



INTERNET TELEPHONY®

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NOVEMBER 2008

The IP Communications Authority Since 1998™

Year in Review / Year Ahead



PAETEC

Where
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Meets
Customer Care

Telecom Expense Management
— Needed **More than Ever**

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The Vast World of Network Management

Pg. 50

Enterprise Mobility

Pg. 46

Arunas Chesonis, CEO of PAETEC

environmentally FRIENDLY OR Overpay-the-power-company friendly

Riddle: When is an IP PBX communications solution for the contact center “**GREEN?**”

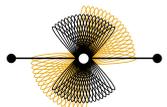
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Voice is Still King

Service Providers have been looking for “killer apps” for years. They must continually introduce tantalizing new offerings to remain competitive. They need to reduce churn and pay for such things as their glistening new infrastructures that support mobile communications, the platform for many of these new services. However, a new survey/study of 250 North American mobile device users by AppTrigger, Inc., conducted in August 2008, reveals that although 74 percent of users want advanced applications, they still prefer voice as their main communications media. Thus, the “killer” social networking application is still voice.

Device makers continue to expand the capabilities of the mobile handset while developers keep these devices populated with advanced applications; presenting service providers with new ARPU (Average Revenue Per User) tools. Still, the habit of picking up and speaking into a device appears to be a powerful one, a trait we picked up with the invention of the telephone itself more than 100 years ago. Half of the mobile surveyed said they use voicemail at least once a day (88 percent at least weekly). Ironically, a majority of these same users said they want their phones to have advanced features such as mobile email capabilities, but in fact only 22 percent of them use it at least daily, and 41 percent at least weekly. (Social text messaging fares a bit better, with 31 percent partaking of it at least daily and 59 percent using it at least weekly.)

The top three applications rated by the survey participants were voicemail (most important to 87 percent of those surveyed), text messaging (68 percent) and mobile cameras (67 percent). The three lowest were mobile video (27 percent), mobile music (34 percent) and games (39 percent). Therefore, although users are attracted to mobile devices by entertainment and trendy services (“adjacent needs”) they nevertheless have rock-solid “core needs” involving basic communication, information, access and connectivity. These must be predictable in their behavior. Replicating existing successful services in new network environments can upset users if the new service doesn't emulate the original service. This can be a bit tricky, since applications historically have been optimized for one particular network type.

The survey concludes that users are “trapped” in 2003-type offerings. They continue to rely mostly on good old Voice. The survey suggests that users are willing to adopt new services but these aren't being pushed out quickly enough to stimulate use. For example, in the past five years, 52 percent of respondents began text messaging more frequently, while 23 percent now use their phone for mobile email. AppTrigger itself believes that service providers are largely locked into proprietary applications suites and are “hindered by complex connectivity issues owed to the service providers' underlying infrastructure issues”. The mobile carrier market is thus falling short in leveraging their revenue-producing voice subscribers into new services opportunities.

“Since traditional voice is still the killer application with mobile users,” says AppTrigger's Patrick Fitzgerald (*News - Alert*), SVP of Global Sales and Marketing, “the carrier market's inability to maximize ARPU is the residual effect of a greater short coming. If operators were equipped to continue building ARPU on multiple network architectures, taking advantage of new and old, they would be able to leverage Voice as a feature to create new applications for incremental service revenue.”

To leverage existing voice services along with new next-gen applications, operators need clever network migration strategies that offer the benefits of advanced services on new and legacy networks.

AppTrigger's own solution to this is their Ignite Application Session Controller (ASC (*News - Alert*)). The ASC is AppTrigger's own invention; it's a versatile network element that handles media, signaling, call control, negotiating and managing connections between the application and services layer, and the underlying network layer, thus enabling service providers to generate the most revenue from existing services while making it easier to introduce new applications.

Whatever the migration strategy for providers, voice remains our primary form of communication. **IT**

Richard Grigonis is Executive Editor of TMC's (News - Alert) IP Communications Group.

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Navigating the Financial Crisis

Lately I've been flooded with questions on where the communications market stands in light of macroeconomic conditions. I do believe there is risk to all sectors of the global economy. But for us, the immediate question we must ask is — how do we benefit from such a scenario or, at best, how do we tread water so our sales, revenue and income does not decrease?

Most importantly, you must focus on areas which save your customers money and make them more productive. UC, telepresence, workforce automation, FMC and other technologies pay for themselves quickly. Also, SIP trunking is a natural in this market, since it saves your customers money and you get a recurring revenue source if you are a service provider or reseller. Mobile banking and WiMAX are on fire, and emerging markets and rural America are ripe for wireless broadband. Moreover, the continuing explosion in mobile devices and web browsing increases wireless services opportunities. Given the booming mobile application market, you need to have an application which works on the iPhone, RIM devices and eventually the Gphone — and don't forget about Windows Mobile or Nokia ([News - Alert](#)).

That said, here's my strategy for making sure you come out the other end of a slowing economy in a better position than you are in today:

Conserve Cash: Obvious, but how you do it is crucial. Don't cut your PR, marketing or R&D by more than a few percent. If you must cut a bit more, do it incrementally to R&D. That's because "feature wars" among vendors are less important than explaining to customers why they need to buy your products. Also, keep in mind that every company to which you sell now must engage in more internal scrutiny before they buy. You need to reinforce sales with *more marketing and sales efforts*. To survive in a slowing market you need to keep selling. If you're too heavily R&D-focused and don't do marketing and PR effectively, immediately hire an agency to help you.

Become More Productive: Operate at 100 percent efficiency. Cut off your dead wood. Do it today. Let the complainers and high maintenance people go. Believe me; it will work out better for you and for them.

Rally the Troops: Explain to them why they need to work smarter, harder and faster. Customer service is key. Don't lose customers because of bad service.

Hire PR/Marketing People: If you aren't strong in these areas, you have to hire an agency or top people who can help you market more effectively in slow times. Spending a marketing budget and spending it wisely are totally different things. A million dollar marketing budget can be blown stupidly with 10 newspaper ads or used much more effectively in focused media vehicles where your potential customers are actually looking for your products.

Market Analysis: Companies founded by engineers are typically the worst run from a marketing perspective. (Remember — I am an engineer myself so no insult intended — we aren't sugar coating here). Companies where an engineer runs marketing will likely have trouble selling products in a slowdown (or any other time for that matter). Keep your eyes open for acquisitions or weakness in the markets you serve. Keep your ear to the ground. One of these small companies about to go under may have good ideas for products but just no clue how to sell them. You may determine that developing a competitive product/service to one of these small companies makes sense.

Speed: It is better to be fast than right. After all, you can't be right every time but if you are fast, you can adjust and become right faster than the other guy.

Optimism: Be optimistic. If you are smart and run things well and your entire team works together to support you, your company can come out of any downturn stronger than it went in. Sure, be cautious — but in the end, business is cyclical. It just is. That is the nature of the beast. Work harder, faster and smarter and you will be rewarded.

Remember, things are still generally good in the communications and technology markets and if you follow these rules you should make it out the other side of any slowdown in better condition than you are in today. **IT**

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What's On TMCnet Right Now?

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Here's a list of several articles currently on our site.

Polycom Expands Partner Ecosystem

In keeping with a general industry trend of focusing on where their expertise lies, Polycom, Inc. announced the expansion of its Polycom ARENA ecosystem program to include voice, video, wireless, and application developer partners. These application partners will develop novel voice and video applications based on Polycom technology, thus tapping into an estimated \$10 billion Unified Communications (UC) market to enhance their customers' efficiencies and workflow. Polycom now offers three distinct levels of partnership in its ARENA program: gold, silver and platinum. There is also an associate level. The varying degrees of status are determined by the level of commitment to — and participation within — the Polycom ARENA program.

www.tmcnet.com/2524.1

Dump Your Cable and Satellite TV; Switch to Digital

When the Aztecs predicted that the world would end sometime in the 21st century it's almost conceivable that they may have meant the day the TVs died, at least in North America. On February 17, 2009, analog TVs will be kaput and in their places digital cable will reign. Cable companies have been scrambling to come up with ways to easily transfer customers who currently have analog but there have been some who are a bit hesitant, mostly because of the prices. In lieu of causing mass riots the government has distributed coupons in the amount of \$40 each to apply against a basic converter box which can be found at Best Buys or Circuit Cities. However, Retrovo, a Web site that helps consumers find, buy and use electronics to simplify and enhance people's digital lifestyle, has reported their new DTV Info Center, that will help people with analog TV signals convert to digital TV signals.

www.tmcnet.com/2525.1

Infusionsoft Announces Update to Automated Follow-Up Marketing Software

Infusionsoft, a company focused on marketing automation software for small businesses, has completed a comprehensive update to its Automated Follow-Up Marketing solution by providing customers with an improved user experience that is designed to focus on the needs of entrepreneurs and true small businesses. The company rolled out this update to its customer base of more than 8,000 small business users over the last month. The update was support with video and text guides through the Infusionsoft Fusebox to bring current users up to speed quickly. Major updates to the solution included a redesigned look and feel, as well as streamlined menus for faster navigation. These updates were all done with the goal of putting the most important tools at the users' fingertips.

www.tmcnet.com/2526.1

PicturePhone Offers Latest LifeSize HD Videoconferencing Products

PicturePhone, a value-added distributor of videoconferencing products and accessories, announced today that LifeSize (News - Alert) Communications' latest high-definition (HD) video communications products can now be purchased through its network of dealers and integrators. These products include LifeSize Room 200, a Full HD (1080p30/720p60) videoconferencing solution; LifeSize Conference 200, a standards-based 1080 telepresence system; and the all-new LifeSize Team 200, a feature-rich HD visual communications system for workgroups. Because it eliminates the time, cost and carbon emissions associated with travel, videoconferencing is becoming the more affordable way to conduct business. LifeSize HD conferencing products from PicturePhone provide excellent video and audio quality, unique flexibility and unmatched cost-value ratio, enabling business professionals to reap the many benefits of video communications. These next-generation LifeSize products are expected to raise the bar for current market leaders in the conferencing arena.

www.tmcnet.com/2527.1

TMC's Whitepapers of the Month

Visit TMCnet's Whitepaper Library (www.tmcnet.com/tmc/whitepapers), which provides a selection of in-depth information on relevant topics affecting the IP Communications industry. The library offers white papers, case studies, and other documents that are free to registered users.

So You Want To Build An Online Community

Building feedback-oriented, online customer communities provides organizations a better, more effective method of collecting feedback by engaging customers and listening to their natural dialogue. This white paper will walk you through the steps of defining objectives, recruiting and engaging members, responding to member feedback, and other guidelines for building and maintaining a healthy customer community.

www.tmcnet.com/2249.1

ENUM – Call Routing in an All IP World

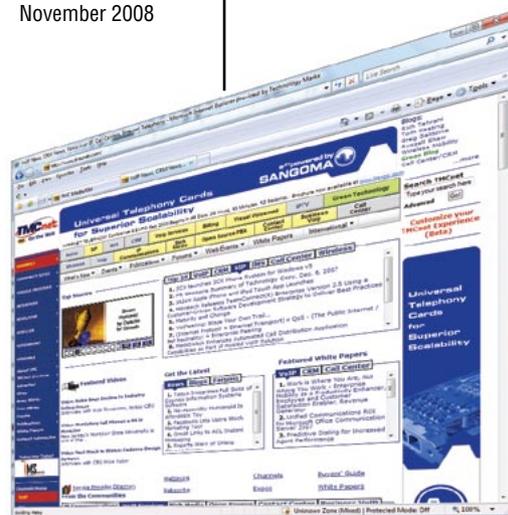
This paper provides an overview of industry trends and issues involving ENUM. Additionally, this document proposes the concept of a subscriber routing database (SRoB), to house all subscriber routing information - thus allowing operators to create a more efficient network.

www.tmcnet.com/2250.1

Selecting a Gateway for your Microsoft Office Communications Server 2007 Deployment

Microsoft Office Communications Server 2007 allows companies to integrate VoIP technology into existing telephony infrastructure, eliminating the need for expensive network overhauls and also extending the useful life of existing investments. The purpose of this white paper is to propose the criteria on which to select a SIP-based gateway appliance to connect Microsoft Office Communications Server 2007 with legacy TDM-based equipment. Topics addressed include: deployment scenarios; lowering the total cost of ownership; ease of use; protocol support; and the benefits of a hybrid gateway.

www.tmcnet.com/2072.1



This Month's Featured Channels

Fax Over IP

<http://www.tmcnet.com/channels/fax-over-ip/>

Hosted VoIP

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By: Brough Turner



Freenum – Dealing with PSTN Realities

Freenum ([News - Alert](#)) is poised to revolutionize VoIP traffic exchange and yet few have heard of it. Let me explain.

Most of the world still uses the PSTN and, even when calls go over VoIP, the endpoints are conventional telephones with 12-key dial pads. Don't expect this to change. Most of the world's phones are mobile handsets. Globally we're adding hundreds of millions of new mobile subscribers each year and, with upgrades and replacements, there are more than a billion new handsets sold each year — almost all with 12-key dial pads.

So we have a basic conflict. The SIP community envisions SIP addresses that look like email addresses, e.g. `rbt@xyz.com`. But you can't type these addresses on most phones.

Meanwhile we're wasting time and money. Suppose my company has an IP-PBX ([News - Alert](#)) and your company has an IP-PBX. We ought to be able to exchange voice traffic much as we exchange email traffic. Instead we call through the PSTN to an auto-attendant which connects us to an extension at the other company.

ENUM might be a solution. ENUM solves the keypad problem by using regular PSTN telephone numbers. There's just one catch.

PSTN numbers are tightly controlled. They're defined by the ITU (in recommendation E.164) which assigns country codes to national governments. National governments control number assignments within their countries. Number blocks go to the local fixed-line monopoly, to mobile operators and perhaps to competitive carriers. It's not possible to assign yourself a number. You have to purchase services from a carrier.

Freenum.org has a better answer — ISN (ITAD Subscriber Numbers). This is a free numbering system, delivered via DNS and compatible with SIP. You obtain an ITAD (Internet Telephony ([News - Alert](#)) Administrative Domain) number from IANA (the Internet Assigned Numbers Authority). Then you concatenate local extension numbers with your ITAD, separating the two with an asterisk. For example, subscriber 21234 in ITAD 270 would have ISN: 21234*270. ITADs were defined in RFC 3219, Telephony Routing over IP (TRIP), and ISN trials began in 2006, sponsored by MIT, Internet2, Packet Clearing House and Tello. While ISNs remain in "trial," more than 200 organizations are participating and what started with just a few US-based Internet2 institutions is now global and has significant commercial participation

(companies like Nortel, Nokia, Comcast ([News - Alert](#)), and Apple have acquired ITADs).

Although few have heard of them, ISNs appear poised to overtake ENUM and become the standard for VoIP calling between organizations. Expect to hear a lot more over the next 24 months. **IT**

Brough Turner ([News - Alert](#)) is Senior VP of Technology, CTO and Co-Founder of NMS Communications (www.nmscommunications.com).



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By: Don Witt



The Big Squeeze “As Margins Shrink”

The Channel is evolving fast and margins are disappearing just as fast. Before you select products to promote to your customers, investigate the vendor, product, channel and pricing strategy to make sure the margins will be there in the future and for the “BIG” opportunities.

Check out the Vendor.

Over the last couple of years, there have been VoIP vendors popping up like crazy. Some have used the open source design and are just offering product at lower price. This holds true for boards, ATAs and phones. If the vendor is based outside the United States, it is very important that they have local offices and local support. If they have only been in business a few years, be suspicious. A good sanity check is to check in with the engineers at a technology site that uses the component you are investigating. They will generally provide the pros and cons of the various products and vendors.

Look for Quality in products

One will find that a well thought out product line will have a consistent architecture. The boards will have a common, easy-to-use API and tools. The design will use the latest chip technology with some vendor specific chips. The performance of the board will meet or exceed the performance of the competition. A five year warranty will give you an idea of the vendor’s confidence in the technology. A lifetime warranty will give your customers the confidence that you and the vendor stand behind the product.

What is the vendors channel strategy?

If the vendor has one channel and pricing strategy for Media Service Providers (MSP) and another for resellers, there is a good chance that the margins will not be maintained and you will lose some deals due to cross channel conflict. Make sure that the vendor has a very well-defined channel. If the vendor sells direct, be very careful of the

Vendor Channel Chart

Distribution	Resellers	Direct	Score
Yes	No	No	High
Yes	Yes	No	Medium
Yes	Yes	Yes	Low
Yes	No	Yes	Low
No	Yes	No	High
No	Yes	Yes	Medium
No	No	Yes	Low

long-term effects. They may sell to you until the big opportunity comes along and then take it direct. If a vendor sells through distribution, they should have several well-established distributors you can purchase from in different parts of the country. If they sell through resellers only, then you should expect to receive leads on a regular basis.

If the vendor’s channel is not well-defined it will have an effect on pricing. Buyers will figure out how to work the channel and get the best price reducing the margin.

What is the vendor’s pricing Strategy?

If the vendor prices product by volume, the vendor has no channel strategy. They may say that Distributors and Resellers have different volume pricing. Unfortunately, the vendor will sell to anyone as long as the customer will be able to order a specified quantity and pay for the product. For a strong channel strategy, the vendor will have distribution pricing and suggested reseller prices. They will require that the distributors only sell to resellers. Distributors will set their own prices to their resellers.

On-Line Merchant Stores

If the vendor’s products are sold through online merchant stores, there is a very good chance that the margins are being squeezed hard. For example, if the online merchant can meet a vendor’s volume requirements, he will take the higher discounts and reduce his online price to help drive more business to his store. While this strategy may be good for the online merchant, it plays hell with the reseller that is on the street selling the VoIP product to the end user and finds out that the end user he sold bought the product from the online store.

In an effort to counteract this tactic, some vendors have implemented a Minimum Advertised Price (MAP) for all online stores. This tends to help, but customers know to call the store to get a quote and a better price. The vendors themselves actually reduce your margin with the MAP pricing. A MAP price should only be about 5 percent below the suggested list price. Some vendors set the MAP pricing at 15 percent below suggested list price. If you receive a 25 percent to 35 percent discount, the vendor just gave away 42 percent to 60 percent of your margin. I would suggest having a serious talk with the vendor or start looking for a new vendor.

If you want to make money selling VoIP hardware and software, make sure the vendor is in it for the long haul, insure they have quality products, and make sure they are committed to a solid channel strategy. **IT**

Don Witt is President of Cylogistics (www.cylogistics.com).

By: Mike Sheridan



Is My UC Rollout Working? Structured Reporting Can Offer Answers

Have you ever had a day like this? Yesterday I was really busy meeting with people, all day. It was non-stop. I must have answered a hundred emails, tapped out dozens of IMs, and taken

calls with employees, partners, management, and individuals outside the company, too. Barely a moment to catch my breath. But then, at the end of the day, I was left wondering — *What did I actually accomplish? Who did I help?*

The potential of unified communications (UC) is not just to have people answer questions, but to satisfy information needs — not just connecting people, but connecting them with a *purpose*. And while it may feel too ambitious to know if all our daily interactions are useful and efficient, this is exactly the kind of objective that contact centers have been achieving successfully for years.

The potential of unified communications (UC) is not just to have people answer questions, but to satisfy information needs — not just connecting people, but connecting them with a purpose.

As you've seen in previous columns, it's my view that the contact center has a lot to teach the rest of the enterprise about bringing communications and interactions into alignment with corporate goals. For example, a contact center agent might field as many as one hundred calls, emails and chats a day from customers looking for answers. In this case, if the corporate goal is excellent customer service, these interactions should align with that goal, and how companies measure that success is determined by a specific set of metrics.

Quality monitoring, recording, and performance management tools are all used in the contact center to measure and pull information from interactions. Metrics and results are transformed into forecasts, schedules, analyzed calls, summarized operational statistics, Key Performance Indicators (KPIs), alerts and trend analysis information.

Taking these ideas and applying them in the enterprise—pulling and synchronizing quality data from applications and voice and data channels— might really give insight into whether or not UC interactions are efficient and timely. Your company has many resident experts — knowledge workers assigned to share their expertise with others to

get a certain job done. When these experts are successfully connected with other employees, you expect those interactions to be professional and timely, but that's typically not tracked in today's enterprise environment.

For example, there could be a situation where a software salesperson is writing up a proposal for a prospect, who needs to speak to someone in engineering or the architecture group to make sure they've configured the client's system properly. It could take days for someone to respond to an email or they could even ignore an IM. Wouldn't an organization be really interested in how satisfied the sales teams are with the engineering team's responsiveness and thoroughness when it comes to answering questions?

KPIs that can measure employee productivity and overall satisfaction with the transaction have the potential to help answer these questions and drive behavior that will ensure the company stays on goal. A company could apply these metrics to calls between employees or between experts and customers to promote winning behavior.

With recording, monitoring, and measuring interactions between employees, managers could do root cause analysis, teach best practices, and improve interactions internally and externally. By integrating this aggregated knowledge of skill gaps and expectations, along with near-real-time reports of actual performance compared to goals, these tools can provide a way to use presence to align the enterprise and business objectives.

Additionally, for the more unstructured interactions that occur throughout the enterprise, survey tools and speech analytics would ensure that your communications are hitting the mark. For example, if you're an HR person who needs to answer compensation questions, employees might be asked to rate how well you satisfied their queries on a scale from 1 to 10. This is the equivalent of a 360-degree performance review, with a broad cross-section of employees and customers providing the feedback. These surveys can become a transformational tool when aligned with compensation.

Managing a UC strategy to connect experts, employees and customers for optimal business results can be tough. By setting expectations and providing tools for measuring feedback, companies have the opportunity to drive behavior that will help them better meet their ultimate business goals. These tools can also make the entire process much more reproducible, while driving efficiencies.

With the right metrics, we can have assurance that all our busy days are really accomplishing something — not just more communication, but more *useful* communication. **IT**

Mike Sheridan is Senior Vice President, Strategy and Marketing of Aspect Software, Inc., the world's largest company solely focused on unified communications for the contact center.

By: Michael Stanford



Can VoIP Sound Better than POTS?

Start pulling on this thread and you unravel some of the most controversial issues in telecom today. First, there is no question that theoretically VoIP can sound better than POTS because you can use wideband codecs (what Polycom ([News - Alert](#)) calls HD Audio). On the other hand, when audio packets are delayed or lost, the call quality deteriorates radically. Circuit switched calls almost never suffer from delay or loss, but IP networks are prone to both.

In wired IP networks, packet loss and delay are mainly caused by congestion. The numerous ways to avoid delay and loss fall into four main categories: over-provisioning, packet re-routing, packet prioritization and bandwidth reservation.

All routers are congested at times. If congestion occurs too frequently, the router's owner increases its bandwidth. Over-provisioning provides enough headroom that a link or router is congested only very rarely. For IP networks over-provisioning has historically been the cheapest way to reduce packet loss and delay.

VoIP service providers are able to monitor their networks in real-time, and to re-route traffic around congested routers. This technique doesn't work on the subscriber's access link because only large organizations have redundant Internet access.

The access link is a bandwidth bottleneck between the LAN and the WAN. Since some types of data traffic can easily saturate the access

link (BitTorrent, for example), VoIP quality can plummet. This can be fixed by packet prioritization, also known as traffic shaping.

The main protocol associated with packet prioritization on IP networks is Diffserv. The idea here is to tag packets with a priority, and for the routers to prioritize them accordingly. The problem with this is that on the Internet packets traverse networks owned by different people, and they are reluctant to trust priorities assigned by third parties, so the tags are normally ignored, and packets prioritized on other criteria.

What about the controversies I mentioned earlier? There are two. First, a torrent-based company called Vuze has complained to the FCC ([News - Alert](#)) about over-aggressive traffic shaping practices by Comcast and others, since they violate the principle of network neutrality.

A second related controversy concerns the bandwidth reservation features of IMS (IP Multimedia Subsystem ([News - Alert](#))), the omnibus architecture intended to provide the services of the future to cellular and wireline networks. There isn't room here to describe the controversy, but you will find a good explanation if you Google "waclawsky ims critique."

The bottom line is that VoIP can vastly outperform circuit switched call quality, using only best-efforts techniques. **IT**

Michael Stanford ([News - Alert](#)) has been an entrepreneur and strategist in Voice-over-IP for over a decade.

Ask the Mobile VoIP Expert

By: Mark Hewitt



Fourth Generation Networks

For those of you keeping score, you might remember that, earlier this year, I predicted the adoption of 4G standards which would produce 100 Megabit per second (Mbps) mobile wireless standards. Well it appears that AT&T and Verizon have settled on LTE (Long Term Evolution), which is a "big deal" for Verizon ([News - Alert](#)) and its CDMA network in the U.S. market.

For the evolving Voice and IP mobile networks, this means the acceptance of a common set of devices that may operate across carrier networks. (I don't know about you, but I'm certainly tired of buying phones here in the U.S. that only work a single network). LTE ([News - Alert](#)) signals the beginning of 4G networks with device portability.

Over sixty carriers worldwide have now subscribed to the emerging LTE standard, which should be ratified in December 2008. Check out the September 5, 2008 feature by Jai C.S. at <http://Internetcommunications.tmcnet.com/topics/broadband-mobile/articles/38976-edge-hspa-lte-continue-lead-innovate-mobile-broadband.htm>.

Sprint ([News - Alert](#)) may continue to be the exception, as they are today, with the Sprint network being unique in requiring handset makers to produce devices that are restricted to the Sprint network. This is why you can't seem to find a satisfactory variety of handsets that work on Sprint's network.

4G, or Fourth Generation, wireless networks — unlike current 3G networks — will support direct IP clients that allow operators to create a true Mobile VoIP offering. A clear illustration of how this might work is evident in the Apple iPhone. AT&T and Apple will not allow applications that push VoIP over the 3G network; instead, a true VoIP client is only allowed when WiFi ([News - Alert](#)) is available.

My prediction is that we will see more handsets built around LTE networks than WiMAX technologies within the next several years. WiMAX may support some special services; however the risk and expense of handset development is far greater for WiMAX than will be the case for LTE. **IT**

By: Tony Rybczynski



Accelerating Business through Unified Communications

How many cases do you know of, in which a patient in a hospital knows they will be discharged on a particular day, as do the ward nursing staff, but the actual discharge takes place only after hours of sitting around and waiting? The problem is that the doctors required to authorize the discharge are often hard to reach.

This has changed for Orlando Regional Healthcare, which has deployed a communications-enabled Patient Discharge application that has shortened discharge times by 4 hours. This is an excellent example of how accelerating communications can improve costs, quality of care, patient safety and efficiency.

You don't work in healthcare?

How about faster transaction completion, resulting in increased transaction volume and/or reduced transaction costs, primarily in the areas of sales support, manufacturing, and delivery/logistics? Or improved support for corporate tasks, by embedding communications within applications required for corporate functions, such as expediting approvals? Or automated notification, for example, to reduce inventory and expedite shortfall handling? Or shortened sales cycles and increased revenues by providing better connectivity to field/sales folks?

Communications enabling business processes can accelerate 'time to X' — time to decision, to revenue, to service, to support, to product, in 2 ways. Users should be able initiate UC sessions directly from the business applications they use; and business processes should be able to be accelerated by

directly initiating UC sessions (e.g. notifications) without human intervention (e.g. triggered by some event).

