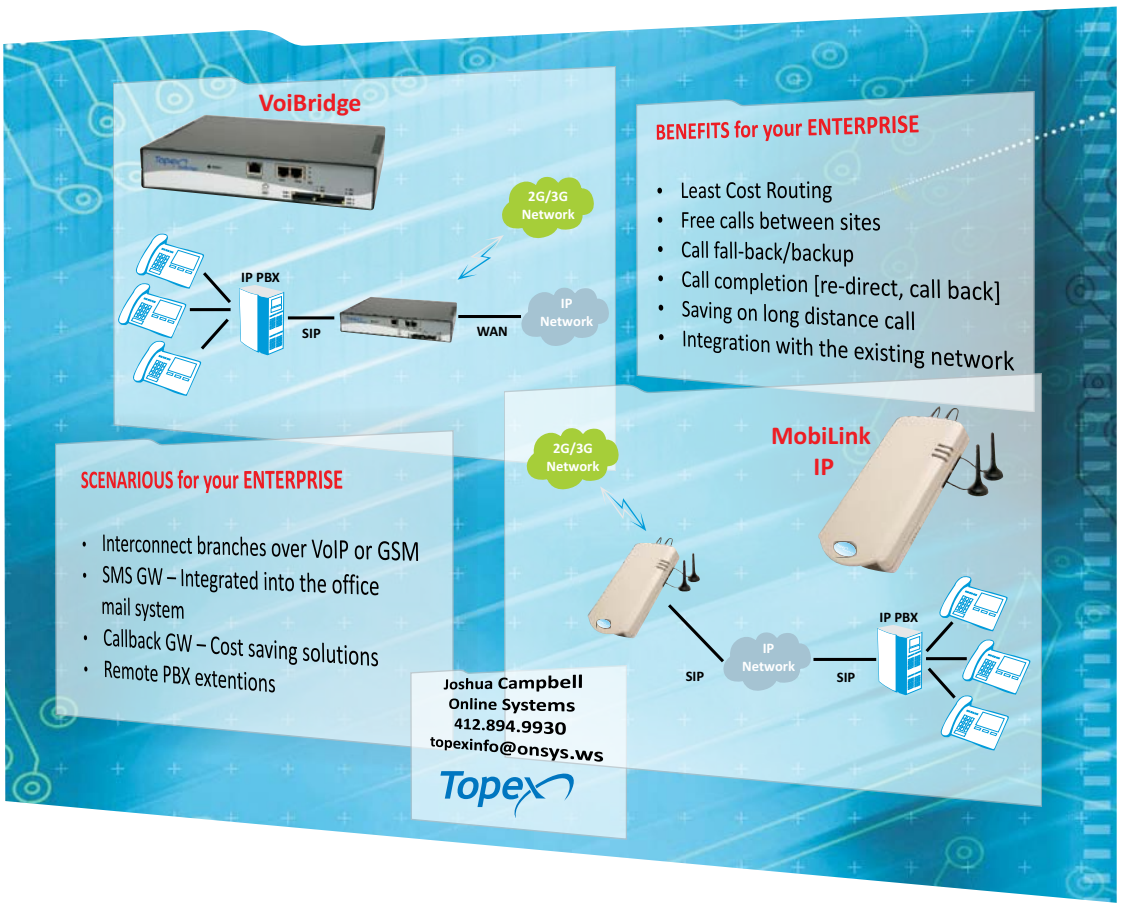
Meanwhile, more than 130 service providers in over 80 countries rely on Veraz's next-generation switching and bandwidth optimization products and services.

While the Veraz bandwidth optimization technology is currently focused on voice applications, Dialogic could expand that to apply to video applications in the future, says Machi. Veraz has a 20:1 compression ratio with minimal to no voice degradation. In a world in which wireless bandwidth is in short supply, having solutions that can effectively compress video becomes quite important. Expect this technology to come to a video stream near you, especially if you live in India.

The company is developing new solutions within Dialogic Media Labs, an effort that stemmed from its 2008 acquisition of OpenMediaLabs. The business unit does research on such things as adaptive codecs, which can alter the codec dynamically based on what's happening on the network; quality of experience, which can involve using limited bandwidth to focus on moving parts of the picture instead of static background, for example; and more.

While some of this video-focused work is relatively new, Jensen has been talking about the video opportunity for years.

One clear area of growth in this realm is over-the-top video on the mobile phone. Jensen believes this market will see more user-generated content as opposed to YouTube, as the handset is the center of the user's universe. He thinks these markets will be transaction based, meaning there's an increasing opportunity for carriers to monetize their technology investments. IT



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By Paula Bernier

COMVOICE Gives Business Customers New Faith in VoIP

Voice over IP is a beautiful thing. It can mean lower costs, increased flexibility and more features for both service providers and end users. Yet for all of its wonders, many businesses have had a less than ideal VoIP experience, to put it mildly.


Erik Knight

"Let's face it, VoIP is awesome," says John Noble, pre-sales engineer level II at COMVOICE. "I mean, the promise is amazing. But the delivery and the actual results the customer gets aren't always great."

Noble says close to half of COMVOICE's new customers come to the hosted VoIP provider after having experienced what he categorizes as failed VoIP deployments. Common complaints about VoIP services range from lengthy phone number porting intervals to deployment problems, lousy customer service, and sometimes-severe voice quality issues.

Although COMVOICE to date hasn't marketed its services outside of its home base of Phoenix, the company has won a raft of business elsewhere, including accounts in every U.S. state and 13 countries, COMVOICE CEO Erik Knight tells INTERNET TELEPHONY.

"We don't work for accounts outside of Arizona, they come to us because we've had such a strong presence out there, and people have recommended us because they have had such bad problems" with various other VoIP service providers, says Knight. "They're calling and saying 'I just want this to work.'"

As of this spring, COMVOICE had accounts with about 3,500 companies, he adds, "so the growth over the last five years has been insane."

With its hosted VoIP offer, COMVOICE delivers unified communications including voice over e-mail, green fax, Web-based management, click to dial, videoconferencing and more. The company also heavily pushes the fact that it's an HD audio provider, employing Polycom phones to enable that experience. But during the interview with INTERNET TELEPHONY, Knight and Noble spent much of the time emphasizing COMVOICE's network capacity, customer support and back office differentiators.

"We're severely overstaffed on the people side of things," says Knight, who explains this enables the company to have wait times of just two to three seconds for billing and support.

COMVOICE also goes above and beyond in its network design in terms of capacity and redundancy, adds Knight. For example, the company has only reached 20 percent capacity on its network, and it doesn't expect ever to go above the 50 percent mark, even as it grows its customer base.

"It's overkill by far," says Knight. "I don't know if you read it, but Packet8's public report came out this month, and it says in the report that they don't know if they can handle the capacity with their growth."

Knight adds that COMVOICE's back office systems and installation process also have proved to be a winning combination. For example, the company monitors all of its customers' connections and will launch an e-mail to a user if it notices anything of concern on that company's account. At the same time the monitoring solution alerts the back office of the potential problem so it's fixed as soon as possible and everyone knows what's happening.

INTERNET TELEPHONY mentioned that all telephone companies have back office systems and asked what was so special about what COMVOICE does on this front beyond the customer notification feature mentioned above. To that Knight replied that some VoIP providers simply aren't providing much in the way of back office support; instead, they're just shipping out the phones and leaving it up to customers to figure out the rest. Noble says some industry folks refer to this practice as ship and pray, a takeoff on the popular phrase plug and play. But COMVOICE, which was founded in 2004 by a group of entrepreneurs who previously ran a telephone system repair business, puts a heavy emphasis on helping customers get up and running, and keeping their services going, the men say.

"We can do a turn up in as little as 48 hours," adds Knight.

COMVOICE is so comfortable that new accounts will stay on as its customers for the long run that it subsidizes the cost of their phones.

"We're able to do that because when we make a sale, the sale sticks," Noble says.

Small and medium businesses are the target for COMVOICE, whose accounts on average involve 10 phones and an average monthly spend in the $200 to $250 range. That model has resulted in a company that has been cash-flow positive and debt free since 2009, says Knight of COMVOICE, which is privately financed. The organization had revenues of $1.7 million last year, and expects to grow 130 percent between last year and this year, Knight says. And while COMVOICE traditionally has only had an on-the-ground sales force in Arizona, the company expects to open an office in Los Angeles in the next year, and another location, probably in Texas, in the next year or two. IT

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By Paula Bernier

What's New and Next in Optical Technology

100G, IPoWDM, P-OTS and WSS Show Good Potential

Ongoing demand for network capacity drove an increase in optical network equipment spending in the second quarter in the Americas and the Asia Pacific, according to Infonetics Research. The firm noted that ADVA, Fujitsu and Infinera all saw significant new optical business in North America in the quarter. That contributed to a worldwide optical network hardware market increase of 2.9 percent between the first and second quarters of this year, bringing it to the $3.05 billion mark.

Key optical technologies drawing dollars and interest in the marketplace include everything from the old favorites of 10G, 40G and 100G; to IP over WDM; packet-optical transport systems; and wavelength selective switching.

40G, 100G and Beyond

Growing network traffic continues to drive deployments of 10G and 40G optical and Ethernet ports on enterprise and service provider equipment. Infonetics says 40G ports shipped on enterprise and service provider equipment doubled in 2009; meanwhile, annual port shipments of 10G and 40G enterprise and service provider ports jumped 38 percent in 2009, a year in which worldwide revenue from such ports totaled $11.1 billion. Strong growth on the high-speed port front is expected to continue, with forecasts that 10G, 40G, and 100G port shipments will increase ten-fold from 2009 to 2014.

Of course, we've been hearing about 100G for some time, and it remains one of the hottest topics in the optical realm. What's new is that, after talking about it for several years, the industry actually now appears to be moving forward with 100G in a real way. Standards around 100G are finally starting to come together, and we've seen some early trials of this technology.

Within the last six months to a year industry standards such as the ITU's work to incorporate 100G into G.709, which was completed in December; the IEEE's client-side efforts around 100gigE, which was approved in July; and the 100G multi-source agreement defining the optical module itself have taken shape, says Randy Eisenach, head of WDM and OTN product planning for Fujitsu Network Communications.

But although we've seen some service providers taking 100G for a test drive, Eisenach says those activities have been based on prototype modules exclusively, not on large volume gear. It'll be about a year and a half until 100G starts hitting networks on a commercial scale, he says, noting that Fujitsu will be there both with turnkey solutions and components when that happens.

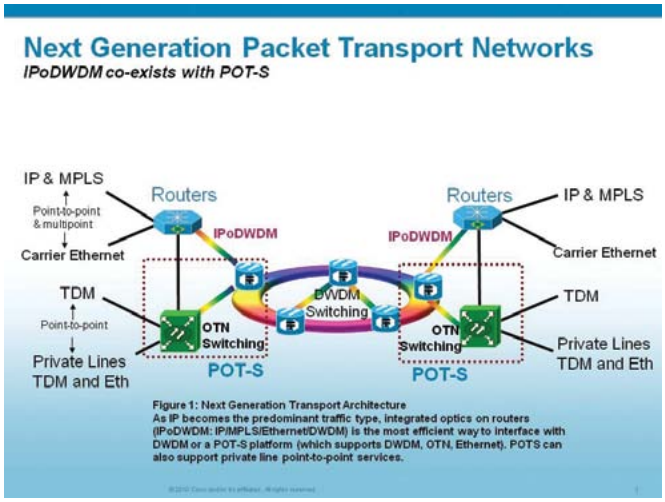


Figure 1: Next Generation Transport Architecture
As IP becomes the predominant traffic type, integrated optics on routers (IPoDWDM: IP/MPLS/Ethernet/DWDM) is the most efficient way to interface with DWDM or a POT-S platform (which supports DWDM, OTN, Ethernet). POTS can also support private line point-to-point services.