There are three important principles you can follow:

Open Ecosystems: Communications-enabled applications can only become mainstream if they can leverage a large ecosystem of software developers and use well-established software development tools and frameworks. The answer therefore lies in making communications services available to business applications through Web Services and Service-oriented Architecture (SOA). SOA is an architectural style designed to add flexibility to application development.

Network and Vendor-Agnostic: The capabilities made available to applications (e.g. check presence, notify, locate, call, bandwidth request) must be independent of the underlying communications technologies and the vendors involved. Vertically-integrated single vendor network-centric approaches just don't wash, as they will present bottlenecks to application innovation.

Cross-Domain: In many cases, the value to the business will be greatest if communications enablement can cross domains, defined traditionally as carrier-enterprise, wired-wireless, public-private, and enterprise-partner.

Accelerating the business through SOA-enabled, open, cross-domain communications-enabled applications will deliver increased business agility, accuracy, service velocity and business productivity. **IT**

Tony Rybczynski (News - Alert) is Director of Strategic Enterprise Technologies at Nortel.

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IP-01

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IP-04	WAN	4xFXO/FXS	MMC
IP-08	WAN/LAN	8xFXO/FXS	MMC,USB
IP-BRI	WAN	4xBRI	MMC,EC module(option)

IP-02



IP-04



IP-08



IP-BRI



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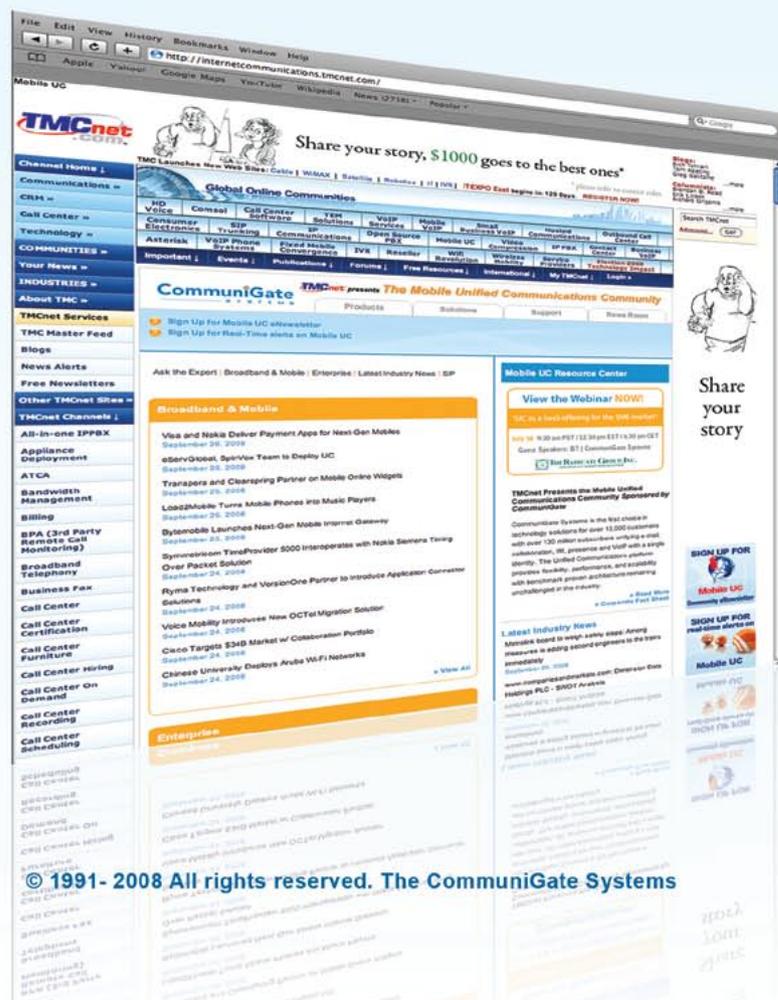
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By: Jeff Hudgins



Video Enhanced Telephony — Part II

In last month's issue we explored video enhanced telephony and how new IMS services can be quickly delivered on standards such as 3GPP/3GPP2. Now let's focus our attention on some specific examples of products that are taking a lead role in this market.

Recently Dialogic (www.dialogic.com) introduced the latest technology in their growing line of multi-media product portfolio. The Dialogic® Multimedia Kit for PCIe (MMK) expands the scope of Dialogic's multimedia product offerings into the PCI-Express (PCIe) form factor, enabling customers to build advanced video telephony solutions such as video portals, ring back tones, multimedia conferencing, and unified messaging over 3G wireless and IP networks using standard protocols for session and media control. The MMK can be the basis for advanced video telephony servers and gateways with features such as video transcoding, image manipulation, video conferencing and text overlay, taking advantage of the price/performance benefits offered by the Dialogic® Host Media Processing (HMP) Software technology. The MMK will support 120 ports per RMS and 250 ports of basic video without transcoding. The board has a range of network interfaces such as IP with SIP-based connection control, TDM using 1x, 2x, 4xE1, 8x PCIe HIBs, and 3G-324M over E1 or IP.

The product has a standard PCI-E interface and can easily be designed into a server to deliver a Media server (Converged, IP)

or Video gateway with voice and video transcoding for connecting to IP endpoints and streaming servers. See: www.dialogic.com/training/mmpmmkinstallandconfig.htm

Developer Final Score

MMK for PCIe supports the Media Server Markup Language (MSML) media control interface for building distributed solutions, allowing applications to run on the same server as MMK or on a separate application server. This allows a developer to rapidly create new services that run on remote application servers in a distributed environment. Developers will need to learn a new API and usage model, but the breadth of new features that the MMK brings will provide a foundation for application developers in the Video enhanced telephony space. **IT**



Jeff Hudgins is VP of Product Management at NEI, Inc. Visit the company online at www.NEI.com.



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Introducing the Asterisk Global Online Community

Open Source Telephony is taking the world by storm.

The Asterisk Global Online Community — sponsored by Digium and powered by TMCnet — is designed to serve as the information hub for the exciting world of Open Source Telephony based on Asterisk.

This online community features the latest information concerning Asterisk and Open Source Telephony and how it applies to enterprise communications.

The community showcases daily content updates highlighting:

- * Feature stories
- * Breaking news
- * Whitepapers
- * Case studies
- * Tutorials
- * Asterisk Developer Blog

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

<http://asterisk.tmcnet.com>



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The TMCnet logo consists of the letters "TMC" in a large, bold, blue font, followed by "net" in a smaller, red font. A red swoosh underline is positioned beneath the "TMC" part of the logo.

By: Hunter Newby



VoIP Peering – Get It Straight Before You Get It in Order

On April 9, 2008, the FCC released an order, in an obscure enforcement bureau matter, declaring that a provider's VoIP peering service was a "telecommunications service" subject to Title II regulation.

In the order, *In the Matter of Compass Global Inc., the Commission used its rationale of the 2004 AT&T IP-in-the-Middle*. The FCC says, "Compass Global's offering of VoIP peering to other wholesale VoIP providers is a 'telecommunications service'." The "IP-in-the-Middle" three prong test originated from the 1998 *Stevens Report* which tentatively concluded that "phone-to-phone" IP service was a "telecommunications service" if providers meet the following:

- It holds itself out as providing voice telephony or facsimile transmission service
- It does not require the customer to use CPE different from that CPE necessary to place an ordinary touch-tone call (or facsimile transmission) over the public switched telephone network
- It allows the customer to call telephone numbers assigned in accordance with the North American Numbering Plan, and associated international agreements; and
- It transmits customer information without net change in form or content.

VoIP Peering has finally made a large enough impact to begin to fall under government regulation, but enthusiasm must be tempered here a bit.

Generally speaking, rules are a good thing. But too many rules, outdated rules that don't apply, or just plain old bad rules are impediments to a smoothly operating society. In this case, the FCC has decided to rule and issue its own interpretation as an order deeming VoIP Peering a telecommunications service subject to regulation. Just as enthusiasm must be tempered, so too must the desire to rule on things not fully understood.

Apparently the FCC does not know that:

- VoIP Peering is inherent in all VoIP communications
- VoIP Peering is a marketing term for a VoIP network and also transport service
- IP Audio Bridging could be the new industry term and pseudo service for VoIP Peering
- Transport is not Voice

A potential concern is that a blanket order covering anything known as VoIP Peering would be also be known as a telecommunications service. How would this apply to enterprise "A" establishing a SIP trunk to enterprise "B" (either over the public Internet, a private 3rd party IP network, or directly between their IP gateways) and passing VoIP traffic? That is in fact a form of VoIP Peering. Are they providing each other a service? They are presumably not billing each other for the traffic, so then how does FCC regulation play a role? The present and future of VoIP Peering is not limited to "service" providers, unlike the notion of telecommunications companies in the future of VoIP. **IT**

Hunter Newby is the Chief Strategy Officer and a Director of a Special Purpose Acquisition Corporation focused on the communications industry.

Enterprise View

By: Max Schroeder



Why ITEXPO — An LA Summary (A Reseller Educational Series)

TMC follows up each ITEXPO ([News - Alert](#)) Conference with feedback forms. The surveys determine the level of satisfaction of the event attendees and exhibitors. ITEXPO West in LA scored very high in all categories. The next ITEXPO is scheduled for February 2-4, 2009, at the Miami Beach Convention Center in Florida. Therefore, this is a good time for me to remind resellers the value of attending ITEXPO and review the top reseller selections from Los Angeles.

The biggest reason to attend ITEXPO is *knowledge*. Fortunately, I moderated one of the most popular reseller sessions at ITEXPO LA-Reseller Live. The session encompassed two segments 1) How to Sell Into This Difficult Market 2) Best Business Practices for Resellers. Although the sessions continued for over 2 hours, the audience stayed until we had to vacate the room to attend the Keynote presentation. Post-session feedback was excellent. Reseller Live was also a top session at ITEXPO Miami 2008 and returns for Miami 2009. An added bonus is this session is free for resellers. Bob Nicols ([News - Alert](#)), of AXIOM SSP and Jeanne Leckie of The Leckie Group will return to spin their magic in Miami so register NOW. Go to www.tmcnet.com/voip/conference/ for more information.

Another top reseller selection was the SIPconnect Compliance Workshop (a BIG hit) held in conjunction with the Ingate SIP Trunking Workshop. It should not be a mystery why these sessions were so

popular with resellers since SIP is so critical to the VoIP, FoIP and converged IP marketplace. The SIP Forum (www.sipforum.org) had an exhibit booth and also conducted their Board of Directors meeting in LA the same week so the group was well represented.

SIP Forum's mission is to advance the adoption of products and services based on SIP and to function as a meeting place for organizations involved in SIP solutions. The Forum offers a choice of memberships. The Full Membership is fee-based and offers the most benefits. The Participant Membership and the new Academic/Institutional membership category (www.sipforum.org/content/view/316/255/) are free to individuals and academic institutions but members are expected to participate. Actually, participating in the SIPForum-discussion group is good starting point for new members and an excellent method for seeking advice from other members on SIP issues. The technical working groups are where the rubber really meets the road in terms of moving the interoperability needle so there is something for every level of SIP expertise.

In today's challenging business environment, resellers need every competitive advantage possible. Certainly honing one's selling skills and adding to one's technical knowledge are paramount to success. **IT**

Max Schroeder ([News - Alert](#)) is the Senior Vice President of FaxCore, Inc. (www.faxcore.com)



Introducing the VoIP Phone Systems Global Online Community

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

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By: Rich Tehrani & Max Schroeder



Selling Into a Challenging Market

There are many reasons why your company should actively participate in the Disaster Planning

Communications Forum (DPCF) but the special TMC promotions at ITEXPO should be high on your list. As a case in point, let's look at comments from a DPCF member company, IgeaCare USA, on their participation at ITEXPO West in Los Angeles this past September.

IgeaCare USA displayed their suite of health care and disaster recovery solutions in the DPCF Pavilion. "Conference participants focused on IgeaCare's strong health care application portfolio, most notably the eResponse solution for addressing emergency response," said Craig Steen, President. "Another key point at this event is that the interest has expanded over the years from pure VoIP to include areas like vertical applications and other converged IP solutions. We are excited to see reseller's confidence in the growing trends and need for further deployment solutions in health care sector."

Resellers interested in the healthcare and business continuity segment will be heartened by comments from booth staff such as, "Attendees like to see vertical applications such as healthcare/disaster planning as many understand VoIP already and are seeking knowledge on additional market opportunities. Additionally, they want more information about the forum and related applications". Attendees also expressed the benefit of learning more about health

care technology as they see it as a growth market even in this challenging economy. If you are interested in becoming an IgeaCare reseller, you can learn more about IgeaCare at www.igeacare.com.

There are many reasons why your company should actively participate in the DPCF but the most important reason is to help your company and/or your customers focus on business continuity, disaster avoidance and compliance with regulatory issues like HIPAA. Fortunately, it is easy and cost-free to join. In addition, TMC's active support of this initiative means there are plenty of TMC marketing incentives such as the DPCF Pavilion to further persuade your company to participate.

1. Visit the DPCF site and begin your research www.tmcnet.com/disaster-planning/Default.aspx.
2. Begin your participation in the DPCF by completing a member application. Note the benefits particularly if you are a reseller or vendor that would like to participate in ITEXPO East 2009 (www.tmcnet.com/voip/conference/east-09/).
3. Act NOW as February is approaching quickly. **IT**

Max Schroeder is the Senior Vice President of FaxCore, Inc. (www.faxcore.com) and Managing Director of the DPCF.

Rich Tehrani (News - Alert) is the President and Group Editor-in-Chief at TMC and is Conference Chairman of Internet Telephony Conference & EXPO.

Nitty Gritty

By: Richard "Zippy" Grigonis



Kontron's CP6016 CompactPCI CPU Board

Proving that CompactPCI computing platforms haven't been totally overshadowed by AdvancedTCA and MicroTCA, Kontron (www.kontron.com) has introduced the powerful CP6016 processor board in a 6U high (10.5-inch) CompactPCI form factor.

Based on the 45nm Intel (News - Alert) Core2 Duo processor T9400, Kontron's new CompactPCI board has up to 25 percent faster core speeds (2.53 GHz), 50 per cent more L2 cache (6MB, to help support bandwidth-intensive image processing, multimedia and test and measurement apps) and a 60 per cent faster FSB (1,066 MHz) than the 65nm Intel Core2 Duo processor T7500-based board. It can also hold up to 16GB of registered DDR2 ECC SO-RDIMM memory, and can communicate with other onboard hardware components via an Intelligent Platform Management Interface (IPMI).

Kontron's new board even has an onboard Trusted Platform Module (TPM 1.2) for data and software protection, it's unique key generator making the board suitable for sensitive and security-related telecom and datacom applications.

The CP6016 sports various interfaces: six SATA ports with RAID 0/1/5 functionality for data protection, seven USB 2.0 ports, two RS232 ports, VGA and High Definition Audio (HDA) interfaces

as well as five Gigabit Ethernet interfaces connected via a PCI Express switch fabric.

One of the six SATA ports can be used for an onboard 63.5mm SATA hard drive. An XMC socket (via PCI Express 8) and PMC socket for mezzanine cards allow room for any customized expansions. Also, there's an onboard USB Flash option.

The CP6016 runs with Linux, Microsoft Windows XP, XP embedded or Windows Server 2003. Kontron's packages support all onboard hardware devices, as such expected features as Hotswap, IPMI, power and thermal management, enabling integration among scalable multi-CPU systems. **IT**



Richard "Zippy" Grigonis is Executive Editor of TMC's IP Communications Group.

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By: Steven Johnson



SIP Trunk Solutions for Service Providers

There are two common ways that Internet Telephony Service Providers (ITSPs) connect customers to a SIP trunk: via a managed service where the service provider controls the connection from their Point of Presence to the enterprise edge, and directly over the public Internet. Both have enormous benefits; both require special attention to ensure security and interoperability.

Fortunately most of these issues can be resolved with the use of an enterprise Session Border Controller (E-SBC), which provides important security features and enables advanced SIP capabilities.

Common issues include the following:

Interfacing with all IP-PBXs: While service providers need to interface with as many IP-PBXs as possible, it is costly to achieve certification with every vendor. An E-SBC can be a normalization engine, connecting the PBX to the service provider and supporting requirements for authentication and signaling.

Demarcation point: Many ITSPs want a clear hand-off point between their network and the end customer. The E-SBC serves this important function, delivering health and quality statistics while establishing a security boundary.

Security and NAT traversal: When connecting enterprises to SIP trunks directly via the Internet, carriers must resolve issues created by the enterprise firewall and traverse the NAT to connect to the customer's Local Area Net-

work (LAN) while also maintaining security. Again, an enterprise border element can provide the necessary functionality to resolve these problems.

Advanced Security: In addition to inspecting the SIP signaling and controlling the media ports, the E-SBC can add encryption to signaling and media (using TLS and SRTP), creating greater privacy. Some carriers offer this advanced level of security as a premium service aimed at the legal, financial or healthcare verticals.

Support for Remote Workers: For public Internet delivery implementations, the E-SBC can support remote workers who have access to the Internet. The E-SBC can resolve NAT traversal issues both at the enterprise edge and at the remote site. Resolution of the problem at the remote site requires only that far-end NAT traversal be enabled on the E-SBC and no additional hardware or software is required by the remote worker.

With a managed service, the ITSP hosts the SIP trunk separate from access to the public Internet. This separates the voice and data networks, and certain SIP features are not possible including support for remote workers. A border element can merge the two networks, maintaining QoS as well as opportunities for converged communications.

SIP trunking helps service providers to build their business today and generate future sales. With an edge device, the service provider can expand these opportunities and deliver a high quality, reliable SIP trunk to their customers. **IT**

Steven Johnson is President of Ingate® Systems.

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All You Need to Know About SIP Trunking

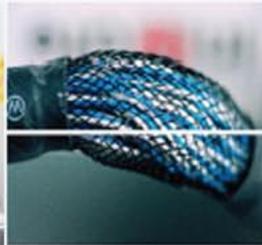
Today's enterprises are constantly looking to improve their communications infrastructures and leverage the latest communications technologies to enhance their business opportunities.

The SIP Trunking Community is a unique space for:

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By: Raymond Nahorniak



Getting the Best from a Network Implementation Services Provider

Finding and Choosing the Right Firm

Ask the manufacturer for recommendations.

The manufacturer typically has a stake in ensuring that their products will be implemented effectively, and thus are careful in qualifying the partners they recommend.

Ask members of your user group community. Who has had a similar project delivered? What was their experience? How did they find their provider? Has the provider completed similar projects in the past successfully? How complex was the project? Have they used them for follow-on work? Would they use them again? Does the provider have a presence within your geographical footprint? Do they possess the expected industry and manufacturer certifications? Do they have sufficient resources with the skill set(s) and experience you require to meet your needs? Do the appropriate manufacturer support relationships exist if their assistance is required?

Ask for what you want. Narrow the selection to two candidates and begin the quote process with both using a non-mission critical project. How does each provider respond? How effective they are at understanding your needs? Do they add value and make knowledgeable recommendations? Keep in mind, you are under no obligation to award work to a firm if you solicit them for a quote. Get a fixed-price quote.

Getting the Best out of the Firm You've Chosen

Collaboration, collaboration, collaboration. It would be great if you could pass the project off to the outside firm and back out of the picture, but that's a path to near-certain disappointment. As the firm becomes more familiar with your environment, their independence will increase, but you must remain sufficiently engaged to ensure the project's success. You may be asked for project-critical information that only the customer can obtain; provide such information accurately and promptly.

Assume that, "If it's not written, it's never been said." Don't leave key understanding to conversations; be sure to formalize it within the SOW, a change order, or minimally via email to ensure mutual understanding and agreement. IT projects are complex enough when everyone is on "the same page"; if they're not, real frustration, disappointment and additional time and expense can ensue. Work to create a supportive, collaborative, trustful relationship and you'll reap the rewards. A collaborative roundtable format is especially effective for establishing trust...

Expect issues to arise. All projects, whether completed internally or with an outside provider, experience issues. Even the best firms can't avoid them all. Typically, their good reputation is based on how they manage and resolve issues when they arise. **IT**

Raymond Nahorniak is Director of Network Solutions (News - Alert) Services Delivery at Forsythe Solutions Group.



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By: Huw Rees



Has VoIP Outgrown Traditional Business Service Channels?

As telecommunications service providers look to compete for small business customers, they have historically relied heavily upon traditional Value Added Reseller channels and Interconnects to install customer premise equipment and T1 PRI or analog lines. In the mindset of traditional wire line providers, this arrangement suited both parties, as the reseller made his margin primarily on the sale and maintenance of the hardware and the service provider simply provided the dial tone.

Now, as we move into the brave new world of VoIP for businesses, many service providers try to emulate this traditional channel methodology, partly due to channel inertia and partly to the premise that “if it ain’t broke, don’t fix it”. Unfortunately however, the game has changed and the overall margins associated with selling PBXs and PSTN origination and termination services have significantly declined. Even if the reseller can still earn 20+ percent margins on hardware, 20 percent of a smaller number is, in absolute terms, a small number.

The key is for the reseller community to realize that their business model has to change from a reliance upon upfront margin on product sales to long-term recurring residual commissions associated with the sale of VoIP services.

Can Traditional Channels Survive?

As with many technological advances, the introduction and inevitable wave of VoIP deployments will cause wrenching changes within the reseller community. In particular, since VoIP is clearly a blend of both voice and data, Interconnects must adapt to this by becoming data experts in addition to voice. Conversely, data VARs have, not surprisingly, benefitted from the shift to VoIP as they’ve found themselves in a position to now sell voice services and equipment to businesses in addition to traditional data infrastructure sales.

The move from premise-based systems to hosted solutions is another potential threat to these reseller channels. As indicated above, the cozy relationship between the service provider and VAR is being challenged by VoIP deployments and this is certainly true in the deployment of services such as hosted PBX. Without the ability to sell significant amounts of on-premise voice hardware, how can the channel survive? The key is for the reseller community to realize that their business model has to change from a reliance upon upfront margin on product sales to long-term recurring residual commissions associated with the

sale of VoIP services. This is a difficult change to make and requires the reseller to see the benefits of selling these services and reaping the longer term rewards *versus* the instant gratification (and money) associated with an equipment sale.

The Emergence of Non-Traditional Channels

Given that VoIP changes the way traditional channels sell to the small business market, are there some new channels that can be exploited by service providers? Clearly the answer is yes, and this is based on the premise that VoIP services, by design, utilize and integrate seamlessly with data applications and Web Services. This natural integration means that service deployments and support can largely be moved from the domain of the reseller and service provider to the users themselves. In view of this, it is not uncommon for users to purchase VoIP business services directly from a web site and to provision and maintain the service without a third party. While these direct sales can be advantageous to the service provider in terms of margin expansion, there are some potential downsides such as the possibility of increased churn due to factors such as installation or configuration errors and the subsequent frustration of performing debugging and corrective actions. Nonetheless, if these issues can be overcome, direct sales without needing to “roll a truck” can be very appealing.

This type of “self-provisioning” lends the sale of business VoIP to additional, alternative channels such as retail. Retail stores are notoriously difficult channels to deploy profitably, but if done correctly, they can add significant sales and reach customers that otherwise would not be aware of the benefits of deploying VoIP within their business. The key to success in retail is to ensure that the customer is provided with sufficient information to make an informed decision. This means that simply placing the products or services on the shelf and expecting them to sell will not work. Careful attention has to be paid to the messaging and appropriate point of presence collateral material must be present. The retailer himself must also be willing to add credibility to the solution by providing the assumed “right of return” if the service does not meet the customer’s expectations (or indeed for any reason). Interestingly, this retail distribution strategy can work for either hosted (such as Packet8 Virtual Office) or non-hosted (such as the Microsoft Response Point IP PBX) products and services. As retailers become more comfortable with selling these solutions, there will likely be a significant expansion of VoIP services sold through this channel.

In summary, traditional channels for business services can still be viable, but they must adapt in order to compete with emerging channels that have the potential to reach many more businesses with new, innovative solutions. Ultimately, small businesses wind up winning with expanding product and service choices as well as additional choices in the channel resources with which they wish to engage. **IT**

Huw Rees (News - Alert) serves as Vice-President of Sales and Marketing at 8x8, Inc. and was previously CEO of Centile, Inc., a former 8x8 subsidiary.

By: Elaine Cascio



The Numbers Trap

All too often these days, people ask me about numbers — What's IVR containment for others in the insurance industry? What's the average handle time for the rest of the banking industry? In many cases, they're interested less in what's best for their customers and more in what their competition is doing.

Just a look at TV news shows, or a scan of the web makes it clear that we're awash in numbers, from overnight presidential polls to voting on reality shows. And because contact centers are numbers-driven, we're pressured to measure something (or lots of things), and we end up measuring what's easy, not what's really important.

There's no denying that contact centers must run on some set of standard operational metrics. The key to having meaningful metrics is to tie them to strategic enterprise-wide goals.

One of the keys to running a successful contact center — or business — is to clearly identify what it is you want to measure, not just what you're able to report on. The “wrong” numbers not only mask bigger issues, they also send the wrong messages up and down the line, from agents to senior management.

Is Benchmarking a Numbers Game?

Benchmarking is a good example of where numbers can be misinterpreted. People may adopt a key statistic from a benchmarking study in their industry as a goal, assuming it's a best practice. But often, benchmarking exercises expose not best practices, but common ones. That's not to say that benchmarking can't be valuable. It helps us understand the competition, gain insight into what's going on outside of our own world, and find ways in which we can gain an edge. We may even find darn good practices that we can adopt. But what we get from mining published surveys are not necessarily the best statistics for our business.

In identifying models for best practices, it's important to look not only at what's going on in your industry, but at organizations that are leaders in customer service outside your industry as well. Really understand the criteria for customer service success in your business from a strategic perspective and identify others who meet — or exceed — your criteria for success. What are they doing differently that you can adapt and use? This is an ongoing exercise, as you find that best practices are not static — they change as companies develop new products and services, as technology changes, and as customers' experience and sophistication evolve. This is critical for companies that want their customer experience to be excellent, not just run of the mill.

Making Numbers Meaningful

There's no denying that contact centers must run on some set of standard operational metrics. The key to having meaningful metrics is to tie them to strategic enterprise-wide goals. So, for example, if your key strategy is building customer intimacy, you'll want to measure things that show success in building customer relationships. Rather than obsess about average handle time, you focus more on the quality of the contact. Instead of focusing on the number of web hits, you focus on the level of visitor involvement with your site.

Conversely, if your customer strategy is built around being a cost leader, your focus will be on measuring and improving efficiencies wherever you can. This may be through shorter handle time as a result of improved systems or processes. Or it may be through excellent self service that actually offloads calls from the center. You can't gain these kinds of efficiencies just by following the pack.

It's easy to fall victim to the numbers trap, especially when so many senior executives drive this obsession. Our customers care less about how we compare to others in our industry and more about how we compare to an especially good experience they had with a company that has nothing to do with our business a day ago. As with all things, use numbers judiciously, and use them to drive behavior that supports your business goals. ■

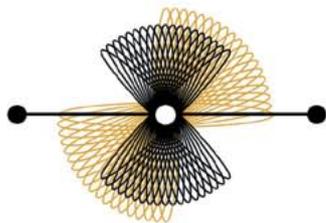
Elaine Cascio is a Vice President at Vanguard Communications Corporation, a consulting firm that specializes in contact center processes, operations and technology. She heads Vanguard's self-service practice. Visit them at www.vanguard.net or contact Elaine at ecascio@vanguard.net.

Did you know...

A Purdue University study indicates that 92 percent of callers form an opinion about a company based on their experience with the company's contact center and its agents. Interestingly, 68% of those would-be customers polled said they would immediately abandon any brand and/or service if they weren't satisfied with the company's contact center performance. Thus, first-call resolution for customers (and prospective customers) remains of paramount importance for any kind of organization.

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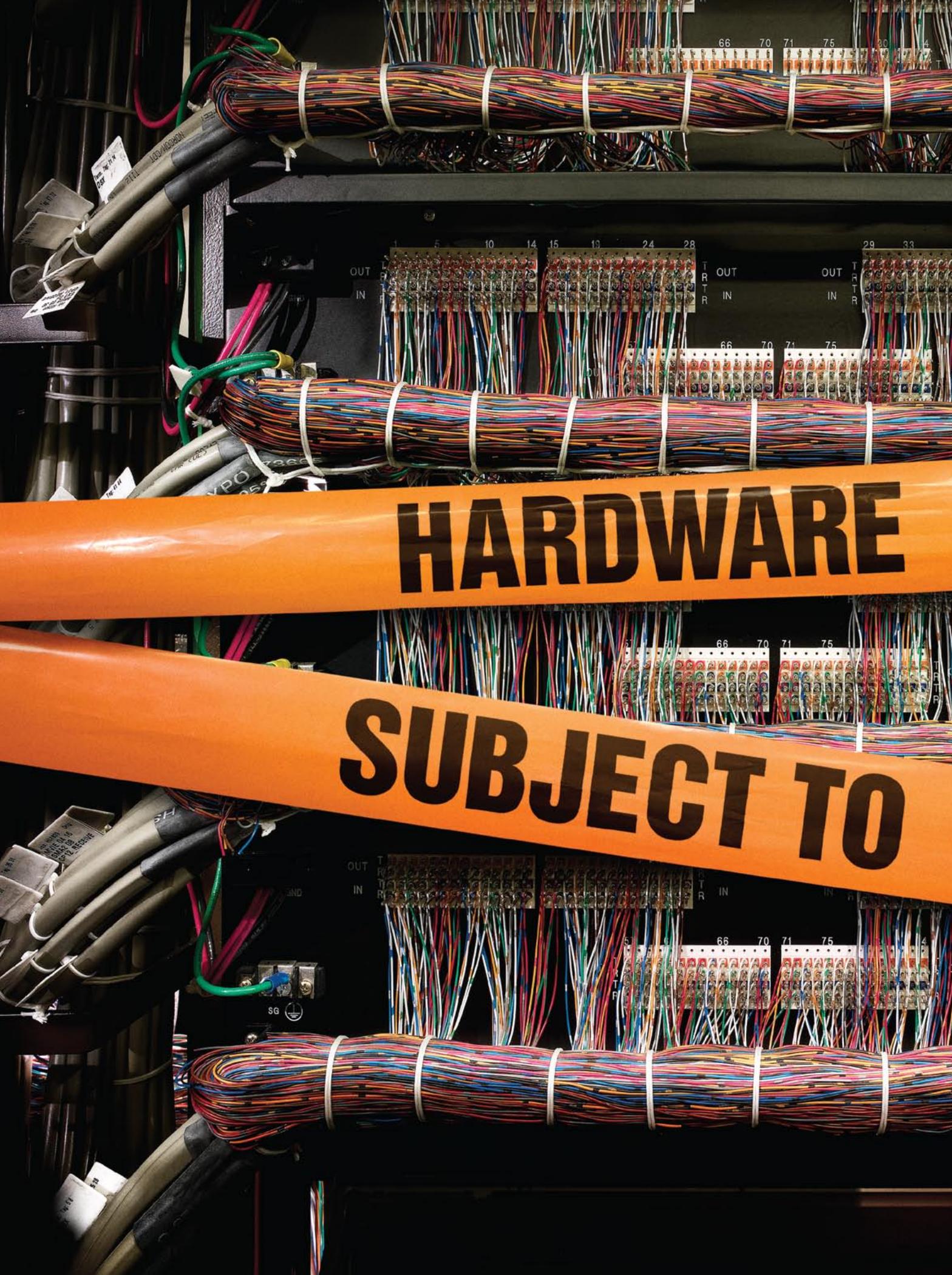
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By: Rich Tehrani



www.tmcnet.com/2468.1

Skype & Digium Collaborate

There was some rather big news that came out of Astricon 2008. Skype and Digium ([News - Alert](#)) are now collaborating, creating integration between phone systems based on Asterisk and the Skype network. Users can now treat Skype calls like any other protocol on Asterisk ([News - Alert](#)) systems: calls can be forwarded, transferred, placed and received using Skype via an Asterisk phone system.

In other words, this means native Skype trunking on Asterisk boxes.

With Skype For Asterisk, customers gain many Skype features coupled with the capabilities of Asterisk. For example, the beta version of Skype For Asterisk allows customers to make, receive and transfer Skype calls from within Asterisk systems using their existing hardware. Users can also enable inbound calling solutions like free click-to-call from company Web sites or virtual offices, and manage Skype calls using Asterisk applications (e.g., call routing, conferencing, phone menus and voicemail).

What this means to Skype is that company has finally found a way to get into the enterprise in an easy way — by partnering with Digium/Asterisk which has great traction with developers, resellers, carriers, SMBs and more. Expect more enterprise use of Skype and as this happens, Skype should see more revenue from business users.

For Digium, this partnership allows the company to leapfrog larger telecom players and gives the company major momentum, making it a magnet for more leading-edge deals. I wouldn't be surprised if Microsoft approaches the company for a UC partnership soon if they aren't talking already.

For the communications community this collaboration means more flexibility and lower cost calling for consumers and businesses worldwide. Finally, Skype users should be able to call companies over native Skype and for free. This news could become a major game changer if companies integrate Skype click-to-call functionality on their Web sites.

Skype for Asterisk gives the open source platforms from Skype and Digium an advantage over companies like Cisco, Avaya and Nortel ([News - Alert](#)), whose solutions require an external trunking gateway to communicate with the Skype community. **IT**

By: Gary Kim



www.tmcnet.com/2467.1

VoIP Equipment Slowdown?

Small businesses looking for innovative VoIP services from large phone companies had better not get their hopes up, say researchers at Dell'Oro Group, who make the argument based on an analysis of VoIP equipment to service providers.

Global sales of IP phone gear to service providers fell eight percent to \$861 million in the second quarter of 2008 compared to a year earlier. The decline from the first quarter of 2008 was steeper still at 10 percent.

The providers in question include traditional telcos, cable VoIP companies and voice-over-broadband operators such as Vonage ([News - Alert](#)). But traditional phone companies accounted for the bulk of the sales, said Dell'Oro vice president Greg Collins, and such carriers don't have much reason for buying, he argues.

Dell'Oro researchers think the trend is likely to continue. So far, traditional phone companies have little interest in further investment to upgrade their voice infrastructures.

Some of us would take another view of the apparent slowdown. Cable companies might have slowed some buying in the second quarter, which would explain some of the softness. The real issue is what to make of telco buying. Dell'Oro researchers say that telcos have little incentive to replace their entire Class 5 switch infrastructure.

At this point, telcos are losing voice lines fast enough that even cost savings would not be enough to justify soft switch replacement on a wide scale.

Dell'Oro says that traditional phone companies have little interest in offering VoIP services that simply cannibalize their remaining voice businesses. All of that is true, at least for the moment. Unlike their European counterparts, U.S. incumbent telcos have not yet reached the point where switching to VoIP on a mass scale makes financial sense.

But that won't always be the case. There will come a time when a significant conversion will make sense, and that's when the investment will occur. To be sure, business customers are converting to VoIP, but much of that is based on premises switches, rather than use of softswitch-based carrier services.

Residential use of VoIP is expected to grow at a compound annual rate of 20 percent over the next four years, most observers predict, but much of that will be driven by cable operators, not telcos. If VoIP is a \$10 billion annual revenues business by 2011, even that is unlikely to represent a crossover point where it makes sense for major telcos to abandon legacy voice for all-IP alternatives.

Consumer voice still is something on the order of a \$60 billion a year annual revenues business, so one would anticipate that incumbents won't move to push VoIP with any seriousness until VoIP claims about half of that, or \$30 billion annually. **IT**



Introducing the Video Compression Global Online Community

With the adoption of high definition video, and the transformation of video from a static to a mobile medium, video compression is more important than ever. As new video solutions are developed, and as video is delivered to all three screens — TV, Web and mobile — new video compression technologies are required to ensure a compelling video experience for any video application anywhere.

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By: Richard "Zippy"
Grigonis



www.tmcnet.com/2469.1

European Commission Calls for "Universal" Broadband

The European Union (EU) was one of those big theoretical ideas that sounded like it couldn't possibly work – but it did.

And on May 1, 2004, 10 new "accession countries" were added to join the existing 15 existing EU members, to create a single political entity of 470 million people and an economic entity having a GDP greater than that of the U.S.

Of course, EU membership did not magically homogenize all of the member countries. For example, although about 36 percent of EU member nations have broadband access and that such access is increasing by 20 percent per year, some EU member nations have problems obtaining high-speed connections to the Internet.

But now, the European Commission in Brussels, the center of this updated Holy Roman Empire, has reviewed what kind of basic telecom services are currently available, and has decreed that if most EU citizens use a service such as broadband, then the EC rules specify that every European should have access to it too.

"High-speed Internet is the passport to the Information Society and an essential condition for economic growth," said Viviane Reding, EU Telecoms Commissioner in a statement announcing the review. "This is why it is this Commission's policy to make broadband Internet for all Europeans happen by 2010."

In the U.S., we've talked about "free voice" for years. The idea was that, since voice conversations take up little bandwidth, telcos would offer it for nothing and instead concentrate their efforts on selling more lucrative advanced services to their customers. In the EU, this idea has taken on a more official air -- the EC, the Universal Service Obligations (USO) demand any citizen should have access basic telephone services, including directories, payphones, and even fixed phone access for international as well as typical local and national voice calls. There are also provisions for the handicapped and low income earners. Interestingly the rules have a clause that a fixed line should have enough bandwidth to "permit functional Internet access" which suggests at minimum some type of dial-up bandwidth.

At the end of the EU review, the rules may be modified to compel telcos to extend broadband to areas they previously avoided in the past – a situation similar to the "universal service" and fund established in the U.S. many years ago to ensure that rural areas received telephone service.

The EC is accepting submissions from telecoms firms, governments and citizens, will report on it in 2009 and legislation may appear as early as 2010.

Of course, legislating "universal" broadband is one thing, but certain obstacles exist, such as making PCs inexpensive so that lower income groups can afford them, and devising things such as "pay-as-you-go broadband" that would work over whatever can connect to a user, including broadband-over-power line and wireless broadband. If the EU wants everybody to have broadband – particularly in the accession countries – they'll most likely end up paying for it out of their own EU Structural Funds programs. **IT**

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



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www.tmcnet.com/2470.1

Polycom Releases Latest Kirk DECT (News - Alert) Solutions

Polycom has announced the debut of its latest KIRK Digital Enhanced Cordless Telecommunications (DECT) solutions.

Polycom has introduced three new products: the KIRK Wireless Server (KWS) 300, the KWS 6000, and the KIRK 5040 handset. Polycom's SIP-based DECT solutions are designed to help customers drive the speed of business by making them always available no matter where they are within the workplace.



By offering SIP-based DECT solutions, Polycom now offers solutions addressing the needs of businesses from the SOHO market (KWS 300) to medium-sized businesses (KWS 600v3), and for the largest of enterprises as well (KWS 6000).

www.polycom.com

www.tmcnet.com/2471.1

Quintum Gateways to Help Bring User-Friendly Microsoft Response Point VoIP Systems to SMBs



At the recent ITEXPO, Quintum (News - Alert) Technologies – a subsidiary of Network Equipment Technologies, Inc., announced a pair of swiftly deployable gateways to support Microsoft's Response Point SIP-based IP-PBX system. These new products are designed to allow businesses to deploy the system through a T1, E1 or PRI connection.

Chuck Rutledge (News - Alert), vice president of marketing for Quintum and NET, said the gateways are designed specifically for Response Point. "This is a product that's going to address medium businesses that have T1 or E1 connections or fractional T1 or E1 con-

nections, with a four-port FXS gateway, which will support existing analog equipment," Rutledge said, such as fax machines, point of sale devices and existing analog phones. The gateways will tie into "the existing analog structure and (provide) a higher level of connectivity into digital T1 and E1 trunks."

www.quintum.com

www.microsoft.com/responsepoint

www.tmcnet.com/2472.1

InPhonex and GotVoice Transform Voicemails to Text

GotVoice (News - Alert), Inc., a voice messaging company, and InPhonex, a next generation international communications provider, have joined forces to provide customers with an innovative service that allows them to unify voicemails from multiple, disparate systems and transform them into text with business-class quality and accuracy. Thanks to the pact, InPhonex customers can now achieve unprecedented levels of productivity by reading voicemail messages aggregated from multiple mailbox locations — in e-mail, SMS, or through InPhonex's Web portals.

Built on GotVoice's new G2 technology, InPhonex's Voice2Text is available immediately for channel partners and InPhonex's (News - Alert) subscribers.

Curt Blake (News - Alert), CEO of GotVoice, in a statement, "Our technology is effectively changing the way people communicate —

making business professionals more efficient by streamlining their communication process."

www.gotvoice.com

www.inphonex.com

www.tmcnet.com/2474.1

Cisco Completes Acquisition of PostPath

Cisco (News - Alert) has announced that it has completed its purchase of Mountain View, Calif. Based PostPath, a provider of email and calendaring software. With the close of the transaction, PostPath has become a part of the Cisco collaboration software group (CSG). Last month, the company had announced its intent to acquire privately held PostPath for \$215 million. PostPath is expected to work with Cisco to enhance the existing email and calendaring capabilities of Cisco's WebEx Connect collaboration platform.

Using PostPath's software, Cisco plans to extend the email and calendar functionality of its software-as-a-service (SaaS (News - Alert))-based collaboration platform. The platform includes instant messaging, voice, video, data, document management and Web 2.0 applications.

www.cisco.com

www.tmcnet.com/2475.1

InfoTrack Study Finds Professional Services Market Growing in Response to Unified Communications Demand

The market for professional services across all business size segments is expected to increase as individuals increasingly demand unified communications (UC) applications in the workplace. This is according to a recently released report published by InfoTech, a division of T3i Group.

The proliferation of unified communications technologies is being employee driven as they seek such features as instant messaging (IM), smartphones, video and IPTV. The increase in deployment of such capabilities is driving the need for increased planning and policies. In addition, corporate networks are also being taxed by current trends, such as "green" movement and teleworking.

www.accessintel-infotech.com

www.tmcnet.com/2476.1

Fonality Unveils HUD 3.0 UC Platform Featuring Mobile and Google Talk Integration

Fonality, a provider of open source unified communication (UC) systems for businesses, has announced a major upgrade to its unified communications platform, HUD. The company has released HUD 3.0. HUD integrates presence management and detection into a single interface, which can be used by employees for all types of office communications — SMS, instant message, landline calling, mobile calling, chat, voicemail, e-mail, conferencing, recording and barging.

Building on the HUD platform, HUD 3.0 delivers a unified communications dashboard that shows who is available, both onsite and remotely. Company officials said with this offering, it's easy to drag and drop calls onto somebody's desk or mobile phone. In addition, the sessions that start on chat can be instantly converted to voice calls.

www.tmcnet.com/2478.1

SingTel to Offer WorldMate (News - Alert) Live for Postpaid Customers

SingTel (News - Alert) has signed a regional exclusive agreement with WorldMate, a Los Angeles, Calif.-based mobile travel software developer. SingTel, one of Asia's largest mobile network operators, with more than 198 million subscribers, will bundle WorldMate Live, a popular mobile travel service, as a value-added service for its postpaid customers on Sept. 13.

WorldMate Live allows frequent travelers to manage their entire itinerary within a single service, accessible any time from a smartphone or computer. WorldMate Live recently partnered with Hotels.com to introduce an integrated hotel booking service, which automatically recommends the best hotel options for people based on their whereabouts and preferences. The collaboration will enable WorldMate Live members to select and book a room directly on their device.

www.singtel.com
www.mobimate.com

www.tmcnet.com/2479.1

Huawei Signs Network Expansion Deal with Etisalat

Huawei (News - Alert) Technologies recently signed a contract with Egyptian telecom operator, Etisalat (News - Alert) Misr, for the expansion of the country's third mobile network in Egypt. Huawei's solution will help build Etisalat Misr's wireless access network, core network and transmission network. The expansion is expected to greatly improve network capacity and coverage quality for the Egyptian telecom operator.

In 2006, Huawei had provided the turnkey project of Phase 1 & 2 for Etisalat Misr that officially launched its service in 2007 and reported a subscriber base reaching four million. Huawei won the medal of Successful Cooperation Partner by Etisalat Misr in May 2008.

www.huawei.com

www.tmcnet.com/2480.1

3 Italia Selects Alcatel-Lucent to Expand its DVB-H Mobile TV Network

3 Italia, a 3G mobile operator in Italy and a DVB-H Mobile TV operator, has selected Alcatel-Lucent (News - Alert) to expand and

optimize its broadcast Mobile TV network throughout Italy. Alcatel-Lucent's solution for 3 Italia is based on its DVB-H terrestrial transmitters, its remote monitoring system and includes network integration services. The solution will enable 3 Italia to increase the indoor and outdoor coverage of its broadcast Mobile TV network, while optimizing network efficiency for enhanced Mobile TV service delivery. As a result, 3 Italia's subscribers will be able to enjoy television programming — such as football matches, movies, music and reality shows — with improved mobility and service continuity.

www.alcatel-lucent.com

www.tmcnet.com/2481.1

Brasil Telecom Deploys mSwitch System for Fixed Mobile Convergence Service

UTStarcom (News - Alert), Inc. announced that Brasil Telecom has deployed the company's mSwitch solution to power its fixed mobile convergence (FMC) network. This convergence network solution would enable fixed-line connectivity with GSM platforms for call continuity between the two networks using a single wireless device. The FMC solution is designed to also help Brasil Telecom extend its current cellular coverage area using the new Voice Continuity Call (VCC) handover between cellular and WiFi networks.

The deployment reportedly makes Brasil Telecom the first mobile operator to implement UTStarcom's mSwitch solution and also the first to have fixed mobile convergence networks in the world.

www.utstar.com

www.tmcnet.com/2482.1

Stratus' ENTICE Solution Chosen by NetworkIP

NetworkIP, a Texas-based provider of wholesale telephony and virtual stored value services, has opted for the Stratus ENTICE telecommunications solution to expand network capacity for its existing services and speed up go-to-market time for new and upgraded customer applications. NetworkIP is an independent carrier with 450 million minutes processed by customers every month and 800 million end user accounts managed in real-time.

NetworkIP has selected ENTICE over competitive platforms because of its easy

scalability, open platform enabling application adaptability from its existing infrastructure, and ability to support rapid deployment of new and custom NetworkIP applications ranging from long distance dialing to Web and audio conferencing, voice mail and VoIP.

www.networkip.net
www.stratustechologies.com

www.tmcnet.com/2483.1

Managed VoIP Provider Broadvox, TAI Bolster Reliable SIP Trunking Product

A Dallas-based provider of managed VoIP services to SMBs, enterprises and carriers today announced that it is creating new, more manageable telephone systems by joining forces with an IT solutions company headquartered in Laramie, Wyoming. Officials from Broadvox (News - Alert) say that by using their flagship "GO! SIP Trunking" product with the VoIPTelCaster system from Technology Alignment, Inc., business that range from small home office to large call centers can save time and money.

According to David Byrd (News - Alert), Broadvox's vice president of marketing and sales, Technology Alignment has created a simple interface that allows any size company to use VoIPTelCaster technology to reduce telecom costs.

www.broadvox.com

www.tmcnet.com/2484.1

XO Communications Attains Cisco TelePresence Connection Certification

XO Communications announced that its multi-protocol label switching (MPLS) IP-VPN service has achieved Cisco's TelePresence Connection Certification. Cisco's TelePresence Connection Certification is a certification program designed for TelePresence services that provides businesses with an added level of confidence that service providers have invested, in order to gain the capabilities which is required for an optimal TelePresence experience. The Cisco Powered TelePresence Connection Certification process takes in to account of practices based on present industry standards for network architecture, management and performance, including measurement, staff, processes and tools.

www.cisco.com
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www.tmcnet.com/2485.1

T-Mobile USA Launches First Android Device



T-Mobile ([News - Alert](#)) USA has delivered the first handset that uses Android's software stack: a smart phone built by HTC, which is known for manufacturing Windows Mobile portable devices. T-Mobile's G1 includes a touch screen, slide-out keypad, accelerated 3D graphics, WiFi and 3G support, GPS, and accelerometer. The device will offer one-touch access to: Google search, maps, Gmail, YouTube ([News - Alert](#)), calendar, and Google Talk functions.

The device comes with a 3.1 megapixel camera supporting still shots. The phone weighs five ounces and supports five hours of talk time and 130 hours of standby time. Memory is expandable up to eight gigabytes.
www.openhandsetalliance.com

www.tmcnet.com/2486.1

Motorola Unveils New 5.4 GHz Point-to-Point Series Wireless Ethernet Bridges

Motorola ([News - Alert](#)), Inc., has announced the addition of new Point-to-Point (PTP) 200 Wireless Ethernet bridges to its Wireless Broadband portfolio. The new bridges are specifically designed to securely transport data, voice and video in both near-line-of-sight (nLOS) and line-of-sight (LOS) environments. The new systems are helpful for customers who require a wireless bridge, which can perform reliably in LOS or nLOS environments — where obstacles partially block the radio's line-of-sight. According to Motorola, the new solution offers enterprises and service providers reliable and secure wireless connectivity and makes Wireless broadband connectivity more affordable — with low cost of ownership.

The PTP 200 series is based on orthogonal frequency division multiplexing (OFDM) technology, which provides resistance to interference and fading while providing virtually instant fade recovery, says company.

www.motorola.com

www.tmcnet.com/2488.1

WIMAX Growth Forecasted at 34% Annually

Wireless technology is expected to realize up to 34 percent annual growth in the next three years, according to the Telecommunications Industry Association (TIA ([News - Alert](#))). This is compared to communications revenues for bandwidth consumption, which is expected to see a 10 percent annual growth rate in the United States, reaching \$1.3 trillion by 2011 according to TIA's Market Review and Forecast. The study combines the efforts of 100 market researchers across numerous fronts to deliver a forecast of the global telecommunications industry. The study posits that landline revenues are projected to drop by 33 percent from 2000 to 2011, wireless data revenues will grow about 34 percent annually.

www.tiaonline.com

www.tmcnet.com/2487.1

eOffice 4.5 Brings Microsoft Office Suite to BlackBerry Users

Quickoffice, a global provider of mobile office productivity software and services, has launched eOffice 4.5, the newest native BlackBerry office suite resulting from the company's recent acquisition of Dynoplex. eOffice for BlackBerry is part of the suite of productivity solutions offered by Quickoffice that enables BlackBerry users to more efficiently manage their email attachments and office files when they are away from the office.

With the offering, users can easily access and view Microsoft Excel, Word, PowerPoint,



PDF and graphics files in a rich media format that looks exactly like their desktop documents. Also with eOffice 4.5, users have comprehensive editing capabilities for Word and Excel documents and can fax or print their documents directly from their BlackBerry device, giving them control over their office files while they are on the road.

www.quickoffice.com

www.tmcnet.com/2489.1

Sprint and VeriFone Power New York City Taxis

Sprint and VeriFone's U.S.-based taxi business, VeriFone Transportation Systems (VTS), have equipped 6,600 NYC taxis with a jointly developed real-time integrated payment and information system. Powered by Sprint Mobile Broadband and Sprint Data Link, the solution ensures secure credit card transactions.

Bud Waller, executive vice president of Integrated Systems, VeriFone, stated that Sprint's Mobile Broadband helps achieve their goal of quick and convenient credit card payments, with a minimal processing time averaging two seconds. The partnership between the two companies allows passengers to view current news, sports and entertainment content and then close their transactions in record time so they can be on their way.

www.sprint.com
www.verifone.com

www.tmcnet.com/2490.1

Multi-Tech Adds API to Turnkey SMS Server Appliance

Multi-Tech Systems has released an Applications Programming Interface (API) enhancement for its SMSFinder text message server. The turnkey SMSFinder SMS server, which comes in a compact and self-contained chassis that can be desktop or wall mounted, has a built-in HTTP/TCP API for interfacing to any application.

The SMSFinder API consists of a set of routines that an application program uses to perform lower-level machine language commands. The SMSFinder's API uses HTTP/TCP to send commands to the SMSFinder such as send an SMS message to everyone who is in a group. It efficiently translates the information from an application's database into messages that reflect a desired result.

www.multitech.com

DEVELOPER

www.tmcnet.com/2493.1

tekVizion, Microsoft to Qualify OEMs, Service Providers

Microsoft Response Point has joined with tekVizion (News - Alert) Labs to Qualify OEM partners and service provider customers. tekVizion Labs is an independent test facility that makes use of its VoIP expertise to certify Response Point OEM products and the testing functionality to the Service Provider network. tekVizion Labs is already performing qualification for Office Communications Server (OCS) and Exchange Unified Messaging (UM).

According to Leland Phillips, the president of tekVizion Labs, "The small to medium business owner doesn't have a large IT staff to support phone systems installations and support issues. Therefore, the requirement for a tested and proven product is that much greater and Response Point is committed to maintaining that high standard. Response Point's OEM vendors have met the challenge well."

www.tekvizion.com

www.microsoft.com/responsepoint

SIP

www.tmcnet.com/2492.1

Polycom Expands SIP Support for SpectraLink 8000 Wireless Telephones

Polycom recently announced the expansion of VoIP interoperability for its SpectraLink 8000 Series wireless telephones using Session Initiation Protocol (News - Alert) (SIP). Polycom's SpectraLink 8000 Series telephone portfolio has been tested for interoperability with a variety of enterprise call servers including IP telephone systems from 3Com, Digium, Mitel (News - Alert), and Toshiba. SIP interoperability testing is a continuous program to support new call server platforms and feature releases as they become available. SIP interoperability for Polycom's SpectraLink 8000 Wi-Fi handsets allows the wireless telephones to work as extensions of the VoIP call server, and includes the most traditionally used business telephone features including dial by extension, conferencing, call transfer, call forwarding, and caller ID.

www.polycom.com

IP CONTACT CENTER

www.tmcnet.com/2494.1

Jacada WorkSpace 5.0 Now Available for Contact Centers

Jacada (News - Alert) Ltd., a provider of unified desktop and process optimization solutions for customer service operations, has announced the general availability of Jacada WorkSpace 5.0 to help companies who wish to transform their call center operations by providing an "intelligent" view of customer data in order to help resolve customer issues more quickly.