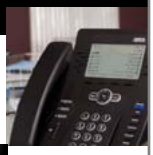
Not only does Fujitsu Network Communications have a variety of Ethernet demarcation, multiservice provisioning platform, packet optical networking, ROADM and WDM products, but Fujitsu Optical Components is a leading source of DPQPSK modulators and coherent receivers, two key components in 100G systems, and Fujitsu Microelectronics is a key provider of high-speed ADC DSP chips.

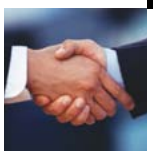
"Fujitsu inside is going to be pretty common on a lot of people's 100G developments," Eisenach says.

The two driving forces of 100G technology, he adds, are router interconnect, and WDM system and/or fiber exhaust. Service providers are trying to align the dates on which they will introduce 100G on transport platforms with when they will adopt 100G on router platforms. That, which is expected to happen late in 2011, will enable service providers to take the 100G flows coming off routers and interconnect those to other routers across metropolitan or long-haul routes.

On the WDM side, Eisenach continues, 100G platforms can be a nice solution for service providers with lots of 10G client signals and a WDM route that is out of bandwidth or a fiber network that has reached capacity. The solution here would be to install 100G muxsponders to improve the efficiency of existing systems, thus pushing off new WDM or fiber investments to a later date.

Ericsson's Director of Transport Marketing David Giaina says the core of the network is where service providers really need a long-term plan to move to 40G and 100G. Ericsson is rolling out both of the above with its service provider customers, he says. The company has added redundancy on some very long-haul routes using WDM without generation, Giaina continues, and its 40G products can be used on some pretty poor quality





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fiber thanks to Ericsson's modulation and amplification technologies.

The challenges of moving to 100G include reach and addressing the performance characteristics you run into when you move to higher speeds, notes Dave Brown, director of transport applications marketing for the optics products division at Alcatel-Lucent. However, he adds, Alcatel-Lucent believes its differentiator is the fact that its customers can deploy the company's 100G solutions in both existing and new networks.

Confidence that service providers will continue to move to 40G and soon adopt 100G was exemplified with Cisco Systems' recent acquisition of CoreOptics. Mike Capuano, director of service provider marketing at Cisco, says the optical DSP technology from CoreOptics will enable Cisco to accelerate the industry's move to 40G, 100G and beyond. With the CoreOptics deal Cisco got both 10G and 40G transponders for metropolitan, regional and long-haul optical systems using different protocols, as well as an expanded optical presence in Europe.

IPoWDM

Elsewhere on the optics front, IPoDWDM has begun to gain traction.

"Contrary to the general industry impression that there is little interest in deploying IPoDWDM on routers, a surprisingly large percentage of the service providers we surveyed recently are using or will use IPoDWDM on routers: about half in 2010, and 70 percent by 2012," says Michael Howard, principal analyst and co-founder of Infonetics.

The firm interviewed for the study 20 major service providers that represent 45 percent of the world's telecom capex spend and 38 percent of worldwide telecom revenue. Infonetics also reports that while adoption of OTN routers is similar, it's expected to be slower in the short term.

Cisco's Capuano says that the main application for IPoDWDM solutions is in network backbones where routers connect together. He says a carrier might have a router with a short reach optical link to a cross-connect or SONET box. Out of that box another short reach wavelength might be going into a transponder, and out of the transponder the traffic goes to an add/drop mux. This scenario would involve five different interfaces, he says, which is pretty inefficient in terms of network cost and management. However, by bringing in IPoDWDM, he says, you integrate the transponder functionality into the router, so the router just spits out a wavelength.

Cisco had publicly announced 10 IPoDWDM customers as of late August, but Capuano says he wouldn't categorize this technology as being in widespread use. That said, he adds that those who are using IPoDWDM are deploying it broadly, and the technology is "crossing the chasm" toward becoming mainstream.

P-OTS

While IPoDWDM systems are seeing good traction, it is packet-optical transport systems that Infonetics believes will be the bedrock of future optical networks. So says Andrew Schmitt, the firm's directing analyst for optical.

There is some debate within the service provider community as to just what constitutes a P-OTS solution; however, many define it as the unification of the optical, circuit, and packet layers into one piece of optical hardware, according to Infonetics, which notes in a recent report that Fujitsu and Tellabs grew revenue in the P-OTS market segment based on continued shipments to Verizon and other customers.

Eisenach says Fujitsu's Flashwave 9500 is one of fastest-ramping products in the company's product history. Verizon and 12 to 15 other service providers use it and are ramping up the ROADM and connection-oriented Ethernet capabilities of it.

"I think as the systems evolve in the future they're going to evolve down two tracks," he says. "One will be packet optical networking platforms kind of in the metro area for gigE and lower services. And for gigE and above services, our view is it will probably get mapped into OTN payloads."

ROADMs and WSS

Indeed, as Eisenach mentions, ROADM capabilities are seeing good carrier uptake. So well, in fact, that Schmitt at Infonetics says: "In a tough year for the overall optical network hardware market, the WDM ROADM optical segment has been the bright light in a dim room, and wavelength selective switches are the key component used by this equipment. WSS consumption has exploded due to aggressive ROADM deployment by carriers such as Verizon, and we see no end to this trend."

Eisenach continues that an interesting, but just emerging, optical technology that's gaining notice is something called flex grid wavelength selective switching. He emphasizes that this technology is probably three to five years away, but a lot of papers are being presented on it at various optical events.

"Today, all the transport systems – ROADM systems and WSSs – are designed and built from scratch to either support 40-50gHz spaced channels, or 40-100gHz spaced channels, or 50gHz spacing," he says. "Every channel is very fixed. It's always 50gHz spacing and you get 80 or 88 channels out of your ROADM system; or it's 100gHz spacing and you get somewhere around 40 or 44 channels out of ROADM system.