A major enhancement in this latest release introduces support for IBM (News - Alert) WebSphere Application Server 6.1 and the use of the Eclipse-based IBM Rational Application Developer toolkit. Jacada WorkSpace 5.0 can now leverage the SOA capabilities and integration solutions found in the IBM WebSphere Software Platform, including: IBM WebSphere ESB and WebSphere Message Broker; IBM WebSphere Integration Developer; and IBM WebSphere Process Server.

www.jacada.com

www.tmcnet.com/2495.1

NEC Unified Announces 'Unique' VoIP, ACD Deployment

NEC Unified Solutions, a vendor of enterprise business communications, has announced that a "unique deployment" of voice over IP (VoIP) and Automatic Call Distribution technology at 15 Mount Kisco Medical Group locations is "enabling medical staff to provide patients with quality and timely healthcare." Through the use of NEC's Univerge SV7000 and Neax 2400 communications servers, as well as CallCenterWorX ACD and Global Navigator call center monitoring products, MKMG is supplying its employees with what NEC officials say are "the communications tools they need to perform in a healthcare environment."

By deploying the communications servers and applications from NEC, MKMG can address the various roles within its offices and "better serve its business needs," company officials say, such as "delivering personal patient care and being responsive to their medical questions."

www.necunified.com

CHANNEL

www.tmcnet.com/2496.1

Westcon Group Offers Google Enterprise Search Appliance in Brazil

Westcon Group (News - Alert), provider of networking, security, mobility and convergence solutions, has added Google's Enterprise product line to its portfolio in Brazil. Google's search appliance is a rack space unit that enables companies to search their internal corporate networks more efficiently.

Otavio Lazarini Barbosa, general manager for Westcon in Latin America, said that adding Google's Enterprise product line to its portfolio means Westcon can help resellers deliver a comprehensive search capability so companies of all sizes and profiles can more efficiently handle their internal data. Apart from in-person sales and technical seminars, Westcon is offering the registrants of ConvergencePoint (News - Alert) (News - Alert) with training on how to use the Google appliances.

www.westcongroup.com

www.tmcnet.com/2497.1

Devfoundry's Reseller Program

Devfoundry Software has announced a Reseller Program for its flagship product, VoIP Monitor. Devfoundry a provider of VoIP diagnostic tools for Enterprise and VoIP Service Providers, will provide resellers with sales, training and support materials; qualified sales leads; pre and post sales support; healthy discounts on licenses; marketing materials; and priority technical support.

VoIP Monitor is designed to allow users to proactively monitor, capture, and store all voice and fax over IP traffic observed on a network in real-time. According to Athir Nuaimi, President of Devfoundry, "We've designed the program to foster mutually beneficial relationships in which resellers are able to capitalize on the success of our products while driving marketing and sales efforts in their respective territories."

www.devfoundry.com



www.tmcnet.com/2506.1**Comstructure Partners with QlikTech to Enhance TEM Solution**

As part of a strategic technology partnership, Comstructure will be using software from QlikTech as a way of adding analysis and visualization capabilities to its iCIRT Telecommunications Expense Management application.

Comstructure is a telecommunications consulting and application organization that is focused on communication infrastructure solutions. QlikTech is a business intelligence software vendor with more than 9,400 customers around the world. iCIRT v.2.8 is a TEM application that provides a Web-enabled application for the management of enterprise telecommunications expenses, contracts, provisioning, rate optimization and change management. This TEM application is effective in reducing the cost and management of communications expenses. This reduction will account for around three to six percent of the total annual revenue of an enterprise.

www.comstructure.comwww.qliktech.comwww.tmcnet.com/2507.1**Global Capacity Announces Expansion of its Network Optimization Activities**

Global Capacity has announced that the company is experiencing continual progress in its organic growth activities. According to Global Capacity, the predictable revenue stream continues to give importance to new client services for both government and corporate customers. This can be achieved by delivering a suite of recurring revenue activities and as well as portfolio of recurring customers of the company.

Global Capacity's officials say that benchmarking services, leveraging company's knowledge base with respect to global pricing, are the requirements of the customers who are intending to reduce their worldwide network spending. Patrick Shutt, CEO of Global Capacity, said, "The variety of diversified customer progress and organic growth for Global Capacity continue to affirm our valuable role as a partner with our customers. Together, we are helping our customers to be more efficient in their businesses and maximize their financial performance."

www.globalcapacity.comwww.tmcnet.com/2508.1**Cerylion Launches CommADVISOR 4.0 TEM Solution**

Cerylion recently announced the launch of CommADVISOR 4.0, a telecom expense management solution suitable for large enterprise network financial management. CommADVISOR assists in the management all the financial aspects of network operations for fixed or wireless voice and data carriers and their customers through a single, multi-carrier view of network resources, service orders, service locations, contracts and billings.

While the CommADVISOR system can eliminate the requirements of post-payment bill auditing software and services it can also automate the financial analysis effort even before the bill payment is done. Through its Business Intelligence-driven application that can automate key workflows CommADVISOR will help enterprise customers to optimize their spending within a secure, on-demand web-hosted application.

www.cerylion.comwww.tmcnet.com/2509.1**Stratecast, InnoPath to Review Impact of Mobile Device Management**

Stratecast and InnoPath have jointly developed a tool for assessing the financial impact of mobile device management on network operations. According to Stratecast, using MDM within mobile operator's customer care organizations will have a major impact on global operational and support costs to the tune of \$3 billion in 2009 to more than \$23 billion by 2013. Stratecast provides critical, objective and accurate strategic insight on the global communications industry.

By using MDM, customer care representatives will be able to view a customer's handset configuration and understand what is missing, incorrect or out-of-date. After identification of the problem, a solution can be applied Over the Air which does not require any intervention from the customer. This helps to streamline the customer support process which also results in cost savings. According to Stratecast and InnoPath, these savings when applied to a North American operator, will result in a total savings of \$2 billion dollars over a period of five years.

www.innopath.comwww.tmcnet.com/2510.1**Hitachi, Carina to Offer Utility Information Services**

Hitachi ([News - Alert](#)) Telecom has joined forces with Carina Technology to provide utility information solutions over a gigabit-passive optical network. The partnership allows utility companies that provide fiber to the premises services using Gigabit Passive Optical Networking technology to receive the complementary advantages of reduced operational expense and increased revenue potential, officials at Hitachi said.

Using the solutions, utility companies can realize operational savings. Savings can be achieved through the ability to read customers' electric meters, manage in-home devices for efficient management, manage pre-paid electricity service, and conduct peak demand power management functions over the FTTP infrastructure. Revenue can be generated from triple-play services and other applications that can be transported by the GPON network.

www.hitel.comwww.carinatek.comwww.tmcnet.com/2511.1**Bomgar Device to One-Up SaaS Support Model**

Bomgar ([News - Alert](#)), a company that is engaged in development of solutions help the tech support community improve support to the users through support virtualization, announced plans to introduce new remote control software that will bring flexible, low-cost customer support despite fluctuating traffic conditions. The licensing model of many Software-as-a-Service applications forces companies to purchase enough licenses to handle peak loads. However, when traffic is normal or light, licenses can sit there unused while still being paid for. The licensing model of Bomgar's remote control software is designed to offer companies the flexibility to operate the help desk in a cost-efficient manner regardless of fluctuating traffic.

www.bomgar.com

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PAETEC — Where Plentiful Proficiency Meets Customer Care

By Richard “Zippy” Grigonis

PAETEC ([News - Alert](#)) (www.paetec.com) has elevated the concept of “communications solutions” to that of a high art. Every aspect of this \$1.6 billion company’s all-encompassing expertise is infused with superlative customer service and the ability to quickly devise personalized solutions.

The company was founded in May 1998 after MIT grad Arunas A. Chesonis and his colleagues determined that telecommunications providers were suffering from a lack of first-rate customer service. Chesonis, who serves as Chairman of the Board and CEO of PAETEC Holding Corp., carefully guided PAETEC during its years of remarkable growth. Within five years of its founding, the company rose to the number two ranking in the 2003 Deloitte ([News - Alert](#)) Fast 500 list of the fastest-growing public and private technology companies in North America. In 2001, Chesonis was awarded the Ernst & Young Entrepreneur of the Year Award. And in both 2006 and 2007, the company was named *Selling Power’s* Telecommunications Sales Organization of the Year

PAETEC’s varied communications solutions and expertise encompass voice, data, software, customer premises equipment, security, data centers, wholesale, and even financing. Its offerings represent a microcosm of the whole communications industry.

PAETEC’s technical know-how has aided it in its growth, as evidenced by its canny acquisition of Allworx (www.allworx.com) and its renowned line of business phone systems (the subject of our September 2008 cover story). Allworx ([News - Alert](#)) technology is of high quality, easy to install and is adept at serving small customers as well as larger ones that maintain satellite locations around the country. Allworx has a great potential to support large retail vertical customers and their small offices positioned in various locations. Its many benefits drew PAETEC’s interest, and the rest, as they say, is history.

Who better to explain the extraordinary scope of PAETEC than its Executive Vice President and Chief Marketing Officer, Jeff Burke. He oversees corporate strategy, marketing communications, product development, employee training, quality and national accounts. He previously oversaw all of PAETEC’s value-added subsidiaries — PAETEC Wireless (fixed wireless transport and access), Integrated Solutions ([News - Alert](#)) Group (CPE sales, network design, installation and maintenance) and Equipment for Services (a profit-sharing mechanism in which PAETEC will subsidize some or all of the cost of equipment as part of a broader contract). Burke has long and extensive experience as a general manager, having worked in various leadership positions at Xerox, Digital Equipment Corporation and BBN.

RG: How does PAETEC approach the market, given the range of core and value-added offerings?

JB: PAETEC may appear very large and complex, but the unifying thread here is communications. We are a communications solutions



provider, focused on business-class customers, in particular customers large enough to need a T1 or greater bandwidths, and all that goes with it in terms of service requirements. So, we support business-class customers that utilize service across a single T-span, on up to large, national, multisite operations.

All of our largest accounts are well-known companies in manufacturing, financial services, service industries, retail, and so forth. For example, pick your favorite retailer among the largest in the U.S., and it’s most likely a PAETEC customer. As you can see, our go-to-market strategy is highly focused on verticals. Our core verticals are healthcare, hospitality, higher education, financial services, government, professional services, and retail. We also have a number of cross-industry areas where we do very well too — we consider manufacturing to be somewhat cross-industry in nature. Our core solution fits their requirements.

We also have a wholesale business, so we support other carriers. You can view that as a sort of ‘telecom vertical’. I’m talking here about other carriers that resell PAETEC services under their own label, and they use our underlying delivery infrastructure. We therefore have a highly ‘verticalized,’ focused sales force that pursues those significant market opportunities. Indeed, at the moment we have 82 sales offices nationwide, and on average, we have less than 1 percent market share in our offices. Thus, we have a tremendous opportunity to grow. As a \$1.6 billion company, we can bring our resources to bear to grow our business across the nation and leverage the fact that we are a national service provider.

RG: Mergers and acquisitions have expanded both PAETEC’s geographic presence as well as service capabilities. What’s the thought process when you’re considering a deal?

JB: As a company grows and becomes financially viable, and finds itself able to make discretionary investments, part of the leadership challenge is to figure out what your real business is — on what do you focus? We face such questions every day. A great example is considering what areas of the business should we invest in. Some of these areas are ‘close to home’ and make perfect



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sense. Others may be championed by business partners, employees, and even customers, but they may seem 'off point'. Our litmus test for whether or not a prospective new business area makes sense for us is quite simple — we ask ourselves, 'Is it communications-related?' If the idea is related to the communications business — and I'm saying this in very broad terms — then it's something that will stay on our radar screen and potentially could be a good fit for us.

Essentially, we take the complexity of our portfolio, and we break it down into two basic categories: Our core products and our value-add products. We have two basic core products, namely, data and voice services. Obviously we have variants of those, very specific offerings we can sell in the data realm or voice realms. In the value-add category, we have three primary areas of capability: Equipment, applications and data center offerings.

Interestingly, when you look at our applications area, we're not talking about financial accounting systems or general business systems. Instead, we're talking about those applications that pass our litmus test — they're communications-related, such as communications management applications. Our PINNACLE subsidiary, which we acquired in 2001, creates Telecom Expense Management Software and has evolved to deliver total Service Lifecycle Management for IT resources. PINNACLE customers tend to be very large enterprises, and now that we have a national network footprint, we're finding these customers to be very interested in network services from PAETEC, not just software. That's just one example of how the synergies among the full portfolio are growing stronger.

RG: How much does direct customer input drive strategy at PAETEC?

JB: Customer input is how we design personalized solutions at the individual-customer level, and it plays a huge role in the company's overall direction. We have what I consider to be the most remarkable and unique customer focus group program, both in our industry and the nation. No one else has the same capability that we have in terms of supporting a very large collective focus group. Typically, marketers will fly in a handful of customers, sit them down in a room, and ask them for feedback. They record the proceedings, bouncing ideas off of them about the company in question, asking them how the company can serve them better, where investments should be made in the portfolio, and so forth.

PAETEC does something similar to that, but we do it on a nation-wide scale. Then, we take the feedback results, work on the appropriate changes, and do a roll out within the following 18 months in all of our 82 markets. As of now, we've had about 100 of what we call 'Customer Advisory Board meetings' this year. We bring our customers together in local markets, we capture their feedback on what we do well and what we should do to improve, and we get their take on areas where we should invest.

In one particular case, we had a discussion going in the Washington D.C. area. It was not long after the Virginia Tech tragedy. A customer commented that, 'We would really like an emergency notification application that we could leverage. But the problem is that such applications are typically sold by small software providers that don't have the financial wherewithal to make the investment needed to ensure a very reliable emergency communication system for our students or parents of students. We just can't depend on a small company to do that. We think this is an area in which PAETEC could and should invest.' And so, we recently announced our Hosted Broadcast Notification Service, a carrier-based solution that enables businesses and institutions to quickly deliver secure mass-notification — thousands of simultaneous voice, SMS text, and email notifications, if need be — to stakeholders on an as-needed basis. This ensures continuity of operations during times of crisis. It can be activated securely over the Internet or by telephone. This service leverages both PAETEC's infrastructure and applications expertise.

Here in Rochester, New York, we often get severe ice storms, and roads are closed during what is called a state of emergency, when you're not allowed to drive on the road. We at PAETEC want to notify our employees that they shouldn't come to work during such times, and we can leverage our own application to notify our employees and tell them to stay home. As you might correctly surmise, the Hosted Broadcast Notification Service has enjoyed very strong sales. In fact, early on, several of our customers eagerly signed up for pilot programs.

The point I'm making is that we don't just have a group of people in Rochester who blindly try to figure out what our portfolio should look like. Instead, we actively engage our customers. We solicit their feedback, and we act on it. We have a very close relationship with our customers, and that's what steers our course in terms of what areas we invest in and what areas we steer clear of. It's ultimately

related to one of our core values: offering our customers personalized solutions. That's based on the breadth of our portfolio from software applications, such as Hosted Broadcast Notification, or an MPLS VPN, or a fixed-base wireless shot to help a customer that perhaps has challenges in getting fiber to a location, or it could be something as simple as network engineering consultation. We at PAETEC have the ability to bring together all of our resources to help satisfy a customer's needs. And those offerings are derived from the customer advisory board sessions.

RG: 2007 and 2008 were good to the competitive industry, particularly with the demise of Bell Company forbearance decisions at the FCC. Looking ahead, and with the current challenges facing the broad economy, how does PAETEC plan to continue earning success?

JB: We have to be nimble and react quickly to market opportunities, since we're in competition with the incumbent local exchange carriers. That's another reason we have such a large portfolio that includes such communications-related business intelligence applications as the PINNACLE Communication Management Suite for Enterprise Resource Planning [ERP], our hosted broadcast notification, our dynamic IP offering, and the many nuanced applications we offer that some of the big carriers don't. It's all about being flexible, addressing customer needs and ultimately satisfying those customers. That's what is really going to perpetuate our success.

Conclusion

Dealing with PAETEC and its vast capabilities and unmatched customer service is very much like dealing with the genie from Aladdin's lamp. It has a wide range of products and services. If it doesn't offer exactly what you want, they can customize their offerings. PAETEC will listen intently to your feedback, so if you've got a really good idea, the company will likely roll it out to the marketplace in short order.

In all, it reminds Yours Truly of Lauryn Hill's lyrics to the song "Too Good To be True":

*Pardon the way that I stare,
There's nothing else to compare...* ■■

Richard Grigonis is Executive Editor of TMC's IP Communications Group.

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Talking with Mark Warren, CEO of Redfone Communications

By: Richard “Zippy” Grigonis

Mark Warren is the CEO of Redfone Communications, LLC (www.red-fone.com), a company that has brought high availability to the world of Asterisk®-based, Linux-powered, open source Voice-over-IP. Prior to Redfone, Warren was Technology Manager at the Sabre Travel Network and Sabre Holdings, from 1997 to 2005. Previously, he ran International Operations for the TV Guide Channel (1995 to 1997). He had worked for the Prevue Channel, which was acquired by *TV Guide*.

RG: Admittedly, just using the terms “open source telephony” and “fault tolerance” in the same sentence is pretty mind-boggling. Why did you bestow such technology on the humble world of open source?

MW: We – Redfone’s founders – had used Digium’s Asterisk-based VoIP technology in our previous avionics business. Surely anything so inexpensive with a good IP PBX feature set has a great future, particularly for small and medium-sized businesses. However, what it lacked compared to expensive communications systems was true fault tolerance, which would give it equivalent reliability and hence, credibility, and enable open source deployments in more demanding environments.

Asterisk software generally runs on a single server, with PCI-based T1 or E1 interface cards connecting the system to the outside world. Such a configuration, of course, is a single point of failure and puts voice traffic at risk. Voice is still the true “killer app” and I can’t think of very many companies that would feel comfortable with having their phone calls continually in peril.

RG: So you devised your own hardware solution?

MW: Our second-generation hardware is an appliance-like external device called foneBRIDGE2. It can be plugged into the network by IT managers and systems integrators to handle Linux clusters running Asterisk and other open source software-based telephony platforms, such as Fonality’s trixbox.

Since we rely on Ethernet for connectivity between servers, the system’s scalability factor increases dramatically, because hardware alterations and software upgrades performed by having a server admin manually take down a server and thus cause the service to failover to one or more other servers comprising the Linux cluster, which automatically take up the slack. Of course, with foneBRIDGE2 you configure multiple Asterisk servers that don’t actually have any TDM (PRI/T1) hardware cards in them. Instead, foneBRIDGE terminates to PRI or T1 channel banks on the trunk side and Ethernet connects to the Asterisk boxes.

Similarly, any unintentional event or problem that takes down a server also triggers rapid failover on the cluster. foneBRIDGE2’s rapid failover and system recovery occurs in seconds. The foneBRIDGE2 re-configuration options work very quickly, and you can re-program it “on-the-fly” via high availability tools so that a TDM phone call stream can be routed to a secondary standby server occur in under one second.

Therefore, imparting high availability principles to a server environment doesn’t just guarantee failover and continued VoIP service, but it also provides you with the related benefits of increased serviceability and scalability.

RG: What kind of software makes this possible?

MW: One popular HA toolset that works well with both the foneBRIDGE2 and Asterisk is the Linux-HA project’s “heart-



beat’ tool (www.linux-ha.org). The use of a “heartbeat” in the world of high availability has a long history. Basically, messages – the “heartbeat” – are sent to the server nodes in the cluster. If a particular node doesn’t respond to the heartbeat messages, scripts are executed to quickly failover the voice service to another server. This process is completely automatic and transparent.

The foneBRIDGE2 also supports “mixed-mode” operation support, so that T1, E1 and RBS/CAS services are configurable on a per-port basis. Interestingly, for all of its features, foneBRIDGE2’s price points compare favorably with competing dual and quad-port PCI products.

RG: How easy is the whole thing to install? What if a customer has questions?

MW: We at Redfone Communications support both Asterisk and trixbox users. We can handle everything from basic questions and help with configuring the system, to more elaborate engineering consultations concerning how to correctly dimension and generally implement your system. Thanks to our efforts in developing foneBRIDGE2, even small businesses can now enjoy the same reliability, scalability and feature set as can be found in a very expensive PBX-type phone system. The open source telephony model is now looking better than ever. **IT**

www.tmcnet.com/2498.1

Digium, Skype Announce Collaboration

Skype and Digium have come together and announced the beta version of Skype For Asterisk.

The new Skype For Asterisk initiative will facilitate the integration of Skype functionality into Digium's Asterisk software, which will allow customers to make, receive and transfer Skype calls from within their Asterisk phone systems. Combining Skype Internet calling with Asterisk-based telephony products, the beta of Skype For Asterisk acts as an add-on channel driver module. By offering low rates for calling landline and mobile phones around the world, Skype For Asterisk also complements small- and mid-sized business users' existing services.

With the beta version of Skype For Asterisk, users can save money on inbound calling solutions such as free click-to-call from a Web site, as well as receive inbound calling from the PSTN through Skype's online numbers. Users will also be able to manage Skype calls using Asterisk applications such as call routing, conferencing, phone menus and voicemail. The initial beta is limited to a select number of users, developers and integrators.

www.astricon.net/skype

www.tmcnet.com/2499.1

Infobright, JasperSoft Collaborate on Open Source Solution Bundle

In an effort to make it easy for users to quickly implement a scalable BI platform and to get the information and knowledge they need to be successful, Infobright, a provider of technology for analytic data warehousing and JasperSoft, a provider of open source business intelligence (BI) solutions, announced plans to deliver a joint end-to-end open source BI and data warehouse solution.

This solution will be available as a JasperForge project, which will be based on JasperSoft and several Sun open source products, and also new open source data warehouse software, Infobright Community Edition (ICE). JasperForge.org is an open source community portal with hundreds of projects for the JasperSoft business intelligence (BI) suite.

www.jasperforge.org

www.infobright.com

www.tmcnet.com/2500.1

Report: Open Source Developers Recommend Commercial Linux for High Performance Computing

In response to the latest Evans Data Cor-

poration's Open Source software and Linux survey, most open source developers recommend using commercial versions of Linux over non-commercial versions of Linux when creating mission-critical, large enterprise, high-performance computing applications. According to the survey, non-commercial Linux is usually preferred for Web development and embedded systems. The survey gathered data from 400 developers who are actively involved in open source development.

According to the survey, Ubuntu ([News - Alert](#)) — which is used by 24 percent of the open source developers, is the most used Linux distribution. For those who are unfamiliar with Ubuntu, it is a community developed Linux-based operating system that is ideally suited for laptops, desktops and servers.

www.evansdata.com

www.tmcnet.com/2501.1

Sun Microsystems' OpenSolaris Achieves Fast Customer Adoption

Sun Microsystems ([News - Alert](#)) has revealed that customer adoption rates for various technologies with OpenSolaris communities are rising significantly, with hundreds of new Sun enterprise, Web 2.0 and other customers joining the 150,000+ strong OpenSolaris community. Based on Solaris kernel, OpenSolaris is an open source project created by Sun Microsystems in 2005 with an aim to build a developer community around the Solaris Operating System (OS). Sun launched OpenSolaris Operating System in May 2008.

The OpenSolaris project User Group is an active community with more than 150,000 members and a growing collaboration with dozens of OpenSolaris technology communities and projects being created online.

www.opensolaris.org

www.opensolaris.com

www.tmcnet.com/2502.1

At ITEXPO West, cyLogistics Showcases TrueBill Version 2.0

At TMC's ITEXPO West in Los Angeles, cyLogistics ([News - Alert](#)) was on hand, ready to discuss with attendees the many benefits of its TrueBill, an award-winning billing solution that supports pre-paid, post-paid, real-time, on-demand, tax functions and a great deal more to VoIP telephony providers with either ASP, purchase programs or with leasing options.

TrueBill Version 2.0 now integrates with Ring Carrier, an open source softswitch provider. By integrating open source technology from various sources with its own

proprietary code, Ring Carrier delivers sophisticated, flexible switching software technology with interfaces for providers, enterprises, and end-users. With it, providers can scale from hundreds to millions of customers via its ability to support 50 to 75 hosted Asterisk PBXs on a single PC, making it a highly cost-effective solution for network operators such as an ITSP, LEC or CLEC VoIP telephony provider.

www.cylogistics.com

www.tmcnet.com/2503.1

IBM Launches New Software for Developing Mainframe Apps and Enterprise Mashups

IBM has launched a new software line designed to help businesses take advantage of the surge in mainframe applications and the growing momentum behind enterprise mashups.

The total number of commercially-available mainframe software applications has now topped the 4,000 mark, primarily backed by the popularity of running Linux on the mainframe, growth of the System z client base in emerging markets such as China, India and Brazil, and strong utilization of specialty engines. The new software products announced by IBM are based on open standards, so that businesses can easily develop, deploy and manage mainframe applications and mashups using the same programming skills and management tools they are accustomed to for distributed computing environments and contemporary Web applications.

www.ibm.com

www.tmcnet.com/2504.1

Sangoma Climbs Aboard the NetBorder Express

Sangoma Technologies recently announced its newest product line, dubbed NetBorder Express VoIP Gateway Cards. Sangoma's cards, in concert with a new set of software building blocks combine to deliver a SIP to TDM VoIP Gateway solution. Integrators and developers can also use the new solution to develop SIP-based applications such as iPBX, IVRs, and Conferencing Servers. The cards include Telco-grade, hardware echo cancellation, and customers can purchase up to eight spans on a single board and can deploy multiple boards in a server.

Current owners of Sangoma's T1/E1 card with hardware echo cancellation can download a trial version of the software online.

www.sangoma.com/nbe_trial

Enterprise Mobility – on the Move with Voice and Data

By Richard “Zippy” Grigonis

In the past, supporting mobile professionals consisted mostly of forwarding calls and texting. This was followed by projecting one major back office application (e.g. CRM) to the handset. Now, mobile worker productivity is skyrocketing; corporate IP PBX features and various back office applications and data are extended to mobile devices, integrated with what is essentially mobile unified communications functionality linked to the office via WLAN, VoIP and cellular technologies.

In short, enterprise mobility has become an overall corporate strategy for maintaining competitive advantage, whether it involves connecting managers and employees in the field, or on the retail or warehouse floor. Even verticals such as healthcare benefit, as doctors can instantly review patient data from any location.

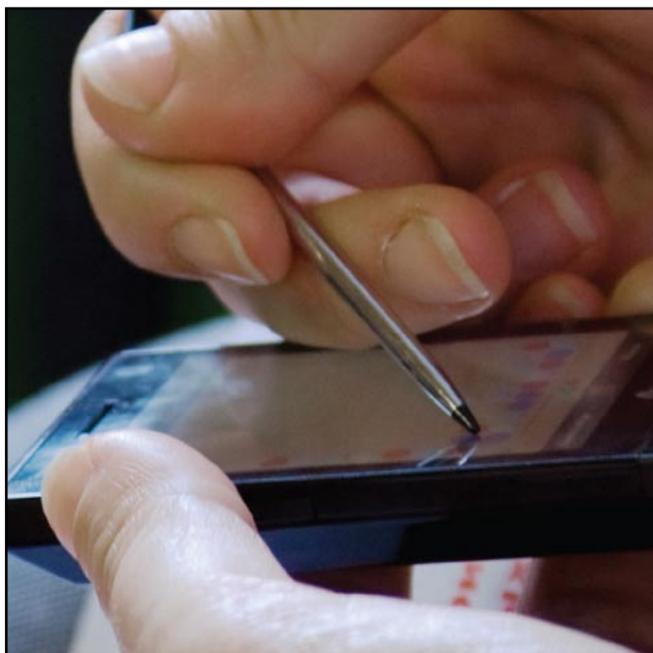
Mobile Unified Communications?