"But, in reality, we don't really need 50gHz or 100gHz to transport all of these signals down a fiber," he says. "We could put 10gbps signals in as small as 25gHz spacing. [And] 40gbps signals are actually a pretty good fit for 50gHz-spaced systems. And 100gHz systems would actually be more optimized if they were on 100gHz channel spacing."

Flex grid WSS would allow channel spacing to be altered based on the particular requirements of the payload.

"That's never, ever been done before," says Eisenach. IT

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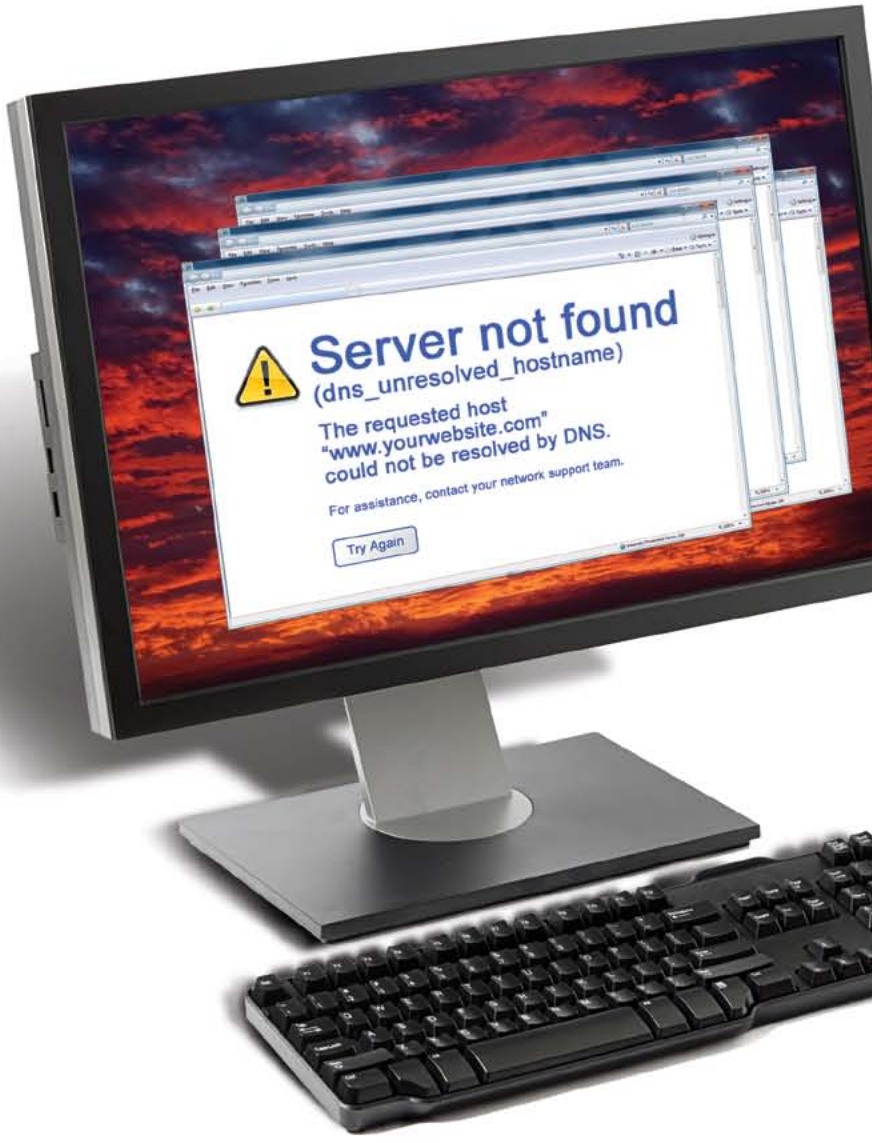

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By Paula Bernier

Network Health

Appliances Help Optimize Connections Between Toolsets, Switches

Meeting performance and security requirements on public and private networks is a formidable challenge that involves the use of specialized tools for network management, intrusion detection and like. But these tools often can outnumber the available ports on a switch, have ports that are otherwise mismatched to switch outputs, or adversely affect the performance on switches, says Kevin Jablonski, vice president of marketing and business development at Gigamon.

To allow for more efficient interfaces between switches and such tools, and to otherwise assist with configuration management and change order control on networks, Gigamon offers a trio of hardware appliances. These devices connect to either span ports or mirror ports on switches from companies like Brocade, Cisco or Juniper; replicate the traffic coming off of those ports; and then multicast that traffic – or some subset of it – to any performance management or security tool that needs to look at it.

This eliminates the problem of span port or mirror port contention, so network operators have an adequate number of ports to which they can connect threat vulnerability testing gear or application performance management solutions, for example. "We'll take two of those ports and make it look like 100 ports," says Jablonski.

He adds that with the growing number of 10gig connections used on today's networks, some network operators struggle with test and security toolsets that have single 1gig interfaces. Gigamon's appliances help network operators address that challenge by taking 10gig connections and filtering them down to 1gig, or doing load balancing and sending out 10 1gig streams.

While capacity on networks continues to grow, so do security threats. Typically when a security company like McAfee releases information about a new series of threats and how to address them, network operators have to look at and make adjustments to their Cisco or Juniper switches to mitigate the new viruses. Jablonski says that can involve a lengthy process and may have negative impacts on switch performance. However, because the Gigamon product already is connected to the span ports on the switch, he adds, it can supply the horsepower needed to dissect and filter the traffic as needed, offloading the processing that would otherwise have to be handled by the switch.

Gigamon's appliances, which also are referred to as data access switches, are in use in both corporate and carrier networks. On the carrier side, the devices are employed by such major companies as AT&T, Sprint, T-Mobile, Verizon and Vodafone for a range of applications in core, transport and distribution networks, at the application layer, and in both wireline and wireless networks.

Jablonski says this business has been a "hugely profitable" one for Gigamon, a boot-strapped company that became profitable in 2005, the same year it launched its first product. The organization, which did its first round of funding ($23 million) early this year, expects to exceed $50 million in revenues by the end of 2010.