In the quest for projecting corporate applications and communications capabilities to the mobile user, developers must take into account legacy PBX equipment and existing cellular services used by company employees, and yet provide what is essentially a mobile unified communications system.

Take DiVitas Networks ([News - Alert](#)), which has devised an interesting mobile unified communications-like client that you download into your mobile phone. The DiVitas server can be placed within the enterprise or it can be hosted by a carrier. The server talks to various phone applications such as corporate instant messaging directories, and vertical-specific apps such as push-to-talk and presence (it leaves cellular service and mobile email to others). DiVitas leverages these and creates a second persona for you - a ‘work’ or ‘professional persona’, on your mobile phone. When the DiVitas client is activated, you have access to all the communication or messaging apps to which you need access to perform your tasks when you’re away from your desk. You can place and receive calls on your desk phone line. You can do IM, which travels through the corporate IM network/system. You also have access to your company’s directory, in addition to your personal directory, which will coexist on your mobile phone. You can update your presence and access to your personal status message, which can broadcast what you’re up to at any given instant.

DiVitas Networks’ CEO and Founder, Vivek Khuller ([News - Alert](#)), says, “We’re flexible on both server and client sides. You can use a third-party client or ours for a specific app. For example, if your company uses an IM client different from DiVitas’, you can still access the IM application from our client but when you launch the client for IM specifically, it will launch that particular client instead of the DiVitas native client. Also, on the server side we can turn off our PBX functionality and instead talk to your legacy PBX. We can connect to any standard SIP-based deskphone, and you can give everyone a mobile phone and install our client, whereupon each will be come a fully-functioning, self-contained system for voice, IM and all of the other apps.”

Meanwhile, over at Vaultus Mobile Technologies, they provide an end-to-end wireless data, content, and application delivery platform used

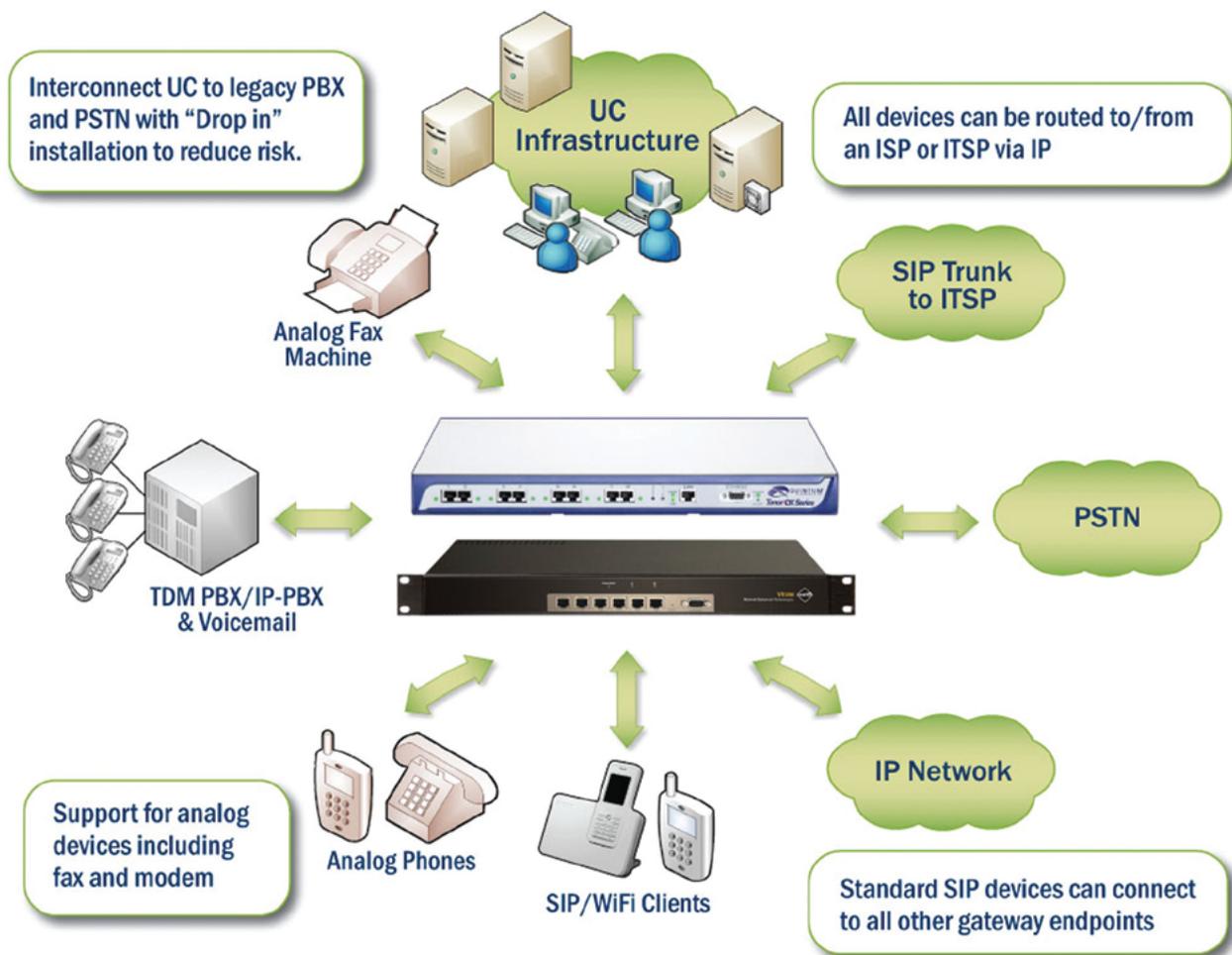


by companies to securely port or ‘mobilize’ common and homegrown applications as well as data to the various devices of mobile workers. Vaultus’ platform provides secure access to data from leading applications like Siebel, Salesforce.com, Microsoft CRM, Remedy, Peregrine and Heat. It also offers pre-packaged Sales/CRM, Helpdesk and sales performance packages if you don’t have one to port. The intuitive mobile interface typically needs little or no end user training. Data is cached and kept instantly available to users all the time, regardless of network connectivity. Vaultus technology can be found in many verticals such as financial services, healthcare, public sector, transportation, manufacturing and retail, extending helpdesk, CRM, and custom apps as well as dashboards to mobile workers.

Keith Waryas, Director, Marketing and Business Development at Vaultus, says, “Our mobile applications platform extends business critical applications out to handheld devices. We do it in a way that’s unique in the sense that we put a rich application out on the mobile device and make sure that it’s constantly connected to the backend whenever a wireless connection is available, but if you’ve ever used a mobile phone you’re obviously familiar with the fact that wireless connections aren’t always available. So the rich application aspect of it comes into play because Vaultus has some patented compression technology and some ways that we manage and sort data locally on the device, which allows us to take essentially the entire backend data set and put it securely, locally on the device. If you’re in a basement or a bad signal area, and you have to answer a question about an account, you still have full access to all of your data. It blends online and offline capability in a way that drives superior usability for the customer and end user.”

“A few years ago, on the enterprise level, single applications were driving deployment,” says Waryas. “A company would say, ‘We want to mobilize our salesforce,’ or ‘We have an IT helpdesk team that constantly moves and we

Introducing the Unified Communications Global Online Community



The Unified Communications Global Online Community, sponsored by NET/Quintum Technologies, is designed to serve as the premier resource for information on Unified Communications technology and solutions. As the Unified Communications space continues to evolve, readers can stay abreast of trends and issues driving this exciting technology Bookmark this page to keep informed.

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need to mobilize them and give them access to the helpdesk, and we would come in and deploy the platform on what we call an Application Connector, which ties the platform to a specific back-end application, mobilizing that workforce or that group. Now a significant shift has occurred in how the Fortune 1000 and 500 are starting to look at mobility. They're finding that point solution needs pop up in multiple areas. As a result, it escalates to a slightly higher level, sometimes up to the CTO's office, where now they're in a position where they have to look at an overall enterprise mobile strategy as opposed to just a mobile solution for a specific department or division. They're doing this because there have been many cases where companies have deployed one solution in one division, a different solution in a different division, and a third solution in a third division, and at the end of the day they discover they've been replicating costs around management, infrastructure and technology, when they could simply combine all of them and deliver functionality using our single platform at significant savings."

"We are able to deploy our platform, which supports virtually any application in the back end, but you can expand and scale out both vertically and horizontally as you need to," says Waryas. "In the case of one of our large customers, Merrill Lynch, their need started out with a single area – as I recall it was either a help desk or CRM – and they quickly spiraled into a number of different applications, including multiple CRMs. They've got different dashboard-like applications, and what I'd call process management applications. They were going to mobilize all of these apps individually. Thanks to Vaultus they've been able to add our connectors to a core infrastructure strategy and build it out both vertically and horizontally as they need to add more users and as they expand the breadth of mobility by supporting multiple applications in the back end."

"A secondary area that's become big for us is the OEM space," says Waryas. "Companies such as Pivotal, Varicent and Cognos (News - Alert) are using the Vaultus platform as the foundation for their own branded mobile applications. In fact E*TRADE Securities recently partnered with Vaultus to build E*TRADE Mobile Pro, an exciting new mobile trading application that offers customers quick and easy wireless access to their E*TRADE accounts."

A Piece of the Action

The public may associate the revolution in enterprise mobility with dynamic startup companies and rogue entrepreneurs, but in fact your existing PBX vendor is already hard at work to extend your legacy phone system's capabilities beyond the corporate perimeter.

Take Siemens (News - Alert), for example, whose product lines have undergone considerable technical evolution over the past few years. For example, the latest release of Siemens' HiPath 3000 brings open communications to users of converged platforms via the integration of SIP (Session Initiation Protocol), which enables companies to take advantage of the next-gen carrier interfaces. The HiPath 3000 can keep employees connected, regardless of whether they are in the office, on the move or working from home. By enabling easy home and remote working via any broadband connection, the HiPath 3000 reduces both administration and reliance on mobile networks, which makes it easier for teams to collaborate and slashes communications costs too.

Scaleable from 30 to 500 users, the HiPath 3000 is also an appropriate platform for HiPath Wireless, Siemens' enterprise-grade Wireless LAN solution. HiPath Wireless supports deployment of tightly-integrated open mobility solutions that also enhance business processes, speed communication and improve productivity.

Just as we were going to press, Siemens announced Siemens OpenScape Mobility, which will bring together, from one vendor for the first time, enterprise telephony, video, unified communications, wireless and fixed-mobile convergence in a single integrated Mobile UC solution. This solution addresses three major trends in today's workplace: the all-wireless enterprise, fixed mobile convergence adoption and UC. To address these trends, OpenScape Mobility includes: The All-Wireless Enterprise with HiPath® Wireless (V5R3) – an easy-to-deploy 802.11n WLAN; HiPath MobileConnect (V2) – the award-winning fixed mobile convergence solution from Siemens; and the new OpenScape UC Application Mobile Client – an innovative UC application that now goes mobile with a new mobile client for RIM, Symbian (News - Alert) and Windows mobile devices.

Man in the Middle

MobileDataNow lets an organization provide one-click access to business applications and services from any mobile device. This surprisingly simple and easy-to-use solution is based on messaging.

Nick Bolton, CEO, says, "We produce middleware that links people with informational database systems, just by using messaging, such as email, SMS or even instant messaging. This is achieved by simply sending a message to retrieve, add or update important business information. Not only is this a very fast, easy and efficient way of accessing information, it's a concept easily understood by any user of a mobile phone. It works with the messaging clients

on all phones. There's no software to install on the phone and you don't have to develop any particular client. You can get our technology up and running in about an hour, instead of six weeks of development time, or what-not."

"We can connect to any new or legacy relational database system that can be accessed by ODBC or JDBC, such as DB2, Oracle, MS SQL Server, Sybase (News - Alert), MySQL, and so forth. You can also connect to flat file single user databases, such as MS Access, Apache Derby, Berkeley DB, SQLite, etc., also using ODBC or JDBC. We can even connect to both simple and complex SOAP Web Services using a WSDL URL, dynamically invoking the Web Service without any coding."

Good Things in Small Packages

For very small companies or SOHOs, "enterprise mobility" can sometimes just be a new and better cordless phone system, such as the new snom m3 DECT phone, which is suitable for VoIP in the home office, SMB or even the enterprise. With an indoor range of 50 meters (164 feet) and an outdoor range of 100 meters (328 feet), you can add up to eight snom m3 handsets to your system – allowing for up to three parallel calls at time. It has a 128 x 128 pixel color display with backlight function and operates for 10 hours talk time or 100 hours standby. Additional features include three-way conference calls, call transferring, music while on hold, call forwarding, and speed dialing with an address book allowing up to 100 entries. The snom m3 menu is designed to be easily configurable – it can even be configured remotely.

The snom m3 even has terrific styling, the result of snom having hired the famous designer, Sebastian Stroschein of Stroschein Product Design, Berlin, who also designed the Bluetooth handsets installed in Maybach limousines, all mobile phone holders in Mercedes-Benz cars (including the iPhone holder) and the handsets found in Porsches and BMWs.

Keeping Things Secure

With the proliferation of mobile users and their 3G phones, security concerns arise. Third generation phone systems must deliver desktop-like features to the mobile user, such as multimedia and pay-for-view content, and secure transactions. These all tend to gobble up most of the processing power of a 3G phone, which has considerably less memory and computing power than a typical desktop computer, and yet there must be sufficient computing power left over for delivering these features securely via strong cryptography.

As it happens, Certicom is a company that has tackled the crypto problem using so-called Ellip-

tic Curves Cryptography (ECC), which is suitable for resource-constrained environments such as small cell phones, since it uses very small keys and fast algorithms. RIM/Blackberry and other mobile-related vendors are beginning to adopt ECC over the traditional encryption methods to secure their wireless connection.

Then there's PGP Corporation. Unlike point solutions that address a single threat or stitched-together product suites that could use some additional integration, the extensible PGP Encryption Platform delivers an integrated encryption framework that can handle a broad range of encryption applications. PGP encryption defends data on desktops, laptops, and beyond. The PGP encryption applications are centrally-managed. You deploy the platform once and then activate applications as needed.

John Dasher, Director of Product Management, says, "We re-launched PGP in 2002. We took a fresh look at how to provide encryption solutions. We recognized that enterprises hadn't really deployed encryption solutions for a variety of understandable reasons. They were expensive, they were hard to deploy, hard to manage. There was a genuine fear that if they let encryption loose in their enterprise, then suddenly they might not be able to access their own data assets if an employee left or if something got damaged, etc."

"We looked at the problem and evaluated all of the expertise we had accumulated over a decade," says Dasher, "and we decided to turn the problem on its head: We simply said that maybe everybody has been looking at this problem from the wrong perspective. Perhaps the correct perspective isn't from the double-clickable desktop application; rather, it should be an infrastructure perspective. One of the things that we observed back before we launched the company, and frankly, what we observe in our competitors today, is that there is a variety of different security solutions out there, whether you're talking about a mobile security solution, an email security solution, encryption for laptops, and so forth. There are many products that address various niches. While there may be some good point products, the problem is that they are in fact point products. Each one of those products brings with it a unique segment of the infrastructure. Each product has to deal with key management, policy management, deployment, reporting, and other very important things. If you're going to deploy multiple solutions with multiple-management systems, you're left with some bad choices. You either have to embark on a very expensive and insecure path of enterprise application integration, or you must force your IT folks to manage silos, which is not only hard and expensive, but likely leads to inconsistent policies and keys across the silos."

"We decided to take all of that common infrastructure and create a platform upon which we can seat applications," says Dasher. "If you're familiar with a hardware blade architecture, you can see that we followed a similar approach. Our 'chassis' is the PGP Universal Server, which provides a standard-based key and policy management, provisioning and other good stuff on the server side, and then we can plug in individual applications as the corporation needs them, be they email, file encryption, badge encryption, mobile device encryption, and so forth. That's the philosophy upon which we based all of the products that we currently sell today at PGP Corporation. Our desire is to make sure that encryption could be deployed along a safe and sane, affordable and manageable path."

"We then noticed increasing numbers of RIM/Blackberry devices in our accounts," says Dasher. "Our customers began asking us to provide PGP encryption on those devices. Conversely, the RIM Corp. sales force saw more PGP in their accounts. So we got together. The Blackberry operating system is proprietary, so they weren't terribly eager to share it with us. We said, 'Hey no problem. We'll give you the APIs for our encryption platform and you can PGP to the OS,' which is exactly what they did, in the form of the PGP Support Package for Blackberry, which allows it – if it has OS release 4.1 or later – to plug right into the PGP Encryption Platform."

Staying In-Sync

Headquartered in the U.K., Synchronica ([News - Alert](#) plc develops and markets industry standard mobile email and synchronization solutions for many mobile devices. Mobile operators, device manufacturers, and service providers in emerging and developed markets use Synchronica products to provide mobile email, PIM synchronization, and backup and restore services to their consumer and corporate customer base. Their products include the Mobile Gateway push-email and synchronization solution (it synchronizes calendar and contact over the air, using open-industry standards and works with 1.3 billion phones) and the Mobile Backup mass market device backup solution.

Synchronica's CEO, Carsten Brinkschulte, says, "In terms of enterprise mobility, our infrastructure software enables mobile email and synchronization. We do this for the profession consumer but also obviously for the enterprise. We believe there is much 'blur' between these two areas with regards to mobility. Our Synchronica Mobile Gateway delivers Blackberry-type services on regular mobile phones, in a sort of poor man's Blackberry scenario. We enable regular devices

from almost all device manufacturers to send and receive email and to synchronize their address books and calendars, which sounds a bit 'bread and butter' dull, because everybody believe they can do it these days. But Synchronica achieves this in a different way, and in the long run we believe our way is the best and will perhaps become the standard way of doing things. Unlike most other companies in this field, we have always been a big proponent of industry standards for data synchronization and mobile email."

"Most other solutions in this space are instead betting on proprietary implementations of push email and synchronization," says Brinkschulte. "Proprietary protocols from companies such as Cisco and Microsoft enable push email and synchronization on some devices, but they require special software that supports the proprietary protocol to be present in the device. In other words, you must install an additional client on the headset and it typically needs some support behind the firewall of the enterprise. Synchronica has been the proponent of a different approach, which uses open industry standards. Around 2000 – 2001 industry standards were defined for data synchronization and email. These industry standards became widely-adopted in the past three or four years in almost all devices. Those industry standards enable vendor independence / mix-and-match, push email and synchronization solutions, basically avoiding the usual single-vendor 'lock-in' problem of competing solutions based on proprietary protocols. One of these industry standards began as SyncML [Synchronization Markup Language], which, after the formation of the Open Mobile Alliance, was renamed to OMADS [Open Mobile Alliance Data Synchronization]. It's used to synchronize data such as calendars, contacts and so forth, to mobile devices like PDAs and smartphones. OMADS is supported in about 1.5 billion handsets. About 85 percent of all phones shipping this month have OMADS support built in. As for email, the industry standard is IMAP [Internet Message Access Protocol]."

"Our Synchronica Mobile Gateway simply utilizes the industry standard clients which are already supported in millions of phones out there," says Brinkschulte. "We just enable these clients to send and receive email and synchronize such things as calendars. Unlike our competition, we can do this without requiring additional software to be installed." **IT**

Richard "Zippy" Grigonis is Executive Editor of TMC's IP Communications Group.

The Vast World of Network Management

By Richard “Zippy” Grigonis

Network Management continues to evolve, increasing in sophistication and capabilities. Over 20 years ago, the Simple Network Management Protocol (SNMP) appeared to help manage the first distributed networks by polling network devices every few minutes. Although SNMP is still used, it's showing its age, particularly since its leisurely polling process can miss the kind of transient, 150+ millisecond congestion events that disrupt VoIP and IP video communications. SNMP is now joined by a boatload of newer technologies and tools capable of real-time packet flow analysis, comprehensive reporting, and many other functions. At the service provider level, vast hybrid TDM/NGN/IMS networks multiply the challenges of network management.

ILECs, CLECs, and companies providing broadband services all face the challenges of quickly identifying network performance and availability issues to maintain customer satisfaction.

A relatively new company, Xangati ([News - Alert](#)), which has just been shipping products since 2007, has taken on the challenges of service providers head-on.

Xangati's David Messina, Vice President of Marketing, says, “Our focus is on a solution area that we call Rapid Problem Identification or RPI. The idea is that, given the increasing complexity of the service provider infrastructure out there — which includes a whole new set of dynamic applications that they're delivering, not to mention a whole new set of different technologies residing in the digital home — the increasing volume of subscribers who are leveraging broadband and the complexity of the problems that exist in their infrastructure and among their subscriber base, are growing exponentially. So we devised Rapid Problem Identification, which creates a new model for those who are managing the infrastructure in a service provider network and for subscribers, to really rapidly isolate specific problem sources; in other words, unearthing very quickly where the problem might lie. Specifically, we've built a technology with that explicit focus.”

The Xangati RPI system is said to accelerate problem identification efforts by at least 20 percent, which results in major productivity gains for service provider technical teams and increased subscriber satisfaction. Xangati RPI can do such things as quickly and proactively identify spammers to avoid being email-blacklisted by ISPs, achieve visibility into subscriber identity and activity, improve customer responsiveness by quickly identifying problems, determine if the problem is on the subscriber side (or related to your network or service), provide the foundation to provide support for IPTV and VoIP, and avoid expensive backbone capacity upgrades by curtailing “breach of contract” Internet use such as cutting spammers off of their network or subscribers acting as hosting sites.



“Our solution is delivered as an appliance that leverages data being generated by the switches and routers that are in the infrastructure,” says Messina. “There’s a technology called ‘flow technology’ or ‘flow data’ that works with all of the various routers that are out there — be they Cisco, Juniper or Nortel — that can generate summary information about the traffic that’s running across the infrastructure. That fuels our system. The benefit of leveraging flow data, let’s say, instead of other technologies in the market, is that it allows us to be a non-intrusive appliance, just another IP device on the network. We don’t sit in the packet path and we’re not inspecting packets. We don’t require a redesign to get our management solutions into the infrastructure. As a result, customers are able to install our RPI appliance in about an hour and immediately achieve visibility into their network and subscribers. So they can get some real value very quickly as they move forward.”

“Although the term ‘middleware’ isn’t officially quite the right terminology, RPI does in a sense ‘sit in the middle’ and is non-intrusive,” says Messina. “It also allows us to gather information on all of the key elements that are in that service provider infrastructure. Traditional management solutions are optimized for different elements. For example, there’s a management system for the Cisco routers, and there’s one for the access devices. There are some tools used by customer support desks, and there are overall network performance management solutions that exist in the organization too. But the truth is that those traditional tools are very focused on specific areas of expertise. A tool may be great at monitoring an interface, but you need another tool that’s terrific at monitoring Cisco routers. In the case of the Xangati solution however, it starts out by discovering and identifying everything on the infrastructure, including subscribers, hosted web servers, or any key network connections for the service provider, such as an upstream connection to a backbone provider. Amongst other kinds of views, it gives you live visibility into the different interrelationships among the different infrastructure elements.”



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“That’s important,” says Messina, “because we’ve seen time and time again that if you talk to a service provider, their orientation is really kind of schematic — green, yellow and red lights relating to all of the management systems. There are countless times we’ve seen service providers that have ‘green lights’ on all of their management systems, yet they’re busy firefighting a problem. That can happen because the challenges and problems out there actually transcend the different elements — it’s about the relationships between, say, the subscriber, the applications they’re using and the network. You can’t just discount the situation by saying, ‘Oh, it’s just the application.’ For example, if there’s a whole slew of subscribers that are starting to do peer-to-peer traffic, and that’s consuming the upstream connection, the network could easily get blamed, but again, you need to have visibility into the element relationships as to what caused an upstream connection to be blocked.”

“That’s why Xangati really differentiates itself with its ability to discover all of the different infrastructure elements,” says Messina, “and it tracks those relationships in the sense that it cuts across the different domains of expertise in the different ecosystem elements. Moreover, it gives you a profiled understanding of the normal behavior of every one of those elements. By that I mean that for every application — which could be email, VoIP, p-to-p or whatever — we establish a set of parameters around not only performance but element relationships, and have the system learn that. It can even learn the behaviors of a subscriber household or a hosted server. It ‘understands’ the high and low watermarks.”

“For example, if a server stops serving its community — i.e., if a mail server has dipped down to serving only two users instead of 100 or more, that’s a very noticeable piece of information,” says Messina. “Or if a subscriber starts to communicate with a 100 different other different peers on the Internet with email, that indicates the subscriber has become a victim of malware, specifically a spambot. So the beauty of the Xangati solution is not only its ability to track relationships, which in itself is incredibly important in finding and solving problems, but it also supports the idea of profiling the behaviors and making that a system-learned capability, which allows us to set up a framework wherein the service provider organization can actually take a proactive stance in problem identification. That’s one of our solution’s major differentiators. Because we understand normal system behavior, when something strays from that pattern we can catch problems before they become problems, unlike traditional management products.”

Of course, over the years network “testing” became “monitoring” and now everything is slogged together under the general term “network management”. Some useful products are not even considered network management systems *per se*, such as Zeugma Systems’ ZSN, an in-line subscriber management and broadband aggregation device that performs functions that simplify and streamline carrier network and service management. Basically, these functions operate in two broad areas: information extraction and policy enforcement.

The ZSN collects deep statistical information on all traffic flows traversing the network. This information is collected on a highly granular per-subscriber, per-service basis and can be used by network management personnel for troubleshooting and auditing. The ZSN also can be used to develop real-time Mean Opinion Scores (MOS) for all voice and video sessions, further enhancing the carrier’s ability to manage subscriber services. More important, however, is the application of policy enabled through the ZSN. As a layer 3 Service Delivery Router (SDR), the ZSN dynam-

How to Effectively Pinpoint Network Problems — A Guide to Addressing the Physical Needs of Your Virtual Network

By Kenneth Klapproth

1. Be Proactive, Rather Than Reactive! — Just as with high blood pressure or high cholesterol — the human silent killers — operating your network at capacity, or beyond its threshold with unaddressed issues, could be the “silent killer” of your enterprise. By implementing a proactive diagnostic capability, your business network will stay in good health, and you can prevent catastrophe by addressing what is lurking below the surface.

2. Find a Happy (Capacity) Medium — While excess capacity may be inefficient and reduce the return on hardware investment, running with little or no capacity can be downright dangerous and leads to sizable unplanned expenses. Enforcing a capacity-planning tool can map existing network inventory in a matter of hours, enabling your company to allocate resources more efficiently than ever before.

3. Build in Redundancy — With advances in hardware and communications protocols, you are probably pressed to remember the last time you had a complete network outage. However, a false sense of security can cause you to miss the most pervasive and increasingly frequent instability issues. By increasing visibility in the framework, you can anticipate, without fearing, your network’s health.

4. Swim Upstream! — Over 80 percent of all IT problems are a result of change. As networks have grown in complexity and in strategic importance to businesses, visibility to the change alone is no longer sufficient since the downstream effect of the change can be far more detrimental. Swim upstream: look at topology and connectivity status to speed troubleshooting and repair. If you wait for the downstream effect, change under the radar could impair company productivity for days or weeks.