The company's three appliances include the GigaVUE-212, which has two 10gigE and 12 1gigE ports; the GigaVUE-420, which delivers four 10gig ports and 20 1gigE ports; and the GigaVUE-2404, which offers 24 10gig ports and four 1gigE ports

"With that one, the sales trend is literally hockey-sticking right now," Jablonski says of the 2404.

Gigamon recently added to its appliances some new feature sets, which are available with the addition of GigaSMART blades. They allow for packet modification, so network operators can timestamp packets and read them within nanoseconds. The appliances also can now do packet slicing so the toolsets attached to them only have to look at the part of the flow that is of interest. The Gigamon technology also can mask packets to make sure passwords and other vital information are not seen by network engineers. And it can do port source labeling, so it's clear what port traffic is coming from. While the Gigamon solutions can do all of the above, one thing they don't – and won't – be doing is deep packet inspection, says Jablonski.

Gigamon's products are available through channel partners. That includes national entities such as resellers Accuvant, Fishnet, Foresight and Integralis. It's also looking to distribute through big names such as Ingram Micro and Tech Data. IT

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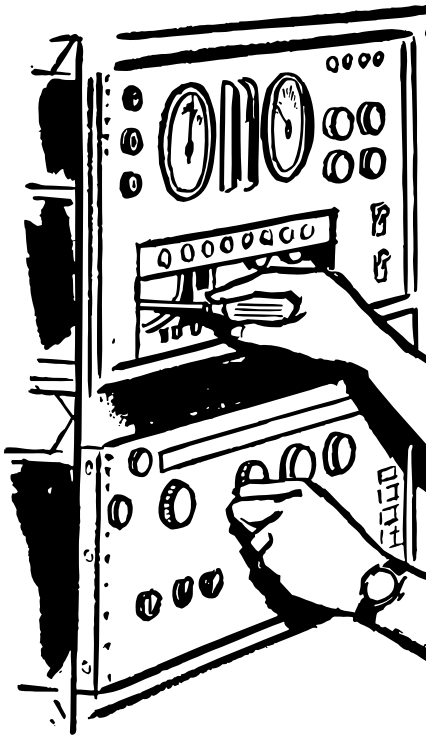
By Paula Bernier

New Paradigms

Cloud Computing, SaaS Services Alter Testing, OSS, BSS Requirements

The introduction of the cloud and SaaS-based services is not only changing the models for how service providers and software companies sell their wares – and how customers buy them – it's also altering requirements in the testing, billing and operational support system realms.



While the cloud enables network operators to more efficiently use and move their server resources, they cannot test in those scenarios unless they have a virtual instance of the test tool, says Ankur Chadda, senior product marketing manager with Spirent.

Traditionally, test tools have relied on a physical port and two endpoints to do the job, he says, but in a cloud scenario the endpoint is virtual and there's a software-based port. That's why Spirent offers a solution called Spirent TestCenter Virtual, which can be used to test data center and virtualized server performance, and such services as Web mail, ftp and SIP-based services.

Chunghwa Telecom, one of Asia's largest network operators, is among the companies using this Spirent solution. The telco has announced plans to launch four cloud computing centers aimed at developing and testing a wide range of services. And it's employing Spirent TestCenter Virtual for benchmarking data center and virtual server performance.

Dan Klimke, marketing manager for network analysis at Fluke, a company that provides tools that help network professionals deploy, monitor, analyze and troubleshoot enterprise networks, says that when network problems arise, it's not uncommon for there to be finger pointing between enterprise customers and their service providers. Now, with the cloud and the SaaS movement, that finger pointing is also happening on the application performance front. That means that it's even more essential that enterprise network staff have a firm handle on their own network performance and that they have a set of performance metrics to share with their service providers, he says. That way, if and when a service provider tries to deflect blame for a performance shortcoming on the network, the business is armed with the data to show the network health on the corporate network.

To help network administrators at enterprises collect and analyze such data, Fluke last month introduced a new software release for its EtherScope product, a portable analyzer for Ethernet networks. New with this release are the ProVision suite of tests and a network health audit capability.

ProVision allows enterprise and/or service provider technicians to monitor performance of the cloud remotely, looking at such parameters as jitter, latency, loss and throughput. The health audit feature, meanwhile, automates testing for technicians – whose understanding of networks is typically broad but may not be deep – so they can easily see where and when specific parameter thresholds have been exceeded, explains Eric Anderson, product manager EtherScope. It does that by providing an interface that displays the attributes and labels them as good, fair or poor.

Bob Machin, principal analyst of strategic marketing at Comptel, says he expects to see a big upswing in the supply of cloud services to enterprises and SMEs in 2011.

"OSS and BSS are critical to the success of cloud for telco," he adds. "The services are markedly different from communication services, but the functional requirements are very similar – to manage assets and resources, to handle customer orders, to assure quality of service, to charge and settle with partners and so on.

"We believe it is likely that telcos will dedicate new business units to cloud services – this is effectively a diversification into IT outsourcing, and a different kind of business – and it will make sense for the supporting systems to be similarly dedicated," he says.

John McCawley, CEO of Verecloud, notes that the TeleManagement Forum has expanded on its eTom work with a set of standards that help operationalize telecom. OSSJ and IPDRs are two examples of this TMF work, and have been widely adopted by service providers and vendors. But these things fall down when you get into non-traditional telecom services, he says. As a result, it's necessary to catalog and inventory services like SaaS offers so networks have the data necessary to provision, do service assurance and charge for these new offers.

A while back, the TMForum did a Catalyst project involving cataloging and inventory services for new things like SaaS. That effort involved BT, Qwest and a handful of other companies. But McCawley says the industry hasn't seen enough activity in the standardization space, and mentions that Verecloud is working to get deployments on this front on the ground.