5. Work in Tandem — When it comes to managing your network, virtualization doesn’t always reign supreme. Sure virtualization produces many benefits, including cost reduction, increased agility and responsiveness, reduced downtime and even faster software development cycles. However, virtualization also creates new challenges when its operation is considered independent of your physical network. Although deployed in “virtual machines” they execute real (read mission critical) business services on physical servers that users access across physical networks. You need to effectively operate a combined virtual and physical environment to address all of your business’ needs.

Kenneth Klapproth is Vice President of Marketing with Entuity (www.entuity.com), a leading provider of network management and service delivery solutions.

ically creates queues for all sessions traversing the network and applies unique Quality of Service (QoS), usually bandwidth-related, parameters to those sessions. Many times, dealing with such things as network outages or unforeseen congestion, this capability enables the network to automatically respond to failure conditions using pre-determined policies.

The ZSN is founded on a high-performance, fully federated compute grid supporting the Zeugma Open Application Sandbox (OAS). Just as in general-purpose operating systems, the Zeugma OAS allows service providers to embed applications within the ZSN that are developed by Zeugma, by the service providers themselves, or even by select third parties. Thus one can extend the system until it is a full-blown network management system.

Convergence and More Convergence

Juma Technology is a top telecom and IT systems integrator specializing in converged voice and data network deployments. Their expertise spans contact centers, mobility, network infrastructure and security.

Juma's CTO, Joe Fuccillo, says, "At a high level, we see that customers are not happy with the many 'point' products they've purchased, which don't 'stitch things together' well. They give you a narrow view. People have purchased some type of VoIP management, such as a voice quality tool, which turns out to be not very 'end-to-end' in nature, and they need things like probes. Many of my customers tell me they don't want to position probes all over their network, and they're not happy with some current ways of adding network management for voice."

"Another trend we see is that the ITIL specifications are starting to drive people toward using dashboards, services and service views, as opposed to alarms and alerts," says Fuccillo. "They want things that work end-to-end, and they want an application delivered as a service or a series of applications integrated as a business process, and linking them end-to-end, measuring service level agreements against the end-to-end service or process as opposed to an individual component. Customers like to use the dashboards and metrics to provide information both to the business and to the IT staff."

"Years ago, a company initially dealt with many 'silos,'" says Fuccillo, "and the network management team used one set of tools, the server management group used a different set, and the PBX guys had almost no tools — other than configuration tools — and they had almost no monitoring capability other than some alarms concerning facility issues. Now different technologies, even wireless, are converging into something that enables people to look into the overall applications as a total service view. Storage had its own tools — the database groups had their own tools for monitoring certain database systems. Not that the tools aren't important, because they all add very interesting information. But an overall view of end-to-end performance availability, services and how that's functioning for the business is really what we see changing, particularly as groups on the management side become more unified. At the director level, more and more groups report to a consolidated management team."

Faster and Faster

Aspera ([News - Alert](#)) has devised software that runs at each end of a link, capable of overcoming network throughput bottlenecks in a way that differs from conventional file transfer protocols and "WAN

acceleration" approaches. As more and more content becomes digitized and moves through the infrastructure, Aspera can provide maximum bandwidth utilization, the fastest possible end-to-end transfers, and guaranteed delivery times, regardless of the distance of the endpoints. The efficiency holds across the dynamic conditions of the network and for even the most difficult satellite, wireless, and unreliable international links. Moreover, the transfers are completely secure. Aspera works with telco customers such as Verizon, Comcast and EchoStar.

Michelle Munson, President and Co-Founder of Aspera, says, "We play a role in the world of file-based workflows that are replacing the more traditional ways of moving tape-based content to media distribution channels. Our crossover with Internet telephony has to do with the convergence of entertainment content with more traditional service providers. Specifically, we've created a core technology that solves the underlying performance problems associated with traditional file transfer protocols, in particular TCP-based protocols. Our software is a new generation of file transfer technology that provides ideal bandwidth efficiency, independent of network conditions. For organizations that move or desire to move large amounts of digital content as files over IP networks, the Number One benefit our software provides them is the most efficient use of the bandwidth and therefore dramatically faster file transfers — so much so that customers have experience orders of magnitude faster in terms of enhanced transfers, depending on how poor the performance of the traditional protocols are, based on network distance and such fundamental factors as packet loss and delay associated with the network paths."

"Aspera has grown up as a company and a technology providing high-speed transfer to these companies," says Munson. "As they move from shipping physical media to setting up networks and transferring digital media files through this supply chain — for example between movie studios and the TV producing broadcasters and the VOD [Video on Demand] providers such as Comcast and now the IPTV people such as AT&T — there's now a huge context in which that transport gets applied. Factors include everything from how you set up and do the transfers that scale between companies, to how you track, monitor and manage what's going on, to how you fit into the workflows. One of the most interesting examples concerns a traditional system of gathering content for VOD from the providers of that TV and movie content, called Pitcher/Catcher, and it goes over satellite. Each recipient has a satellite receiver to grab the content 'pitched' to them over that satellite link. That's one fundamental place in the supply chain that's switching to file-based transfer. In those cases Aspera is a substitute for that traditional Pitcher/Catcher system, and certainly a substitute for FTP. So that's the basic context in which we operate."

"We are deployed at many of the content suppliers as well as the cable and MSOs that receive content to distribute as high-speed file transfers," says Munson. "We're also deployed at many of the on-line video aggregators that are new distribution channels, of which iTunes was a sort of prototype, and now there are things such as Hulu ([News - Alert](#))."

The Security Angle

It's difficult these days to separate security from overall network management. It sometimes appears that the whole world is attempting to hack networks, and so what was once an afterthought is now a major consideration. Take Fortinet, founded in 2000 by the legendary Ken Xie of NetScreen (sold to Juniper for \$3.5 billion), a major provider of Unified Threat Management (UTM) security systems for business

communications. Its security systems and subscription services protect the networks of more than 20,000 customers worldwide, including carriers, service providers and enterprises of various sizes.

Fortinet's Director of Product Strategy, Chris Simmons, says, "Our basic idea is to provide a consolidated security platform. As it pertains to telcos and your larger carriers and provider entities, we offer a series of chassis UTM systems, which we call the FortiGate 5000 Series. It gives them a platform onto which services can be integrated. It's really good for operationalizing security. Also, in terms of network management, we do have features such as priority queuing, quality of service, traffic shaping of applications, and all of those great things that can help to shape the network and ensure that the critical traffic gets through, and that applications don't consume more bandwidth than whatever is desired."

"With that said, we just announced 10 gigabit Ethernet support throughout our whole 5000 Series chassis," says Simmons. "That really opens up the bandwidth whenever we're talking about providing security on the network, and we're now able to do all kinds of load balancing configurations at 10 gig speeds. Hence, we've made an order of magnitude jump in terms of what we've capable of pushing through one of our FortiGate 5000 Series devices. We have different sized models for the FortiGate Series so we can hit just about every market. We offer everything from a 5-user model all the way up to carrier network-class devices that support huge numbers of users. The great thing about the FortiGate Series is that a provider or carrier can provision customer services on a single hardware platform and create a managed firewall service, VPN service, intrusion prevention service, and they can filter their mail for spam — with all of this on a per-customer basis, which gives them a high level of granularity while still doing it all in one physical hardware platform. You can cram quite a bit of customer density into a single appliance by means of virtualization."

"FortiGate also has great traffic shaping and monitoring capabilities, particularly as it pertains to voice traffic," says Simmons. "We can fully decode SIP, H.323 and other protocols and we can monitor the voice network for the attacks that are known today, but we can also prioritize the traffic and give it a quality of service so that it will get through the device expediently."

Ethernet Satisfies the Bandwidth Urge

Fujitsu Network Communications, headquartered in Richardson, Texas, provides IT and carrier-class telecom solutions for the North American service provider and Cable TV markets. Thanks to their tie-in to Fujitsu Labs, they can provide innovative and fully integrated IT/Telecom solutions that deliver traditional and next-gen services to many types of metropolitan transport networks, as well as regional, long-haul applications.

Denise Provencher, Director, Element Management Products at Fujitsu ([News - Alert](#)) Network Communications, says, "Our history has been the development of transmission equipment for carriers and service providers. The biggest trend we see is network convergence. Migrating the core, inter-office network from TDM-based services to packet-based services, particularly the use of Ethernet as a transport, as opposed to SONET or SDH. Also, carrying that directly over WDM [Wavelength Division Multiplexing] fiber. Many vendors, ourselves included,

have announced products that fall into what they call 'packet optical networking'. The products themselves combine DWDM [Dense Wavelength Division Multiplexing] or ROADM ([News - Alert](#)) [Reconfigurable Optical Add-Drop Multiplexing] capabilities, SONET and SDH, and now also Ethernet switching — that's all in one platform."

"What's driving all this is the need to carry more video, wireless, traffic and everything being carried as packets," says Provencher. "The explosion in bandwidth requirements forces the need to make efficient use of existing legacy networks, and the best way to do that is via Ethernet, which can be made to transport packets efficiently. From a network management perspective, the difficulty or challenge is, how do you manage all of those things when, historically, those have been managed in different domains? We've had network operations centers that managed SONET networks, and perhaps they also managed the DWDM networks, but they were completely independent of the enterprise and many IP router and switching networks, which were basically overlays."

"Now you've got products that combine all of these things, along with three layers into one, so how do you help people manage that?" asks Provencher. "At Fujitsu, because we are obviously selling hardware that does these things, we also have a network management system, the NETSMART 1500, that manages all of the layers and enables our customers to manage everything from the WDM layer to the SONET layer to the Ethernet layer, to the VLAN on top of that, with Ethernet being a transport in this case. When you lose your optical network or you have a problem at the WDM layer, you want to know what that actually affects. Indeed, what are all the different layers that are affected and how? To me, that's one challenge."

"Getting back to the matter of having different operations centers, especially the large carriers, they do have pretty segregated operations," says Provencher. "So while we can provide a single management system that allows them to look at the entire network, they may still want to maintain segregated operations centers. They can use our product as a sort of 'building block' in their operations architecture, and integrate it with things at a higher layer. So they may have two different surveillance systems, one for their IP network and one for their historically TDM network. They can use the NETSMART 1500 to, say, forward alarms for the TDM network to one center, and alarms that are at the Ethernet layers and above can queue the other center. That's one of the ways we're working with our carriers today to help them sort out the management of such a complicated and converged network."

Peer-to-Peer-based Management

SevOne offers a scalable, flexible network and application performance management system that plugs seamlessly into your existing environment. With SevOne, the performance of even the most complex enterprise can be managed from a single web-based view. SevOne delivers fully customizable reports and graphs specific to today's technologies such as VoIP and virtualized servers.

Mike Phelan, CEO of SevOne, says, "We're entering places such as Comcast, HBO and Credit Suisse — some very large companies that had been using legacy products. Why would they consider using SevOne? Well, we have several unique differentiators. First, they already have a great deal of functionality, but not 'from a single pane of glass'

so to speak. So our first differentiator is that we give them all of the flow technologies, all of the e-hit lists and SNMP technologies from a single pane. Next, we offer a very flexible environment. For example, I asked J.P. Morgan Chase why they bought our SevOne product, and they responded that, because of all of the consolidation in the banking industry, they had inherited a veritable Noah's Ark of tools. They had two of everything. But they decided to establish some standards, and they picked TAKs. When they asked each of their providers and asked, 'How long and how much will it take to make it's a standard across your product lines?' They got quotes back ranging from \$250,000 to \$1.5 million, in a time frame of six months to a year-and-a-half. As it happens, we at SevOne were able to do it in about five days."

"We've instituted a process to quickly add enhancements that our customers need," says Phelan. "We have a well defined roadmap. However, we will alter that roadmap, particularly if it provides ubiquitous help to our product. For example, Comcast asked us to do something that's appearing in our new release. We call it 'deferred data'. They wanted to take other datasets that didn't come from routers, switches or MIBs; instead, they wanted to take business-derived datasets and enter them into our system and correlate that against IT infrastructure performance. We did it for them, and there were some specific reasons they had for wanting to do that. But what we found is that has some interesting value related to other environments."

SevOne's CTO and Co-Founder, Vess Bakalov, says, "For example, one of our service provider customers told us that they can now go ahead and get a composite metric of all of their traffic going to a particular metro area. They can still look at device-by-device communications, using our technology, they can make calculations based on all the delays coming into the metro area, and figure out the composite load and quality of service, and that minimizes the number of things they need to look at, but they can still drill down quickly to figure out what the details of the problem may be."

Adds Phelan, "We haven't wrapped any marketing fluff around this capability yet, so we don't have a catchy term for it, other than 'deferred data'. Regardless of what you call it, it's a terrific concept and we've seen whole companies being built on less. The fact that we can take business metrics and correlate them is great, but even here we're just scratching the surface. I had a conversation with a CIO of a very large credit card company, and he called it 'failed acquisition tracking'. He was referring to those little cards and online applications you fill out to get a credit card. Those people who fail to complete the whole process are tracked, but the company doesn't correlate that against network performance. We give them an ability to take that dataset — when it happened, when they stopped doing it — and correlate that against performance issues. The company would wait for 20 seconds for an application to be filled properly, and but for some reason the would-be customer doesn't complete their application and that leads to delays. The CIO said that these events cost them tens of millions of dollars. Now, they don't know if network or applications performance issues are to blame, but they will know if they use our product. So there are some really interesting business tie-ins relating to our product that I haven't seen elsewhere."

"We offer an appliance that's grounded in a unique peer-to-peer architecture," says Phelan. "All of these other monitoring and management systems work with collectors and a reporter. You take many collectors and put them anywhere you need them geographically, and they all

funnel back into one reporter. On the other hand, the way our peer-to-peer architecture works is that all of our appliances are part of a sort of 'hive' if you will, and in that hive every single appliance is both a collector and a reporter. Each one has its responsibilities, but when a report is requested, or a function is requested that automatically requires the cooperation of the whole hive, they act in cooperation with each other. Let's say that Credit Suisse has one system in London, two in Germany, two in Chicago, one in New York and one in Washington, D.C.. When you make a request for a certain report, the appliances communicate among each other and very quickly pull back just the information they need to create the report from the particular area for which each appliance is responsible. Unlike our competitor's products, which tend to slow down as they scale up owing to bottlenecks caused by centralization, ours actually increases in speed, because it leverages the 'grid' of processors."

Open Source is Ripe for Management

Sophisticated management techniques have even come to the world of open source telephony and Digium Asterisk IP PBXs. For example, recently Six L's Packing Company, a big American tomato and vegetable grower, deployed Packet Island's ([News - Alert](#)) PacketSmart Enterprise Platform to manage its 25 site Asterisk VoIP deployment. The PacketSmart VoIP/data management solution enables QoS-based network assessment and 24x7 VoIP-data flow monitoring, providing distributed enterprise customers a way to manage heterogeneous voice/data networks at remote sites. PacketSmart can determine everything from whether a DSL line is adequate for running voice on, to remotely troubleshooting complex signaling issues.

Prior to deploying PacketSmart, Six L's had many VoIP quality issues, and toyed with the idea of going back to using traditional telephony. Although their traditional SNMP-based network products did a good job of monitoring the health of their network devices, they weren't very good at troubleshooting transient VoIP issues. Indeed, those products couldn't even characterize the problem, let alone pinpoint the root cause.

After deploying the PacketSmart platform and installed Packet Island micro-appliances at each of its 25 sites, Six L's could quickly characterize the nature of the transient problems reported by its branch sites. "A majority of the problems were isolated to QoS configuration issues and certain out-of-capacity network devices," says Drew Middleton, Six L's system and network administrator. **IT**

Richard Grigonis is Executive Editor of TMC's IP Communications Group.

The following companies were mentioned in this article:

Aspera
www.asperasoft.com

Entuity
www.entuity.com

Fortinet
www.fortinet.com

Fujitsu
www.fujitsu.com

Juma Technology
www.jumatechnology.com

Packet Island
www.packetisland.com

SevOne
www.sevone.com

Xangati
www.xangati.com

Zeugma Systems
www.zeugma.com

ITEXPO West

Conferences

One hallmark of any ITEXPO is its literal “back-office university” of highly enlightening conference sessions stretching over three days. With panelists and moderators drawn from the ranks of the IP communication industry’s most knowledgeable figures, ITEXPO West’s conference sessions are among the most informative and instructive you’ll find anywhere. The proof at ITEXPO West was in the impressive attendance of these presentations. Sessions on long-time favorite (and lucrative) subjects such as contact centers were now joined by those examining the ongoing revolutions in unified communications, fixed-mobile convergence, telecom expense management, femtocells, WiMAX and other advanced communications technologies, and how they can benefit the workings of any kind of organization.



Exhibit Hall

The heart of any expo is its Exhibit Hall, and TMC’s INTERNET TELEPHONY Conference & EXPO West 2008 (ITEXPO West) had as its venue the awesome Los Angeles Convention Center in California. The hall opened Wednesday, September 17th to a tumultuous tsunami of eager attendees, buyers and sellers who literally oozed into the booths of nearly 200 exhibitors. It was TMC’s best show yet, with over 7,000 attendees making their way through the aisles during the course of the event, many of them transacting business right on the spot with gratified exhibitors.



Los Angeles Convention Center, September 16-18, 2008

Keynotes

ITEXPO West's well-attended keynotes were graced by some of the best-known names in telecom, including 8x8's Chairman and CEO Bryan Martin; Avaya's Director of UC Architecture Lawrence Byrd; AudioCodes' VP of Marketing Sharone Ben-Levi; BroadSoft's VP of Marketing David Bukovsky; Interactive Intelligence's VP of World Wide Marketing Joe Staples; and Microsoft's General Manager Xuedong Huang, who delivered a fascinating keynote address that highlighted Microsoft's new compact, unified communications/IP PBX product, Response Point. Indeed, Microsoft's Senior Director Richard Sprague summed up the whole ITEXPO West experience by saying, "As far as I'm concerned, last week's ITEXPO was the best show that Response Point has ever been to and we will definitely be there in Miami next February."



The Car Giveaway

IPCheckPoint's Wayne Tod-dun of New Zealand currently lives in California and is starting a new ITSP. He came to ITEXPO West in Los Angeles to select IP communications products and services. After enjoying what he says was an invaluable experience networking at the show, he stayed around long enough to attend the show's Grand Finale – the Big Car Giveaway – and was stunned as the drawing took place and he heard his name called by Rich Tehrani. He is now the proud owner of a brand new Prius!



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Trade shows and conferences provide the unique setting where topic-specific breakout sessions combine with face-to-face networking opportunities to provide a rich, comprehensive education. At ITEXPO, every session, workshop, certification course, and keynote speech prepares you to engage in the truly enriching personal conversations with vendors and partners that will guide you to smart decisions.

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All attendees are invited to free educational programs. Topics covered include Reseller Opportunities, SIP Trunking, and Voice Peering.

Telecom Expense Management — Now Needed More than Ever

By Richard “Zippy” Grigonis

Whether you call it Telecom Expense Management (TEM), Telecom Spend Management, Telecom Lifecycle Management, Communications Intelligence or Total Communications Cost Management, the telecom expense management industry is becoming immensely important to organizations attempting to keep costs under control, occurring just as the TEM industry itself is set for contraction as wireline and wireless TEM vendors seek to merge and establish new partnerships.

A surprising number of the 20 or so major TEM players have been around for many years, honing their skills and increasing their capabilities as the business world slowly caught on to the importance of what TEM offers. For example, MDSL ([News - Alert](#)) was founded back in 1995 in both New York and London, and is now a major player in OnDemand Market Data and TEM services. MDSL's more than 150 customers include those in the world of finance with locations in the U.S., Europe and Asia. In 2004 MDSL launched its popular OnDemand service. By providing MDSL's solution as an OnDemand service, global customers can now quickly and dramatically improve their cost control and reduce telecom spending through accurate inventory and bill reconciliation. MDSL's global integration partners includes BT, SAP, ARIBA, CTI, Citrix, Reuters, Bloomberg ([News - Alert](#)) and more.

Intelligent Communications Management on a Global Scale

Avotus ([News - Alert](#)) Corporation has enhanced the concept of Telecom Management Services with a wide range of management and advisory services, business process outsourcing, and technology-based solutions. Avotus brings together eProcurement, Expense, and Usage Management into a fully-integrated solution they call Intelligent Communications Management. They help their customers reduce costs, improve processes and gain control over a company's entire communications environment.

Alan Gold, Chief Sales and Marketing Officer, at Avotus, says, “Historically, before there was the first mention of TEM that I was aware of, we had actually branded ‘Intelligent Communications Management’ as a term for what we felt was the lifecycle management approach to the whole communications environment. Coming as we did out of a usage management world, we assembled many capabilities including e-sourcing, procurement, provisioning and inventory management, and then we added one more set of capabilities, the actual invoice management. When TEM emerged as the industry term, it immediately seemed limiting. These days we talk about telecom management



solutions and telecom management services because we want to be all-inclusive, but I think if you were to survey a number of our colleagues in the industry, I think they would agree that TEM as a term, while recognizable, is probably pretty limiting in scope compared to what a lot of companies like Avotus and others in the market actually provide to their customers. The analysts and the press seem able to brand these things.”

“The buzz around TEM, as expected, increases as the economy becomes challenging,” says Gold, “and as companies are scratching their heads trying to figure out how it is they can find a way. Of course, it all starts out with, ‘How can I save money?’ And there are a number of things within the TEM umbrella that have a direct, solid line, to get to a savings estimate. Once they start to consider it they realize that TEM is an overstated term, but you can't manage what you can't see. That broadens the ‘aperture’ a bit and soon they start to think about getting control over what they've got. They start saying ‘Hey, I didn't know we had so many Blackberries,’ or ‘I had no idea we had so many mobile phones.’ TEM is also increasingly part of cost management and profit initiatives, right across our customer base.”

“The related trend is that we're seeing companies increasingly look this more holistically,” says Gold. “I'm thinking of our recent and soon-to-be-announced very large contract with a global maker of electronics goods. It was stipulated from the beginning that this would be a global rollout. Up until a relatively short time ago, we would have seen RFPs that were very specifically for the U.S. or North America spend, or for European spend, with the possibility of going global at

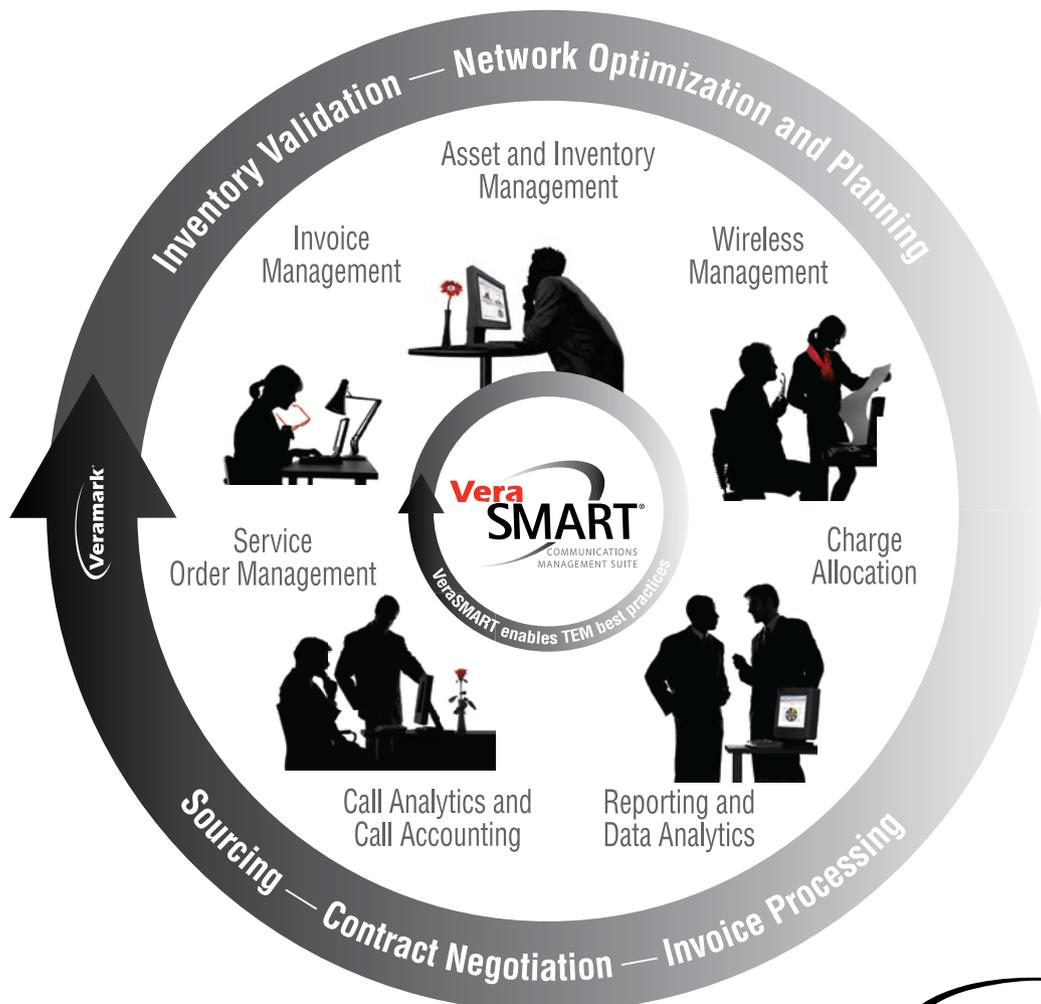
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some point in the future. But we're starting to see people asking for much more large and holistic approaches to these things."

"A third trend we see, we believe has implications for how RFPs are done," says Gold. "Right now, as in many industries, the RFP takes on a life of its own. The process starts out as a number of RFI's, and even if it goes directly to an RFP, things get 'tossed over the transom' and they all start to look alike. If some technology gets 'hot' you'll suddenly see RFPs, because companies decide to chase the idea. But what we're starting to see is that companies are very interested in engaging with us at a consulting or advisory level first. This trend has been growing quite a bit. The good news is that we anticipated it by expanding into more consultative areas and adding advisory services and things of that nature, because TEM isn't just about processing invoices. Things have been very interesting lately. I would say half of our inquiries are along the lines of, 'We have this problem to solve and this what we want to accomplish in the long term. We think TEM can do it for us. What do you think?'. That opens the door to a much more objectives-based, analytically-based and discovery-based approach, which ultimately yields much better results in the long run than just squeezing some quick money out of the invoices and inventory."

Robin Brown, Vice President of Marketing at Telwares, says, "Mobility has become somewhat alarming for the enterprise, because their expenses for mobility are increasing and they tend to not have their arms wrapped around it so well..."

Quickcomm is a huge provider of TEM software solutions worldwide. Founded in 1997, Quickcomm has since supplied "Global 2000" companies and other large organizations to seamlessly optimize telecom expenditures across the enterprise and improve the bottom line. The company has made several big announcements in 2008, including the launching of the first web-based TEM application, Quickcomm Enterprise.

Mark Evans, CEO, says, "I'm also a proponent that TEM is not the right term for all the things we do. But everybody knows the term TEM. There's been a lot of consolidation and rumors of consolidation in the industry. For the most part, that's been among the 15 or 20 serious TEM industry players. In particular companies are acquiring little, companies that offer specialized functionality. For example, the acquisition of ISG [Information Strategies Group] by Tangoe ([News - Alert](#)). Last year we also saw acquisitions by traditional TEM companies that had been dealing with fixed wireline services, which gave them the mobility edge. But what I find interesting in 2008 has been a great deal of activity from Asia PAC. For example, the big outsourcing companies in India are heavy into IT at the moment and they've acquiring companies so they can secure a footprint on a

global scale. That has in turn affected the chemistry of the situation. There's now all manner of rumors and acquisitions by the big Indian TEM companies of smaller TEM companies. HCL, one of the bigger Indian IT companies, acquired Control Point Solutions. That's the first of what I believe will be many such moves."