He says Verecloud is developing a proof of concept with a tier 1 service provider that's doing a large LTE deployment. This company is looking for help in expanding its service portfolio beyond existing mobile services, and it wants to offer mobile cloud/mobile SaaS services similar to those seen today with iPhone. McCawley says the company tapped Verecloud to help because its solution is, in effect, "an app store for the cloud". The solution defines where applications exist and how they interoperate with the back office solutions at the service providers. IT

By Paula Bernier

Revisiting the Femtocell

Carriers Move to Commercial Deployments, Gear Prices Drop

Femtocells are succeeding where Wi-Fi based UMA solutions didn't. That's the word from Andy Tiller, vice president of marketing at ip.access.

For a lot of people the term FMC, or fixed/mobile convergence, brings to mind a cellular phone with voice-related Wi-Fi capabilities, Tiller says. In reality, however, he says that T-Mobile in the U.S. and Orange in France are the only service providers that allow voice calls to move between cellular and Wi-Fi networks. Meanwhile, 20 operators worldwide are committed to doing femtocell-based FMC to get better signals indoors and allow users to make free calls while they're in their own homes. Tiller says this is the way to go since femtocells give users a real 3G signal, so they don't require a special handset.

Among the companies that have adopted the femtocell model of FMC is AT&T, which a year ago last month introduced its service, which is based on a Cisco microcell employing ip.access technology. Sprint and Verizon, meanwhile, both have been using Samsung 2G femtocell technology and now are upgrading to 3G, he says.

ABI recently reported that at least a million femtocells are expected to ship by the end of 2010. This forecast reflects the fact that femtocell rollouts by operators have more than doubled in the last year. The forecast for 2015 is for more than 54 million femtocell shipments

"The critical factor for femtocell adoption will be the operators in North America and, to an even greater extent, in China," says ABI Research's Aditya Kaul, mobile networks practice director. "Chinese operators are still trying to form a view about the femtocell value proposition. In North America, the question is which operator will be most aggressive with femtocell rollouts. AT&T is already proactive, but it appears that Sprint and Verizon are gearing up for a second wave of femtocell deployments."

It is believed that the improved in-building wireless voice experience that femtocells deliver can help service providers retain customers, says Tiller. For example, it can allow a service provider to offer free in-home calling so customers can consider ditching their Vonage subscriptions to save a little money and in the process build loyalty for their own service package, Tiller says.

Once the femtocell is in the home, service providers also can leverage it to deliver additional services. For example, a parent can use the technology to receive an SMS when his or her child's cell phone enters the house and self registers with the system. Japanese cellular operators NTT DoCoMo and Softbank are already offering this kind of thing, Tiller says, but U.S. carriers want to get femtocells into the home before muddying the marketing waters by discussing value-added services like location-based stuff.

Femtocells also are moving into the business arena. Giving business users the ability to get PBX-like functionality on their cell phones could be a nice differentiator for a service provider – whether it's an incumbent telco, a cableco that's moving into the SMB space, or some other provider.

Another positive sign for the femtocell is the fact that pricing now has come down below $100. That's a "critical…psychological threshold" for the operators, according to ABI Research, which reports that lower pricing has enabled some operators, like AT&T, Softbank and Vodafone in Greece, to give away femtocells to their high value customers.

There are several femtocell suppliers in the market, including Airvana, AirWalk Communications, Cisco, ip.access, Samsung and Ubiquisys. But rumors have been circulating that Airvana may be exiting the 3G UMTS femtocell market. And, as reported in the March issue of NGN Magazine, a sister publication to INTERNET TELEPHONY, major suppliers like Ericsson and Motorola seemed to be distancing themselves from the technology as recently as this year.

At the time, one of the criticisms around femtocells was that they were too expensive and complex, particularly compared with Wi-Fi. Of course, prices typically drop as volumes increase, which seems to have been the case in this example.

According to Kaul, a total of 400,000 femtocells shipped last year, with service providers typically ordering tens or hundreds of the devices at a time for trials. Many of those trials have since concluded and some have been followed by actual commercial rollouts.

"Operators really are starting to put their weight behind it," Kaul says. IT

By Paula Bernier

Voxeo Announces SaaS-based Version of VoiceObjects

Remember the 1980s commercial catchphrase "You got your chocolate in my peanut butter...."? Well, the combination of Voxeo and VoiceObjects is your classic Reese's Peanut Butter Cup scenario.

After Voxeo got a taste of working alongside VoiceObjects, it decided to bring together the companies permanently – and then it got its SaaS in VoiceObjects' software development platform.

VoiceObjects is a software development platform used by large enterprises and service providers including Adobe, IKEA, and T-Mobile to develop, deploy, and manage self-service solutions for their customers efficiently. Organizations use VoiceObjects to create self-service applications like IVR, automated mobile Web applications and native iPhone applications that allow customers to do things like check their bank balances, order new services, or whatever. Self-service solutions powered by VoiceObjects intelligently use stored information about each customer including self-service interaction history, call center/CRM system history, and data from other back-end systems to provide high-quality customer experiences.

T-Mobile has employed VoiceObjects to deliver various self-service solutions in different languages to customers in 10 to 20 different areas of the world, says Jonathan Taylor, CEO of Voxeo. The value that the VoiceObjects solution brings to the table is simplifying the ability to enable self-service solutions that need to be tweaked for different languages, interfaces with various operational support systems, and various services and requirements, Taylor explains. With VoiceObjects, he adds, companies can turn what would otherwise be 100 different development efforts, for example, into one simple development project.

"For more than eight years VoiceObjects has delivered a greater than 2:1 improvement in self-service application development and maintenance costs," says Taylor. "Voxeo's new VoiceObjects On-Demand service delivers an equivalent reduction in self-service application deployment and management costs. With VoiceObjects On-Demand, Voxeo is giving its customers a significant reduction in deployment costs, unmatched solution reliability, and the ability to expand rapidly as requirements change."

Traditionally, VoiceObjects has been delivered within a licensed-based construct. But it's recently been expanded to include a SaaS version.

VoiceObjects initially approached Voxeo about its idea to expand to a SaaS model. The concept was for Voxeo to manage the VoiceObjects' SaaS service. But, ultimately, Voxeo decided such an offer would be compelling for its customers as well, so the two became one. That was a little less than a year ago. This August, the SaaS version of VoiceObjects was formally unveiled.

Taylor says the pricing model for the new solution is akin to a cell phone deal: with a two-year contract customers pay a monthly fee that includes a set number of minutes, and if they exceed that usage, they pay extra.

Of course, Voxeo has been in the SaaS game since 2000, before the term software as a service had even emerged. The company got its start by delivering solutions that made it easy for anyone to create voice applications, says Taylor, adding it was among the first to adopt VoiceXML.

Voxeo has more than 160,000 registered developers in its program. Companies are free to develop on the platform without charge and are only required to pay when they take the applications into production. IT

VoiceObjects On-Demand's Self-Service Platform Advantages

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5. Mission-critical infrastructure including multi-site redundancy, business continuity, and proven scalability
6. Direct access to Voxeo's worldwide hosted VoiceXML IVR platform, deployed in seven sites around the world
7. Direct access to Voxeo's speech recognition capabilities in 40 languages.
8. Direct access to other Voxeo features including encrypted call recording and SIP VoIP connectivity
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11:05am	Live Demo: Setting Up a Secure SIP Trunk
11:30am	The Service Provider Perspective
12:20pm	Telia: Lessons Learned from Across the Pond
1:00pm	**TOWN HALL MEETING: SIP, UC and Security**
2:00pm	The Need for an E-SBC
3:00pm	SIP Trunking: Deployment Considerations at the Enterprise Edge

Tuesday, October 5, 2010

Unified Communications Day

8:30am	Introduction to Unified Communications
10:00am	Case Study: SIP Trunking at the Core of Unified Comms and Mobile UC
11:00am	Completing the Convergence: Reliable Fax over your VoIP Network
12:00pm	UC: The Future for Service Providers
1:00pm	Hosted Unified Communications
2:30pm	Deploying SIP Trunks: Getting it Right the First Time
3:00pm	Enterprise-Centric UC

Wednesday, October 6, 2010

8:30am	How to Sell SIP
9:30am	SIP Trunk-UC Workshop for Service Providers
1:00pm	Deeper Dive: Ingate/Intertex Demos

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By Eric Moore

Subscriber-Based Intelligence

Fixing Wireless Coverage Gaps

Coverage gaps exist in metropolitan, suburban and urban communities in every wireless network. Research suggests that 20 percent of churn is caused by only 6 percent of the networks' cell sites. Although coverage gaps can be isolated, they continue to exist despite technical measures, standard procedures, and other failed initiatives.

Chaos theory applied to an understanding of wireless networks and human behavior can improve this scenario by identifying coverage holes with higher accuracy based on real network data.

Chaos theory is the field of studying the behavior of dynamic systems. Chaos means state of disorder. To be classified as chaos the following properties must be present: sensitivity to initial conditions, mixing of topology and density of periodic orbits.

In the wireless world, we see chaos each and every time a call is originated on a wireless network. The complex architecture tracks the call as it progresses through the network: the dialing number, dialed number, trunks used, cell sites and sectors used, duration of calls, handoffs, etc. What appears simple is, in fact, quite chaotic. All this data and much, much more are collected and stored within the systems managing the call process. Add to that the number of calls originated per day and then calculate the amount of data collected, and the volume of data is almost unimaginable.

To capitalize on subscriber-based intelligence, it becomes necessary to mine the terabytes of data collected from cell sites, switches, mobile measurement reports, operations support systems and system performance reports, developing correlations between all the collected data points.

Collected data can be processed through a series of chaos theory algorithms, which sort and compartmentalize the data based on the events that occurred during call. An example is processing data from a certain number of city blocks that experience 10,000 calls in one week. The data from each call is layered, noting the behavior of the calls, how the calls progressed, where they dropped, the routes people walked, the interaction of the network with the buildings (interference), call power levels, which network elements were involved in the call, and finally, the termination of the call.

The correlations appear during the layering of the calls. From the overlay you can see the correlations, which expose the areas of weak signals, interference locations, locations of dropped calls, cell sites related to the calls, complaints, and overall poor system performance – basically the coverage gaps in the wireless network. Output from tools utilizing this technology can be displayed geographically, with resolutions down to building levels, intersections, polygons and specific cell sites. Additional correlations can identify

gap size, cell breathing, capacity, and even prioritize the gaps using annualized revenue per unit or complaints, along with a host of other parameters, based on the purpose of the report.

Studying these correlations enables service providers to manage wireless network optimization cost effectively, using subscriber-based intelligence. Analyzing subscriber call data provides service providers with valuable information on usage patterns, demographics, call activities, locations, time of use, data usage, high complaint areas, good coverage, poor data throughput, and much more. This data allows service providers to not only target resolutions for gaps, but also to align their marketing strategies according to customers' calling patterns.

Once subscriber-based intelligence is analyzed, operators can improve their customers' experience by surgically targeting problem areas. Advanced technologies such as distributed antenna systems, picocells, and femtocells can provide up to 100mbs uploads, less than 5 millisecond latency, LTE guideline conformance, further enhancing the customers' quality of experience.

Applying this technology, coverage gaps can be detected with up to 95 percent accuracy. The business value of this capability is clear: When a service provider in the Middle East tested subscriber-based intelligence derived from using the chaos theory in one region, churn was reduced by .27 percent, equating to a $5.6 million annual savings. IT

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Can You Hear Me Now? Does it Really Matter?

By Erik Linask

Sprint already has launched 4G services, with Verizon and AT&T set to follow, meaning the current growth curve of the mobile broadband market is only going to intensify. In fact, not only is the number of mobile subscriptions set to grow to more than five billion before the end of the year, according to data from the ITU, but Morgan Stanley Technology Research suggests that within five years, Internet connectivity will be more prevalent on mobile devices than desktop PCs.

A recent survey of more than 3,000 mobile users by Oracle, "Opportunity Calling: The Future of Mobile Communications," shows clearly that voice is being overtaken by other communications features and capabilities – most obviously text messaging and email, but also entertainment applications, like taking photos, listening to music, watching video, social networking, and even financial transactions.