Quickcomm's Louis Crespo, Vice President of Marketing, adds, "What's interesting is that we've always predicted this — that the big outsourcers handle the carriers and sort of 'own' this space. And now it's happening. I expected the big American companies and IBMs would do their acquisitions, but what's happened is that companies coming out of India at the moment are in acquisition mode. Regardless of what it does for the players in the TEM industry, it's going to be good for the customers. Even the bigger players among us are relatively small companies compared to the multi-billion dollar giants that can acquire them, resulting in more service. Some of my counterparts over the years have been predicting this. They say that the 15 or 20 players out there wouldn't be able to accommodate TEM demand when it really takes off on a global scale. 'Global' is an interesting key point. If I looked at 2007 and the first part of 2008, most of our competitors have scrambled to gain global applicability with their products and because Quickcomm hails from Australia, we always had a global viewpoint with our product — we always designed global applicability into it right from the start. That's because Australia alone didn't have enough customers to support where we were taking the company. And we've been riding the wave since then and have added big global clients, who recognize we can deal with invoices in different languages, currency conversions and considerations of telco idiosyncrasies in each region. Indeed, Cisco selected us because we have the ability to implement all over the world."

The Wireless Explosion and "What-If?" Scenarios

Rivermine provides automated solutions (both software and managed services) enabling organizations to achieve visibility of and control over telecom expenditures. Rivermine prides itself on having saved Fortune 1000 companies and large government organizations (e.g. the U.S. Postal Service) millions of dollars per year. There sophisticated TEM solutions automate the entire "telecom lifecycle" including contract sourcing, ordering, inventory management, invoice processing/auditing and reporting/analytics.

John Shea, Chief Marketing Officer of Rivermine, says, "TEM is a limiting term, and we'd support a better one. In any case, we definitely see increased demand for our TEM software and services. Our sales grew by 180 percent the first half of 2008 as compared to the first half of last year. We handle the whole swath of TEM solutions that customers are looking for. If somebody wants on-premise software, we can do that. If they want SaaS [Software as a Service] we can do that. If they want a full managed service where we've got our hands on the keyboard and they're just looking at reports online and that sort of thing, well, we can do that too."

"As for trends, wireline is hot but wireless is hotter," says Shea. "Companies must deal with their ever-increasing device population. International is very hot as well — we're getting many requests for support around the entire lifecycle, from ordering

THE PRODUCTS YOU WANT

and provisioning through to the invoice processing, overseas as well as in domestic markets. About a year ago, IBM selected us after they searched for a single vendor with which to work in this space. IBM is bringing us into quite a few countries internationally. And many companies with which we deal have headquarters in the U.S. but they also have international offices that must be supported. So we're seeing a lot of demand on the international front. Yet another big demand thrust is heavy interest in business intelligence types of capabilities — going outside of TEM. We can maintain a single repository of invoice and financial information on the network, as well as inventory information, that that data can be leveraged to make intelligent decisions in the enterprise about a company's network and what they're going to do with their wireless solutions."

"We have support for 'what if' scenario analysis, where people can run simulations. For example, they can ask themselves, 'What if I change this part of my network to VoIP? How much will it cost? How long will it take me to convert? What if I do so-and-so with my wireless devices?' The software has many capabilities, such as our 'TEM Atlas' where people can look at a graphical representation of what's going with their different network routes, and how much each route costs and where ordering problems may be occurring, and so forth. Thus, we can take TEM to the next value level, far beyond just getting the bills straight."

"This industry went through various 'waves' over the years. In the first wave about 10 years ago, vendors tried to handle the problem by just throwing a lot of humans at it. Then in the past five or six years, companies such as ours, which really focus on doing TEM with a software-powered approach, started appearing and picked up some momentum. Of course, we have many humans performing services too, but its our automated software approach that really helps you unlock a whole new level of capabilities. You can do ordering and have a single database capture it and check the invoices against the orders in the inventory, then do the what-if analysis, and pull in invoices electronically into the software, and so forth. The software has really taken this business to a whole new level."

Doing the TEM Tango with Tangoe

Tangoe is one of the biggest TEM players, having expanded the concept tremendously so that companies can achieve the operational benefits of what they call "Communications Lifecycle Management", relating to every aspect of an organization's fixed and mobile communications. Tangoe's CommCare suite of managed services is designed to bring visibility, control and ultimately understanding to any and every critical process in your company's communications environment. Furthermore, CommCare, built with patented technologies, optimizes all essential voice, data, and mobile communications from end-to-end.

Recently, Tangoe announced that Information Strategies Group, Inc. (ISG), a Parsippany, New Jersey-based provider of telecom and IT expense processing services and technologies, would now operate as a division of Tangoe. ISG's call accounting product and billing chargeback and allocations software and services practice are expected to extend the depth and breadth of Tangoe's established software and technology-enabled managed services. The management expertise in billing and processes that ISG developed over the past 10 years, as well as their experience in international and domestic communications cost processing, further enhances Tangoe's CommCare managed services offerings. Moreover, ISG's existing client base of IT and telecom invoice processing customers will also gain access to Tangoe's suite of wireless lifecycle management solutions while retaining their current solutions supported by current account management and support teams.

Rick Pontin, Chairman of Tangoe, says, "I was the CEO of TRAQ ([News - Alert](#)) Wireless, which offered its Mobile Lifecycle Management system enabling customers to better manage wireless equipment and services. Tangoe's President and CEO, Al Subbloie ([News - Alert](#)) and his team, sat down with our team and we formed the industry's first integrated communications provider TEM system. A few companies followed our lead. We've had quite a bit of healthy success in bringing a fixed and mobile platform together, to the point where we felt that one of the things that would still be very important in the

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industry would be to begin to consolidate and think about how we grow, not only through organic growth, but also in those situations where combining with another company would add value in terms of scale, size, profitability, services that get offered to the market.”

“We spent a lot of time looking at what good combinations of services would be good for our customers and add strength to our portfolio,” says Pontin. “As part of that process, in early 2008, we initiated discussions with ISG, which was clearly a customer service leader in the industry. ISG has a great reputation in their customer base in terms of services that get provided to them. Also, from our perspective, there are some services that ISG offered that we thought was essential to our portfolio of products and services, since they ‘filled the holes’. For example, there two major products: One is a set of call management services or ‘call accounting’, if you will, that now allows us to offer call management services in addition to TEM services within our market base. Also there’s a very large call rebilling service set that ISG offers to very large corporate customers, which fills out that section of our portfolio. So, we could put together an unbeatable combination of customer service reputation with a single point of contact, products that we could initially leverage and sell into the existing Tangoe base, again building strength.”

“We also wanted to find a partner where we could sell some of our services into existing customer base of a company that with which we would combine,” says Pontin. “For example, ISG has 43 customers, none of them have wireless services. Tangoe has well over 100 mobility managed services customers. So we see this joining of the companies as a great opportunity to offer ISG customers a whole set of mobility services that add value, drive both ROI and choice for customers, from a company that, as we move forward, will have a single portfolio of services that cover the entire industry landscape, from basic invoice management to advanced managed services to call management solutions to rebilling solutions.”

Five Heads are Better than One

Telwares’ provides comprehensive telecom management solutions to Global 2000 companies that are hunting for ways to control their expenses across voice and data, wireless and wireline, and domestic and international services.

“I believe that by the middle of 2009, the term TEM will be looked at as being obsolete,” says Mazzulo, “and only a small portion of the problem. Anybody who claims that they’re a TEM vendor will be minimized...”

Lois Liebowitz, Telware’s CMO, says, “Telwares was formed over the years by the merger of five companies in the TEM space. As a result, Telwares now has diverse strengths in different areas of what’s called the TEM Lifecycle. We’re somewhat unique in that we didn’t emerge from one area, such as software development space, as did many of our competitors. We were formulated by firms occupying various marketspaces. For example, the legacy Telwares came from the professional services space, the sourcing, procurement and negotiation space. We were and are very well known for that. We also bought other companies that were very strong in the call accounting space and management services space. The company operates in the U.S. but since late 2007 we’ve expanded into the global markets, because we detected a trend there – firms are asking for global solutions. If not everywhere in the world today then certainly they want to start on a roadmap that leads them to a unified approach, particularly if they’re a larger firm.”

“The whole mobility space has really exploded since 2007,” says Liebowitz. “Using TEM or Telecom Lifecycle Management to manage mobility has certainly become extremely hot in 2008. Some of our clients tell us that they spend more on mobility and wireless services than they do for wireline services. Not only do they spend more, but the growth percentages are greater and they have much less handle

on what’s going on. Earlier in 2008 we introduced a range of services very specific to wireless. I would add to this the trend of a firm’s wanting to look at the whole picture of their enterprise, and they want an integrated approach. They don’t want to deal with things piecemeal, such as separate platforms for wireless and wireline, another

platform for U.S. operations, and other platforms for other regions. Instead, firms now want a holistic methodology.

Robin Brown, Vice President of Marketing at Telwares, says, “Mobility has become somewhat alarming for the enterprise, because their expenses for mobility are increasing and they tend to not have their arms wrapped around it so well. We found out that the ‘pain’ is there from both our existing clients and RFPs that we receive from prospective clients. They’re sounding the alarm. The RFPs are beginning to look alike and are asking for the same things. Those are complex functions. TEM used to be just scrutinizing bills, of managing and processing and validating corporate telecom invoices. Now, however, it’s device management, lining up employee names and cost hierarchies, and corporate hierarchies with the devices themselves. Within that you encounter the matter of smartphones versus cell phones, and who gets help desk support and VIP service and who doesn’t. Enterprises are thus now asking for a very complex menu. Companies such as Telwares and a few of our competitors are able to offer a comprehensive Lifecycle Approach as opposed to traditional TEM, with all its limitations.”

Getting the Holistic View

Veremark Technologies offers TEM solutions for Invoice Processing and Audit-

ing, Invoice Payment, Inventory Audit and Optimization, Wireless Management, Asset and Inventory Management, Procurement and Order Provisioning, and Call Accounting. Veramark's TEM solutions can be delivered as licensed software, or as a hosted SaaS (Software as a Service) solution.

Tony Mazzullo, President and CEO of Veramark, says, "We're right in the middle of the TEM business and we're doing very well. We can extract all kinds of information and our rules-based engine is able to identify and highlight services that are not being utilized, charges that don't seem quite right, taxes tariffs and more. At the front end is inventory audit and the ability go out there and validate the organization's description of who owns what and what assets have been assigned to who. We ensure that the data is correct before it's entered into our system. At the back-end are the ongoing processes of running reports, and identifying who interfaces with the carriers to discuss the turn-on and turn-off of services, and dispute and obtain refunds on charges, all the way to paying the carrier and doing a procure-to-pay service. So, Veramark today is a complete procure-to-play pay company and the enabling technology is ours."

"I believe the TEM market will continue to be robust, even during economic times when companies are not looking at leakage in their expenses," says Mazzullo. "They only want to spend money that provides value to the organization. Telecom expenses are operational expenses that represent 10 or 20 percent of the total cost of managing that entire communications network. In addition to cell phones and landline phones where there's an expense per call and you check against the actual call record through the switch, there are many other expenses that go into simply having that communications network in an organization. For example, somebody purchased the phones, routers, switches and computers that comprise the basic infrastructure. In any sizeable organization, there are millions of dollars of capital investment that has been made. There's a cost to that capital. There's an amortization schedule. Those costs are necessary for the privilege of paying those carrier bills. If you didn't have phones, there wouldn't be any carrier bills. Aside from the capital expense, there's the labor component

of all the people who support the network. There are service contracts that are a component of the total cost of that communications network. There's training and travel costs associated with training. In view of all this, Veramark is expanding horizontally all of these many expense categories, and we're going to aggregate all of them to give the chief financial officer and finance/accounting team one holistic view of expense management and investment management of your communications network. That's exciting, and to me it's truly the next generation of TEM."

"Everyone we've spoken with – customers, resellers, analysts such as Gartner (*News - Alert*) and Aberdeen – all concur," says Mazzullo. "Everybody appears to come to this same conclusion. Of course, it's a non-trivial problem, but we believe we understand it as well or better than anybody in this industry. That's because, in my previous company, we built a general-purpose spend analytics tool for the company we worked for, and I brought the team that built it over to Veramark. So we already understand fairly deeply the spend analysis of travel, training, service and capital investment, and all the associated challenges. We are also very close to becoming an OEM of one of the leading business intelligence software platforms on the market. We're going to integrate and bundle that in with our VeraSMART platform to provide basically market-leading, multi-dimensional data analytics in order to truly provide enterprise-class information and reporting, dashboarding, analytics and the ability to interactively work with those analytics to obtain the kind of information that an accountant, financial person, or high-level manager needs in order to consume and quickly make business decisions. We call it Communications Intelligence. For us, that's where things are evolving."

"I believe that by the middle of 2009, the term TEM will be looked at as being obsolete," says Mazzullo, "and only a small portion of the problem. Anybody who claims that they're a TEM vendor will be minimized. Whether it's Communications Intelligence or Total Communications Cost Management, some term will appear that's much broader in scope than TEM, and brings much more value to the CFO. TEM really started out providing value to the telecom manager, and in 2008, for the first

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time, interest in it has crept into the office of the CIO. In previous years, of course, the CIO couldn't have cared less. But thanks to the recession of 2008, CIOs everywhere are paying attention, because TEM saves money. To get to the next level and have the CFO care about these solutions, you've got to demonstrate proficiency with Total Cost Management. The other piece of it, which is exciting and we've got a great handle on it, is the allocation of costs across the organization. First you've got to achieve visibility, then you've got to get the data in a format where you can make business decisions against it, and then the third piece is to be able to take all of those costs and allocate them actual network usage. Who's using the phone and in what department? Who's using the digital network for video? For text? Who's using the mobile devices for text and voice? If we get data on all of those costs and we relate it to actual usage, now the CFO can get a very clear, unbiased view of how the investment and operational expenses are being consumed by the various departments, projects and people within the organization. A CFO will get excited with a vendor capable of providing the holistic view and help allocate the charges."

"The next step is predictive analysis and trending, which allows us to use the information to plan next year's expenses," says Mazzulo. When we reach that state with Communications Intelligence, I think it will be a huge phenomenon. It will bring about a complete transformation, and TEM will be only a small piece of it."

From Soup to Nuts

Some major carriers, whose bills spurred the development of TEM decades ago, are now moving into this lucrative space, offering a galaxy of visualization and analytic services and capabilities. Take Verizon, for example, one of North America's great network operators in both wireline and wireless markets. Mark Chodoronek, Executive Director for Customer Enablement for Verizon Business, says, "Our overall, driving strategy has been to allow our customers through multiple access points to access their expense and their billing data, generally through three types of levels that we have

identified, ranging from 'low-touch' to 'high-touch', and anything from using the existing portal today in the self-service environment to creating electronic interfaces through EDI and VZ450 access, and we provide telecom expense management in our managed services area as a viable product offering to support our customers' overall solutions needs in the billing and expense management area. In the area of self-service, as of two weeks ago, we've integrated the Verizon Wireless portal into a newly named portal for all enterprise customers, called Verizon Enterprise Center. Our overall goal is to satisfy both wireless and business customers so they can deal with a single portal environment and to pull the billing information, the historical information that's saved up to seven years, the ability to look at existing invoices, to be able to examine all invoices across both Verizon Business and Verizon Wireless by account, by global summary, and so forth. They now have the ability to drill down to the individual bill level as well as to the individual line item. They can also generate analytic reports, sorting by department, by BTN, MTN, or whatever. They can do reports based on spend and usage, or whatever other metric. The whole intent is to make it easier for the customer to access their billing information online in a self-service environment."

"We seem to have more and more customers going online, whether it's to the portal or using more systems connectivity using EDI [Electronic Data Interchange]," says Chodoronek. "Customers are pulling their information electronically, paying electronically – be it funds transfer, purchase cards, pre-paid cards, credit cards or print & pay – so we've offered a number of payment options that customers are using and are accessible through the portal as an example. Viewing invoicing is always popular, whether it's specific to this month or previous ones in terms of doing billing analytics, are always eyed on the portal, an area in which we've invested heavily. We've made it easier for the customer to access their billing information and there's a level of sophistication with our Bill Manager product; you can download our proprietary TEM software to the desktop or server cluster, and you can then pull your billing information from the portal and sort the billing information into whatever configuration you desire,

generating executive management reports with charts along the way if you wish."

"In cases where customers must deal with large revenues and billing transactions, Verizon offers a very strongly-supported EDI," says Chodoronek. "We also provide EDI to third-party TEM vendors. We support a large number of TEM vendors out there, not only within our billing space but also in our eBonding space where we have the capabilities to do repairs through the TEM vendors, orders, inventory, and do circuit tests as they expand. Effectively, in the EDI space, using the 811 protocols, we have some customers that with which we do EDI, and they use our VZ450, which is sort of our proprietary standard, if you will. Customers get the billing information directly from our system and into theirs, then they overlay either TEM software, or software that they've developed, and then they manipulate the billing information as they need to, then report it out. Indeed, we won an award in 2007 in the CRM category, in particular the EDI space."

Whatever you call it, Telecom Expense Management is becoming a vital component of just about any kind of organization. There are times when you've got to spend some money to save a lot of money, and the current era appears to be one of those times. **IT**

Richard Grigonis is Executive Editor of TMC's IP Communications Group.

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The Year in Review — the Year Ahead

By Richard “Zippy” Grigonis

2008 brought us mergers, acquisitions, amazing mobile devices, the first glimmerings of WiMAX and sophisticated mobile unified communications suites and Telecom Expense Management systems capable of streamlining and enhancing business processes. Small and Medium-Sized Businesses (SMBs) were a prime target for vendors, though many SMBs had discovered the bliss of hosted and managed services. Service-Oriented Architectures (SOA), Software as a Service (SaaS) and Web Services in general helped to accelerate the development and deployment of exciting new applications, while the IP-based Multimedia Sub-system (IMS) continued its long slog toward adoption by carriers worldwide. As mobile multimedia, large-scale IPTV deployments and teleconferencing systems began to gobble up bandwidth, operators scrambled to perform infrastructure changes to enhance wireless backhaul and boost demand for metro Ethernet. 2009 should bring us more of the same, depending on the economic scene.

About 38 percent of our readers are service providers and network operators. That shouldn't be surprising, since smaller businesses now realize they no longer need maintain Customer Premise Equipment (CPE) nor trained IT staff to enjoy today's feature-rich communications environment. The old stigma of “Centrex” in the circuit-switched days of “enhanced services” has given way to more reliable, less expensive and easy-to-use IP-based hosted and managed services.

Take Cbeyond ([News - Alert](#)), for example, a managed IP-based services provider of voice and broadband Internet services designed to serve the needs of small businesses. Its innovative service, called BeyondVoice, is a bundle of local, long distance, broadband Internet and mobile services. Cbeyond's plans and bundled communications services are easy to understand and sell. Cbeyond can be promoted to a provider's current customers as a standalone offering or as an add-on service to equipment or consulting proposals. Cbeyond's BeyondVoice with SIPconnect service interoperates IP-PBXs from over 20 PBX manufacturers.

Cbeyond's Paul Gies, Senior Director of Products, says, “2008 was a good year for Cbeyond, and for small businesses in general. We saw the validation of many of our strategy that businesses want applications that help them run more efficiently. There really is an appetite out there for this. Our CEO said it best, ‘Small businesses will give you as much as you can handle with excellence.’ They're anxious to outsource many of these services to a managed



service provider such as ourselves. They don't want to deal with the equipment themselves. They're looking to give their business to companies that can meet their needs and do it well. That's something that we at Cbeyond can do.”

“I think you'll see a continuing trend in 2009 along those same lines,” says Gies. “Small businesses need more and more of these big business tools to help them operate, especially during these increasingly trying economic times. They really need the value that these applications can bring to help them run more streamlined and more efficiently, whether the apps happen to be hosted email solutions, mobile phones, web hosting plans, or whatever. That's what these businesses are looking for. We saw that in 2008 and we see a continuation of that in 2009.”

Or course, those companies that wish to “roll their own” solutions (or developers who enjoy working with hardware/software “building blocks”) now have a nearly bewildering array of technological choices too.

One well-known company in this area is Aculab ([News - Alert](#)). Aculab's Alan Pound, Managing Director, says, “Our biggest achievement in 2008 has been the success of Prosody X, established as the ‘technology of choice’ in four major sectors; conferencing, fax, contact center and military communications. Prosody X is now clearly the global market leader for communications enabling technology used in IP, hybrid and TDM converged communications solutions. Aculab's record breaking performance in fiscal year ending June 2008 reflects the outstanding success of Prosody X.”

“Moreover, the launch of the ApplianX range of products has also been extremely well received,” said Pound. “The ApplianX IP Gateway and ApplianX Gateway for Microsoft Office Communications Server 2007 have both created much

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interest and demand in their respective target markets.”

As for 2009, says Pound, “We of course focus on our customers and we are willing to listen and invest in the technology they need to be successful. One of the key areas that sets Aculab apart is our ability to respond to customers’ near term requirements through our Request for Change [RFC] process. This process is designed to allow our customers to ask for product enhancements to target specific opportunities and is probably the key point that is brought out when our customers refer to Aculab as providing good support.

“In terms of new products and features on the horizon, here are a few things that you can look forward to seeing from Aculab during 2009: Video support on our Prosody media processing family; improvements to license management for Prosody S, our HMP [Host Media Processing] product; T.38 fax support; Prosody S with Linux support; and further variants within the ApplianX range.”

Asked how he sees the communications market evolving, Pound says, “The communications business model is now undoubtedly IP-centric. Carriers have moved to IP in their core networks and, in spite of doubts over the relative penetration of IP into the user base, over 70 percent of equipment lines shipped support IP. And, despite what the H.323 Forum might say, I’m convinced the majority of these are SIP.”

“Mobile penetration has increased, too, says Pound. “In Singapore, for example, it’s 125 percent and elsewhere in the world, it’s also over 100 percent as many users have more than one SIM. Worldwide penetration now exceeds 50 percent. At well over 3 billion, the number of mobile phones on the planet equates to over half the global population number. More than three out of every 10 Americans now rely solely on a mobile handset for their telephony needs. Significantly, more than 84 percent of Americans are apparently now wireless subscribers. And, since it looks like 2007 was the year when worldwide mobile shipments exceeded 1 billion for the first time, I predict an entirely mobile future.”

“Further evidence for this comes from mobile carriers as they determine how to move from GSM to LTE and/or WiMAX for their

3.5/4G services,” says Pound. “Voice usage is shifting and it won’t be long before more than two-thirds of traffic is wireless. It’s not hard to deduce that there is a market for mobility and there is no question we are in a rising industry that is going to be increasingly powered by IP, broadband and some kind of mobile device.”

Supporting the Wireless Boom with Increased Backhaul

ADVA (*News - Alert*) designs, develops and manufactures broadband networking solutions, including WDM communication systems, high-speed fiber optic converters, and various forms of end-to-end Optical+Ethernet products and solutions from enterprise customer sites to core and regional telecommunications carriers. Their carrier-class portfolio — the Fiber Service Platform (FSP) family of products — is specifically designed to enhanced services, simplify networks and reduce the total cost of ownership.

ADVA’s Vice President of Global Marketing, Fred Ellefson, says, “We’re still very active in optical and over the last couple years we’ve picked up more and more of the Ethernet side of the equation. We’ve always felt that Ethernet and optical are a very natural combination of technologies and are in fact the wave of the future, particularly in the wireless backhaul space. Next-gen technologies such as 4G wireless, WiMAX and the upcoming LTE will need enormous pipes back to the core, much bigger than traditional T1s, especially when you talk about subscribers getting access to 10 Mbps and wireless pipes. A bunch of 10 meg subscribers would require 100 Mbps or more of backhaul data capability. Fortunately, optical Ethernet can handle it. Even so, bandwidth usage will continue to grow per user, and I think the limiting factor will actually be batteries. As each of these technologies gets faster and faster and uses up more and more power, at some point you’ve got to say, well, we can achieve 100 Mbps, but the battery in the mobile device will only last for about 15 minutes. You’ve got to find the sweet spot, the trade-off between reasonable battery life and download speeds that make sense. Someday we’ll get to 100 Mbps — laptops will be first — but in the meantime expect an upper bound of about 5-10 Mbps bandwidths, especially for the smaller portable, battery-powered devices.”

“The world is moving toward adopting various flavors of packet transport, particularly

IP and its associated protocols,” says Ellefson, “and in general it will be on a foundation of optical + Ethernet transport. That’s a \$2.4 to \$2.6 billion market with about a 20 percent growth rate. We focus on several segments, such as the enterprise market, the carrier WDM and carrier Ethernet spaces. The carrier WDM market is the biggest one, at about 66 percent. It’s interesting to address the enterprise market, get direct feedback from the endusers, and then take that knowledge and use it to help us work with our carrier customers. On the enterprise side, it’s all about storage, its centralization and the different storage architectures that enterprises want. In general, again, it’s riding over an optical infrastructure of some type. In the infrastructure space, it’s all about video and the demands video is placing on existing networks and how that’s driving some fairly healthy growth rates. Then, in the Ethernet space, you’ve got a thriving business services market that’s grows at a rate of about 28 percent. Wireless backhaul falls into that space too.”

For wireless wholesale provider dealing with wireless backhaul applications, an intelligent demarcation device is critical for Ethernet service delivery in terms of supporting media conversion, loopbacks/testing and SLA monitoring. For the wireless carrier itself, a wireless demarc device at the cell site performs three key functions: Remote test/loopbacks, SLA monitoring and traffic shaping (MEF UNI).

“As bandwidth demands increase in the wireless world, traffic shaping capabilities become more important,” says Ellefson. “A 100 Mbps radio output drives a 10 Mbps service. When the traffic exceeds 10 Mbps, it can be dropped [policed], or buffered [shaped]. Traffic shaping in the wireless carrier demarc device stores the traffic in a buffer and feeds it upstream at a 10 Mbps rate to ensure that no traffic gets dropped. When dealing with multiple wholesale carrier vendors and equipment vendors, once can see that shaping/policing capabilities and buffer sizes will vary greatly.”

“With shared demarcation, using back-to-back demarcation devices is not the right long term solution, even though they’re required today because of standards and business practice issues,” says Ellefson. “The MEF NID group is working on standards to allow demarcation device sharing.”



Introducing the **Small Business VoIP Online Community**

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

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

- Free consultations
- Free trials
- Free quotes
- Feature articles
- Case studies
- Technology briefs

<http://small-business-voip.tmcnet.com>

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“Recently, we’ve carefully examined all of this and we’ve moved to deliver truly ubiquitous intelligent Ethernet by introducing our FSP 150CM, the world’s first modular Ethernet Network-to-Network Interface demarcation device,” says Ellefson. “The FSP 150CM enables carriers to terminate multiple Ethernet local loops in one unit; perform inter-carrier handoffs, vital to the wholesale market; aggregate management traffic from up to 16 remote sites; drastically reduces space, power and cost; significantly reduces CAPEX and OPEX ([News - Alert](#)) costs; and simplify provisioning across multiple network platforms, including VLAN, PBB-TE and MPLS. With its support of all ADVA FSP 150CC fiber demarcation and extension solutions from 1 Mbps to 10 Gbps, its simplified provisioning across multiple platforms, without the complexity of switches, and its full transparency to any proprietary frames, the FSP 150CM should become the preeminent NNI demarcation and aggregation solution for high-density networks. It will enable the evolution of Ethernet from a service into a transport infrastructure capable of replacing traditional transport technologies.”

From Access to Intelligence

Communications is no longer just transport – no longer just a dumb pipe. Just as computer telephony of the 1990s was “bringing computer intelligence to bear on telephone call control,” today’s value-add in an IP world is a combination of data mining, network visualization, telecom expense management and other forms of intelligence that can transform an organization’s business processes.

Openet provides what they call Transactional Intelligence solutions for the world’s largest network service providers. The varied world of voice, data, and multimedia demands the ability to extract greater intelligence from network activity. This intelligence can turn everyday data into customer insight, can aid in the rapid introduction of new services and content, and can facilitate greater efficiencies, cost management, and system consolidation.

Openet ([News - Alert](#)) recently introduced their updated FusionWorks Framework 5.0, the platform at the core of all of Openet’s offerings. FusionWorks Framework 5.0 brings operators improved unified logging

capabilities, statistics system and operations administration and maintenance to ensure increased value of operators’ Transactional Intelligence of all services, across all networks. This announcement follows a recent series of new solutions, as well as new products for telecom and cable providers, demonstrating Openet’s commitment to helping customers increase revenue and service opportunities.

Niall Norton, CEO of Openet, says, “In the middle of 2007 there was a sort of earthquake in the industry when the iPhone arrived. The full ramifications of that only became apparent to a lot of operators in 2008. For the first time leading operators began to see the full power of what wireless data services can do, both as a service in itself but also generically for how it can impact things such as financials, commerce, lifestyle, entertainment and so forth. There was years of talk, and now suddenly there was a device that was actually ‘walking the walk’. That became very apparent in 2008. The iPhone has spawned a number of initiatives that have kicked off in 2008 with the leading operators. The significant mindset change among cable operators, wireless operators, and the high-speed broadband providers has focused on how they can get away from being a ‘dumb pipe’, just conveying traffic, to being a ‘smart pipe’ in that they can utilize the latent assets that they’ve got concerning customer knowledge, preferences and activity, and to go ahead and monetize that. Indeed, we’re adept at helping operators move from a dumb pipe to being a smart pipe, heavily leveraging our concept of Transactional Intelligence. We have five core products they can use to do this.”

“Historically, in the wireless arena, after the appearance of voice and text, there was always the search for the Next Big Thing,” says Norton. “Guess what. There was no Next Big Thing. There was an element of despair for a few years, in particular 2005 to 2006. But now there’s a great deal of optimism. In 2008 there has arisen a realism among operators that they could conceivably be ‘googled’ to their customers by monetizing their latent assets. A number of operators — again, cable, wireless and high-speed broadband — are moving in that direction. They’re looking to not only be the provider of a communications service, but also to be able to facilitate other

providers of services on their communications network, to the benefit of the end customer. The manifestation of that in high-level terms in wireless territory was the iPhone, and now there’s the second generation iPhone and all the lookalikes it spawned. That whole area has become a runaway train. It’s great because it demonstrates that, even in troubled financial times, there’s a still great deal of optimism that there’s a way forward for operators of all colors, and the smart guys are basically tuning up for that kind of future.”

“Of course, Apple ([News - Alert](#)) both tapped into a pent-up demand for an advanced mobile device and, most of all, they got the front-line marketing to the end customer totally correct,” says Norton. “I’m neither pro nor against Apple. For me, it was the first time I could see our customers’ data usage experience triple digit data usage growth on their networks and soar off the charts, because people were using the iPhone in WiFi mode as well as in more traditional wireless technology modes. And it actually brought things like iTunes and YouTube to the fore for mobile devices. So it brought not just broadband services, but access to content. Some operators are very smart and know exactly where they need to be. The struggle for them is with their very big and complicated network. They must be sufficiently agile to reach their goals. And we at Openet can help them to do that with our products.”

2008 was quite a year. 2009 should be even more impressive. Perhaps because of global economic uncertainty, companies realize that they must purchase technology that boosts productivity and eliminates travel time and expenses. Whatever happens, it should be interesting. **IT**

Richard Grigonis is Executive Editor of TMC’s IP Communications Group.

The following companies were mentioned in this article:

Aculab
www.aculab.com

ADVA AG Optical Networking
www.advaoptical.com

Cbeyond
www.cbeyond.net

Openet
www.openet.com



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



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The VPF removes barriers to communications between communities and gives control over how you direct your traffic and how much you pay for it. To find out who is in this new community, visit thevpf.com/members.

Innovative Ideas from the “Time Synchronization” Experts.

ClearSight Enhances its Visual Troubleshooting and Analysis Solution with Time Synchronization

by Richard “Zippy” Grigonis

In our August 2008 issue, Yours Truly examined ClearSight Networks (www.clearsightnet.com) and its ClearSight Network Time Machine® (NTM) — a multiuser, turnkey recorder appliance for Fortune 1000 companies that leaves ordinary network protocol analyzers in the dust. Teamed with its Atlas, a processing engine that can index, categorize and make sense of terabytes of network data and applications without resorting to complicated packet decodes, superlative data mining and analysis — even on voice-related traffic — can be performed and stored in a powerful relational database.

Recently ClearSight has added a remarkable new feature to the NTM, at no additional costs. Available now on the NTM, it bears the low-key moniker, “Support of Network Time Protocol (NTP) Servers”. Don’t let that verbiage fool you — it’s one of the more amazingly useful new features in the whole package, as we shall see, and it’s what separates ClearSight from the host of companies that provide network tools and solutions

To set the stage, understand that, in order to find bottlenecks and other problems in a network, ClearSight’s NTM calls upon “analyzers” or probes that are placed at various locations and which capture traffic simultaneously. As it happens, ClearSight technology has multi-segment analysis capabilities — data collected from multiple network segments can be analyzed as the traffic flows from one segment to the other, so you can accurately visualize how packet transactions move end-to-end even through a complex network.

Steve Wong, ClearSight’s Vice President of Marketing, says, “We can follow VoIP packets as they go from one end of the network to the other, giving you enhanced visibility across your networks. It’s very difficult, if not impossible, to do that with a traditional analyzer, because they are typically deployed at one point in the network, and so you can only see that packet as it travels through that segment. When you couple that with our ladder view charts, you can get a complete picture of protocol interactions across multiple network elements.”

In the past, however, one “fly in the ointment” when it came to real-time analysis of networks and network applications was the fact that vendors’ probes would not “synch-up” properly — there could be slight differences in the internal clocks of each probe. When you install a number of probes on your network and the clocks aren’t in

sync, troubleshooting analysis becomes much more difficult — even impossible. You can run into a situation where a frame mistakenly appears to arrive at one segment later than it actually did, simply because a probe’s timing isn’t correct. Worse, you could be spending time and effort analyzing a problem that may not even be there.

That’s where the new NTM feature comes into play.

“One way we have addressed this timing issue is in our new release of our NTM software which supports NTP [Network Time Protocol] servers” says Wong. “Now, using NTP, all of your Network Time Machine probes can be synched-up and correlated and you’ll be able to do multi-segment analysis in a much more effective way.”

Wong elaborates, “Once all of the probes are in-synch, you can now genuinely measure latency, since two probes are looking at two different points, and as a packet moves from one probe to the other — say New York to London — the transfer time is measured using what appears to be the same clock. You can achieve latency measurement accuracy down to the millisecond. It’s even possible to improve the granularity further and attain nanosecond timing resolutions, if you decide to add GPS capabilities to the NTM probes with another solution from ClearSight called Cronos. With voice traffic and time-critical media technologies, such accurate latency measurements are critical. The combination of VoIP visual analysis and high precision latency measurements make for a truly unique solution.”

“By coupling this probe timing synchronization capability with our analyzer’s multi-segment analysis capabilities, you can now correlate highly accurate data collected from multiple network segments,” says Wong. “You can now carefully examine the endpoint connections and see how the transactions propagate through our multi-segment ladder charts, and you can get a precise timestamping of the voice packets as they move through the network. Not only does this enable you to find bottlenecks, it actually allows you to characterize and measure them more accurately than ever before. And of course, all our solutions have voice content reconstruction and playback capabilities.”

ClearSight has once again boosted its technology to a new level. Customers currently using the Network Time Machine to better troubleshoot their networks can now perform analysis and monitoring of the network at an unprecedented degree of accuracy. ■

Richard Grigonis is Executive Editor of TMC’s IP Communications Group.



Introducing the Global IVR Community

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

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

<http://ivr.tmcnet.com>

The screenshot shows a web browser window displaying the TMCnet website. The browser's address bar shows 'http://ivr.tmcnet.com'. The website has a blue and white color scheme. At the top, there's a navigation menu with categories like 'Economic Solutions', 'Call Center', 'Technology', 'SIP', 'IVR', 'VoIP', etc. The main content area features a large headline 'Zip. Nada. Nothing.' with a sub-headline 'That's what it costs to start building great IVR applications using Voxeo.' Below this, there's a section titled 'Global Online Communities' with a table listing various services. A sidebar on the right contains a search bar, a 'Go!' button, and an advertisement that says 'It's not rocket science. Offer a great IVR and VoIP platform. Make it exceptionally easy to try, buy and use. Provide amazing support. Try Voxeo now at www.voxeo.com/tree'. The bottom of the page shows the TMCnet logo and the Voxeo logo.

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One Call Medical is Only a SONET Ring Away

By Jim Sullivan, Director of Network Operations, One Call Medical

The Customer

One Call Medical, Inc. (OCM) is a premier outsourcing organization providing scheduling service through its national network of credentialed providers. OCM's customers include the nation's leading worker's compensation insurers and third-party administrators, as well as self-insured employers.

The Challenge

The healthcare industry has to be consistent and reliable. One Call Medical needed to ensure that its entire service area could depend on it whether the skies are sunny or dark and stormy. What OCM needed was a telecommunications services provider that understood the criticality of ensuring the security and reliability of its daily business operations and, if necessary, the continuity of those operations in a disaster recovery situation. The organization's commitment to excellence and a high level of customer service dictated that its mission critical data be accessible at all times.

OCM needed to find a place to back-up its systems completely separate from its headquarters. If there was an unavoidable catastrophe to either the New Jersey or California headquarters all of its critical data would be destroyed. It was imperative for OCM to find a location separate and accessible from both locations. OCM's primary business is dependent upon its call center being up and operational. OCM needed to have a fault-tolerant infrastructure in place.

The Solution

OCM turned to Level 3 Communications ([News - Alert](#)) to provide a premium, fiber-optic backbone network. Level 3's Business Continuity (BC) and Disaster Recovery (DR) Transport Solutions are designed for high bandwidth, high availability, high security BC/DR needs. These solutions provide an array of data transport options, co-location facilities, support for storage networking connections, and Level 3's years of experience delivering network services for BC/DR applications.

Level 3 provided a SONET ring, which redundantly connects One Call Medical's New Jersey headquarters to its co-location space in Level 3's Parsippany, New Jersey, central office. The ring transports OCM's Voice, Data and Internet services. Weather-related incidents, traffic accidents, and vandalism can cut a traditional network connection and interrupt business communications. Level 3's network combines guaranteed bandwidth with self-healing, fiber optic ring technology to keep data, voice, and video flowing reliably and securely. Furthermore, since fiber optics are virtually impossible to tap, a dedicated network provides a private connection that prevents intruders from accessing information.



One Call Medical's co-location in the Level 3 facility, a duplication of OCM's systems in both its New Jersey and California headquarters, serves as a "hot standby" for a complete disaster recovery/business continuity solution. In the event that a disaster would affect either of OCM's headquarter facilities, its communications services will be live in the Level 3 central office, eliminating the potential for any inconvenience to OCM's customers caused by an interruption in its communications services. Level 3's co-location facilities provide a fault-tolerant secure environment with physical and network security.

The Results

If a Disaster should occur, OCM is confident that Level 3 will keep its communications and files intact, resting assured that its data is safe. Level 3's SONET ring redundantly connects OCM's offices to a co-location facility that provides a secure, shielded environment.

"Level 3 has always been very responsive to our needs. Again, when I say responsive I mean prompt in their service and reliability," said Fernando Guerrero, vice president of telecommunications at One Call Medical. "Our main concern when it comes to telecommunications and Business Continuity and Disaster Recovery is to have a good relationship with our provider. Level 3 has done just that by creating a partnership through their continued support and dependability."

Level 3's 24/7 Network Management Center and its National Repair Center perform proactive and sophisticated self-diagnostics and fault analysis on its systems regularly. These intricate steps ensure the secure transportation of business communications day in and day out. Around the clock monitoring and maintenance of Level 3's network provides customers with the availability, security, and reliability they demand in a telecommunications provider. **IT**

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Business VoIP | Community

The new Allworx sponsored Business VoIP Global Online Community is where you'll find everything you need to know about the trends driving VoIP for the small and medium business market. The site features the latest business VoIP news as well as feature articles delivering insight from TMCnet's editorial team as well as many of the leading voices in the industry.

Case studies, research, product showcase, white paper library, live event links... it's all here.

Allworx is a leading provider of VoIP solutions for the SMB market. To learn more about their offerings or to stay up to date on the latest in Business VoIP, visit <http://businessvoip.tmcnet.com>.

businessvoip.tmcnet.com

Review of ClearOne CHAT 50 USB Plus Personal Speaker Phone

By Richard “Zippy” Grigonis

ClearOne Communications, Inc.
 Edgewater Corporate Park South Tower
 5225 Wiley Post Way Suite 500
 Salt Lake City, UT 84116
 Phone: 1-801-975-7200 or 1-800-945-7730
 Website: <http://www.clearone.com>

RATINGS (0 — 5)

Installation: 5	Usability: 5
Documentation: 5	Performance: 5
Features: 5	Overall: 5

The ClearOne (News - Alert) Communications offers what they call the industry's first enterprise personal conferencing phone. Yours Truly got a hold of their cute little CHAT 50, which looks like the baby brother of their 3-microphone CHAT 150 that connects to most major enterprise phone models (Avaya (News - Alert) 2400, 4600, and 9600; Cisco 7940, 7960, and 7970, etc.), capable of instantly transforming them into high-performance conference phones.

In the case of the CHAT 50, the idea here is to take ClearOne's excellent hands-free, full-duplex, echo cancelling technology and imbue it into a small, portable device for habitual travelers and road warriors – a diminutive gizmo that, nevertheless, has the ability to connect to a range of available devices for conferencing purposes whenever the need arises. Indeed, the versatile little CHAT 50 can connect to laptops, Macs, iPods, MP3 players, PCs and cell phones. (The CHAT 50 USB Plus comes with a USB cable, and a 2.5mm-3.5mm cable which connects to the headset jacks of both home/business phones as well as most cell phones.)

You can use it with Internet telephony software and services such as Skype or Vonage and a range of VoIP softphones from companies such as Avaya, Cisco and Nortel (Connectivity to telephones is limited to specific models. Cables that connect to the RJ-9 headset jack of certain Avaya, Cisco, and Inter-Tel models are available separately from ClearOne.)

The CHAT 50 even works as an outstanding speakerphone with web conferencing applications such as LiveMeeting, Sametime, and WebEx. If you're doing some quick instant messaging, you can now also do an audio chat. Or, if you just need a speaker, you can use it for full-band audio playback with the usual gang of media players (QuickTime, RealPlayer, Windows Media Player) through the single speaker.

If you get bored on the road, you can do some PC-based gaming and use the CHAT 50 with TeamSpeak, a client server program used by online game team mates to speak with each other over the Internet. (It's also used by some small businesses as a VoIP softphone to avoid long distance charges, or for personal communication with friends and family.)



Quick Installation

Configuring the CHAT 50 using my Windows XP Pro laptop was a breeze. You just insert the enclosed CD in the CD-ROM/DVD drive, and then just follow a few instructions by the SetupWizard. You then take the included USB 2.0 cable, connect one end to the CHAT 50 and the other to a USB port on your computer. You then start the Chat 50 configuration software by double-clicking the ClearOne Chat icon that gets placed on the desktop. You then click the “Device Setup” button and click on the type of device/environment you want to use the CHAT 50 for (e.g., Cell Phone, Gaming, MP3 Player, PC & Laptop, Telephone, Video Conferencing). You then click on the manufacturer of your device (for a cell phone, the choices would be: Audiovox, Compaq, Ericsson/Sony, LG, Motorola, Nokia, Samsung, Sanyo (News - Alert), etc.) You then click on the model of your device, then click the “Apply to Chat” button to solidify these audio settings. If you're working with a device other than a computer, you then connect your CHAT 50 to the device you just selected.

Interestingly, if you connect to an analog device, you can leave the CHAT 50 connected to your PC and then it will be powered through the USB 2.0 cable, which eliminates the need to plug in the enclosed power supply.

Since all audio devices have different audio characteristics, you should customize the CHAT 50's audio setting for whatever application and device you're using. (Instructions appear in the “Optimizing Sound Quality” section of the user manual.)

The Quick Start Guide illustrates and explains how to connect a CHAT 50 to several different kinds of devices. It's all quite easy and straightforward.

In all, the CHAT 50 is great communications accessory for anybody who must instantly set up a home office away from home. **IT**

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Astricon Delivers for Asterisk Community

By Greg Galitzine

The fifth annual Astricon event in Glendale Arizona was by all visible measures a success. On behalf of TMC I traveled down to the event to conduct a series of video interviews and while at the event I heard some interesting conversations and some exciting news regarding Asterisk. Due to an unfortunate flight delay and related circumstance, Brian Akers of Sun/MySQL — the keynote speaker who was set to kick off the event — was unable to attend.

This forced the Digium executive team to make some last minute adjustments and they did a wonderful job filling in with a group keynote, which featured CEO Danny Windham, CTO and founder (and creator of Asterisk) Mark Spencer ([News - Alert](#)), VP of product management Bill Miller and Steve Sokol who was the originator of the Astricon events.

Windham kicked off the session with a review of Digium and he touched upon the company's unique, dual purpose for existence.

"We have dual missions," Windham said. "First off, we are the lead sponsor and benevolent maintainer of the Asterisk open source project. Our second mission is that of a for profit entity."

He described that second mission further as simply, "all things Asterisk."

"We want to provide products and services that allow businesses and people serving those businesses to take advantage of all things Asterisk," he explained.

Of course, sometimes the mission of what's best for Asterisk is in conflict with what's best for the Digium for-profit entity.

Windham outlined a three-pronged approach to what he believes needs to be done for Asterisk to survive long term.

First, Asterisk has to be the best choice that developers have to build their solutions. Second, for Asterisk to succeed there needs to be true innovation from the community. And lastly, Digium needs to provide the tools to allow the community to thrive and grow, to put the ecosystem in place for the entire range of users — from the home office user to a large enterprise.

Award Winners

Addressing Windham's point about innovation in the community, Miller took the stage and discussed the just announced winners of the 2008 Digium Innovation Awards.

The list of companies deemed award worthy this year included:

- Greenfield Technology (Pioneer Award) who came up with a unique use case for Asterisk allowing people to pray at the Western Wall in Jerusalem.
- Integrics, Ltd. (Big Biz Asterisk Award) who has deployed a solution scaling to nearly 500,000 endpoints.

- Emdeon ([News - Alert](#)) Business Services (ROI Award) who has created an Asterisk-based verification of a Medicaid recipient's current eligibility status. Available 24/7/365, the system is accessed over 22,000 times daily by over 60,000 physicians and hospitals.
- PhonePlay (Inside Out Award) for creating big screen games that crowds of people can play simultaneously using their mobile phones as controllers.

Lastly the judges awarded NTT Software Corp. an Honorable Mention award for being the first major telecom company in Japan to use Asterisk in its network. The solution is currently in trial.

Addressing Windham's third point, regarding the need for tools to allow the community to thrive and grow Sokol outlined four current initiatives at Digium that will be launching over the next several quarters.

First is the availability of a new version of AsteriskNOW; followed by a revamped Asterisk Marketplace, a new solution called A2M or Asterisk Application Manager and lastly the fact that Digium was going to start providing support by way of subscriptions for their open source Asterisk. This last item garnered a large round of applause from the assembled audience.

Skype News

Day 2 of the event brought the biggest news.

Addressing the audience from the keynote stage, Stefan Öberg, vice president and general manager for Skype Telecom and Skype for Business joined Mark Spencer in announcing an exciting new collaboration between Skype and Digium.

The news centered around a beta version of Skype For Asterisk, which will allow the integration of Skype functionality into Digium's Asterisk software and enable customers to make, receive and transfer Skype calls from within their Asterisk phone systems.

According to the announcement, the beta version of Skype For Asterisk will enable business users to:

- Complement existing services with low Skype global rates (as low as 2.1¢ per minute to more than 35 countries worldwide).
- Save money on inbound calling solutions such as free click-to-call from a Web site, as well as receive inbound calling from the PSTN through Skype's online numbers.
- Manage Skype calls using Asterisk applications such as call routing, conferencing, phone menus and voicemail.

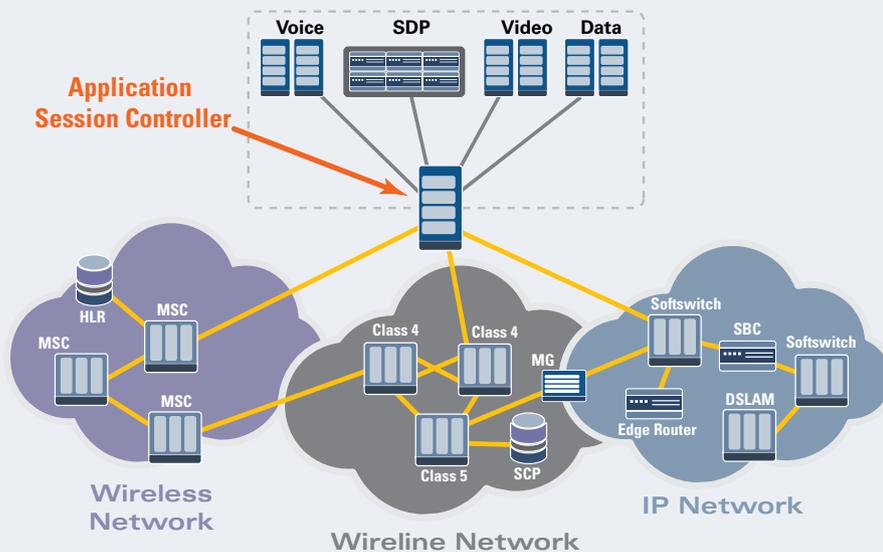
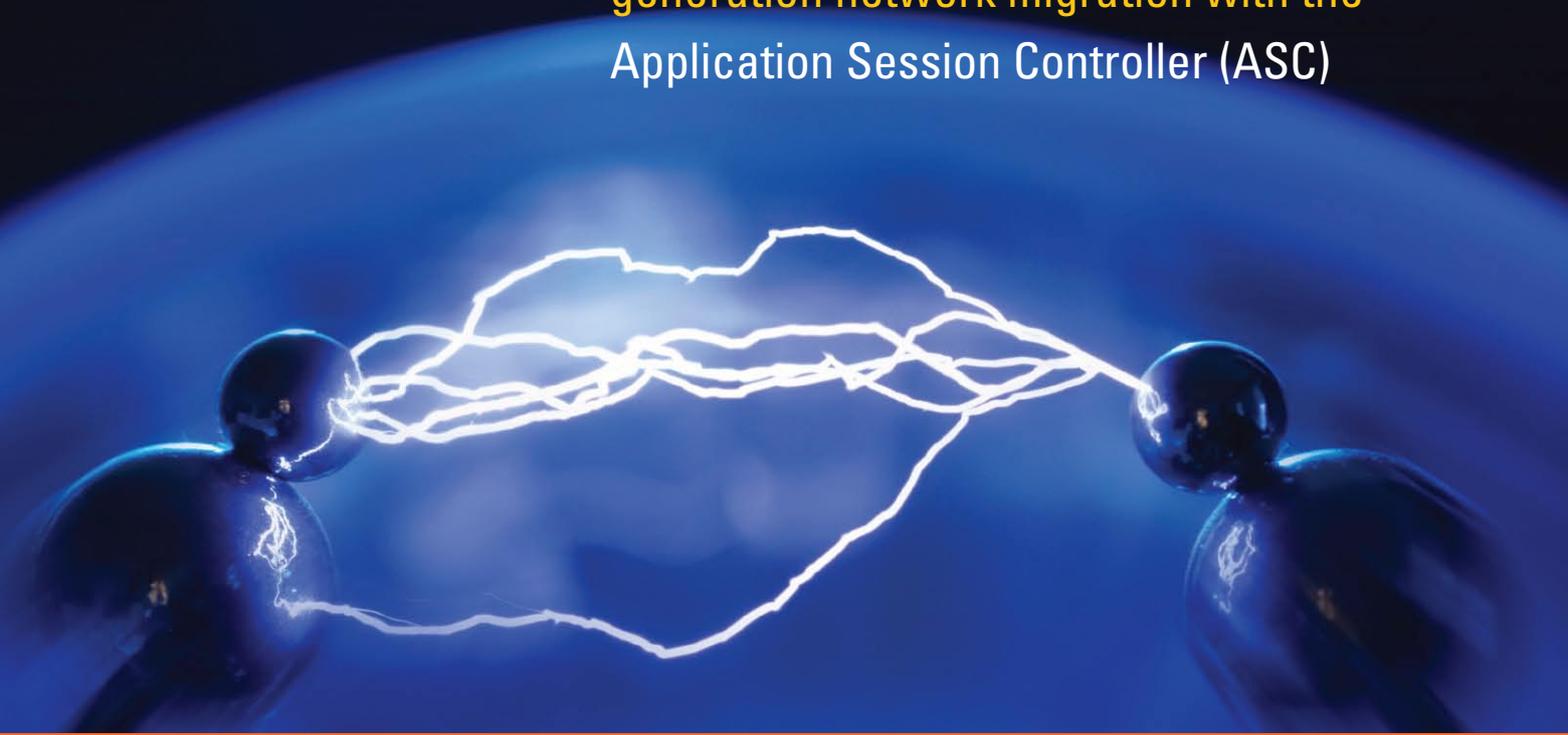
Following the beta period when the product is released, Skype For Asterisk will be sold and distributed by Digium and its worldwide network of resellers.

Overall, Astricon was a good one for Digium and the Asterisk user community. Everyone had praise for the venue, and speaking to the attendance and the full session rooms, Miller commented, "The Asterisk audience can't get enough."

Windham too felt the event went well. "By all quantifiable measures, such as attendance, exhibitors, sponsors... the show is a success." **IT**

Ignite

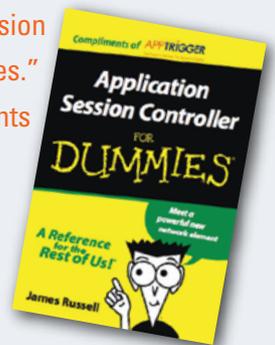
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