This supports the standing theory that the future for mobile operators really lies in applications and services for which providers have finally started to understand they need to open up their networks to provide third-party developers and content providers access to user data, allowing them to deliver more compelling services.

The trend has been coming for some time, but was certainly accelerated by the success of Apple's App Store and the volume of apps available to iPhone, iPod Touch, and iPad users.

Oracle's survey shows that the younger generations of users, in particular, are driving the demand for these applications. Ninety-six percent of all respondents say they use their phone as a communications device, but half of the Gen Y respondents say they use their phones as entertainment devices, and about one-third of respondents between the ages of 18 and 45 say their phones serve as mini-computers.

In addition, nearly six of ten respondents indicated a desire for purchasing capabilities via their mobile devices, as an alternative to cash or credit cards. Currently, only 22 percent are very comfortable with mobile purchasing, while 39 percent indicated a lack of comfort, providing a clear opportunity for mobile providers.

In addition to turning phones into electronic wallets, users expect that, within five years, their mobile devices will replace any number of other devices they use and carry on a regular basis. These include the usual suspects, like GPS devices, music players, and cameras (camera manufacturers beware), but also video recorders, e-readers, car keys, and televisions.

Again, there is an opportunity here for operators, but only if they are able to retain their customers, who are becoming less loyal to individual brands by the day. Countless pages have already been filled by prognostications of subscriber defection from AT&T should Verizon ever get the iPhone. In fact, 85 percent of respondents say reliability of call and data services is the most important criterion for defining satisfaction level (cost is a close second, at 81 percent).

Only about 50 percent say state of the art technology is among the key determinants, which may seem counterintuitive initially, but considering the differences between user groups and, specifically the fact that more than half of Gen Y respondents have downloaded a free app, and more than a quarter have paid for at least one, that number is likely to grow rapidly.

What it all means is that if operators are not able to meet subscriber demands for service quality and price – both of which will be required for high retention rates, particularly as 4G access grows and users will have access to similar data speeds and devices on multiple carriers – they will be opening the door for competitive providers.

Traditional carriers, in particular, could be in danger of losing market share, as 83 percent of respondents indicate a willingness to buy mobile services from non-telecom providers (Google, Sony, Apple, Facebook, and American Express top the list of choices).

Who will win the battle for the mobile consumer? Who knows. What is certain is the subscriber should be the big winner as non-traditional providers seek to become competitive and the big carriers look to retain market share.

As much success as Apple and AT&T have enjoyed since the launch of the iPhone, their success may ultimately be their downfall, as they have delivered a gift-wrapped model for success for the rest of the communications community, and conventional wisdom says its network is not able to compete with its largest competitor (and Sprint already has an edge in the 4G space, making it even more interesting to follow potential merger rumors with T-Mobile).

The winner will ultimately be the operator that is able to combine end user technology with the networks to deliver the applications and services that leverage the full capabilities of the latest generation of devices – a constantly moving target, but one which Oracle says its combination of software, hardware, and systems is uniquely designed to hit. IT

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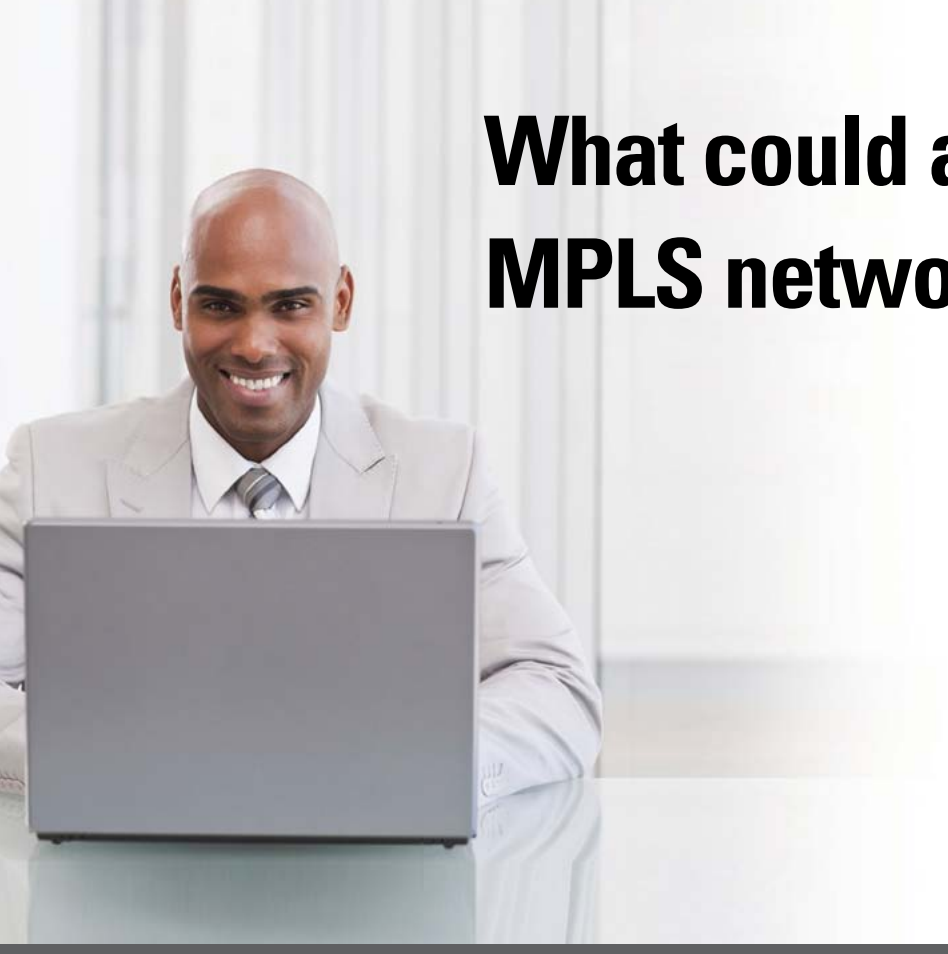

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