Testing with Tom

on the Elfiq LB-800E

ITEXPO WEST KEYNOTE

IBM Offers New Perspective

on the

Cloud

IBM's Mike McCarthy

More Info on ITEXPO

Vitelity Launches Cloud Service

Cloud-based Managed Business
Communications for SMBs

Austin Has a Lot to Offer, Including ITEXPO West

It's September. For many – including my now middle-school aged (yikes!) daughter and high school math teacher husband – that means it's back-to-school time. A lot of folks, especially this year after a swelteringly hot summer across the country (you know something is up when the Phoenix area is not a standout on the July national weather reports), also look forward to September for its promise of more moderate temperatures.

But for us at TMC, September is all about ITEXPO. And we hope it will be for you too.

ITEXPO West is set for Sept. 13-15 at The Austin Convention Center, in case it's not already on your radar. If it's not on your calendar, there's still time to make plans to join us. We'll make it worth your while.

The event will feature keynote speakers including Mike McCarthy, vice president of coud computing services at IBM; Mark Straton, senior vice president of global solutions marketing at Siemens Enterprise Communications Inc.; and John Antanaitis, vice president of marketing at Polycom.

But that's just a small sampling of the speakers who will be sharing their perspectives at ITEXPO and the multitude of co-located events. ITEXPO is proud to be co-located with the 4G Wireless Evolution (4GWE) Conference, CVx, the Cloud Communications Expo, Dev-Con5, the MSP Alliance's MSP World, the Regulatory 2.0 Workshop, SIP Tutorial 2.0, StartupCamp4, the SocialCRM Expo, the Super WiFi Summit, and the VIPeering Conference.

In addition to all this education, ITEXPO West again will feature a robust and bustling exhibit floor, allowing attendees to see the latest and greatest in communications technology.

I'm excited to have the opportunity once again to meet and catch up with many of the leading lights in our industry. It will also be great to finally visit Austin.

I've never been to Austin, but it's been on my bucket list for a few years now, so I'm really looking forward it. Of course, Austin is not only the home of the incredible ITEXPO West 2011, it's also known for its lively business, food and music scenes.

If you're an entrepreneurial type, you might be interested to learn that the Greater Austin Chamber of Commerce is leading an effort to create Austin Live, a downtown district and workspace for startups. So you could find out more about that while you're in town.

The Travel Channel recently aired an Anthony Bourdain: No Reservations show in which he visits some of the awesome food trucks in Austin. I'll be looking for those. If you want a great bite to eat, you might want to check them out too. Odd Duck Farm to Trailer sounds particularly savory.

Also, our event immediately precedes the Austin City Limits Music Festival, so if you want to come for ITEXPO and stay for the weekend you can (if you can still get tickets) catch headliner Stevie Wonder and a bevy of other great acts, including some of my favorites like Alison Kraus & Union Station, The Del McCoury Band, and Old Crow Medicine Show.

To get yourself into an Austin state of mind, you also might want to check out music from local bluegrass band The Bad Livers or Old 97s (not from Austin, but a great band that I heard first made its mark at Austin's famed South by Southwest festival).

See you in Austin! **IT**

Analyzing the Recent Highs and Lows in Communications-Related News

Two of the most talked-about developments in communications of late have been the News Corp. PhoneGate story and the ongoing rise of Apple. So I decided to tackle both of the above herein.

Based on the constant media coverage you should all be aware that reporters at a now shuttered News Corp. newspaper broke into voicemail accounts in order to get scoops. News Corp. is certainly center-right in its reporting, depending on which brand of course. And it is also a very successful company with products like Fox News being monsters in terms of viewership.

But journalists are generally liberal and before you dispute my assertion, please recognize I hire and work with them for a living and as such, media outlets across the world have gone out of their way to focus on what isn't such a huge story. And if the reasons aren't ideological, perhaps they are competitive. The more the general media can trash News Corp., the better it is for them competitively.

Some journalists have tried to pin the illicit reporting practices of the now defunct News of The World tabloid on all Murdoch brands. To follow this line of reasoning is to defy logic. Why? It's simply because companies and employees are not the same thing. You see, employees quit media companies constantly, or are let go and then find other media jobs.

If you work at a tabloid where they use a practice that allows you to get more notoriety, you will use this same practice when you go to your new job. To blame News Corp. alone for unethical reporting practices would ignore the fact that the hiring market is fluid and dynamic and cross-channel – meaning if voicemail hacking is taking place in one newspaper, it is taking place in many.

This gets us to voicemail systems. Back in 1983 or so when I was working on UNIX systems I recall getting alerted when my last failed login attempt took place. For some strange reason, however, many desktop computers and voicemail systems today don't bother to volunteer this information, if they make it available at all.

My recommendation is that every successful login should be greeted with information about previous login attempts, and voicemail systems should also record the calling number for potential future investigation if needed. If there is no caller ID information, the system should only allow one or two login attempts. When users log in to websites they also should be presented with the last failed and valid login.

We live in a world that is less secure by the moment because more of our data becomes digitized each day and much of it is living in various clouds with varying levels of security. My simple solutions to notify users of invalid login attempts with recording of IP addresses and phone numbers of potentially malicious users should reduce the problem dramatically.

Now, on to the Apple discussion.

There is constant debate about what the future is of Apple and Microsoft. After a recent trip to San Jose, Calif., where TMC met with more than 175 leading tech companies, it seems Apple is in better shape than ever. Yes, Cupertino has had record iPhone and iPad sales as of late, but during my visit many top execs told me they are switching from Windows-based laptops to Apple devices.

More importantly, they are evangelizing these products – pushing me and others to switch as well. As you may recall, it is these top execs that brought the iPhone and iPad into the enterprise and forced IT departments to integrate them into business environments.

We can expect this trend to accelerate. Why? Because people love their iPhones and iPads, and I've heard at least a couple people say that the MacBook Air is the best laptop they have ever owned. Obviously there is no higher praise. (Full disclosure: I indirectly own Apple shares.) **IT**

GoTo: **Table of Contents** • **Ad Index** **GoTo:**

Contents

30

5â

GoTo: **Table of Contents** • **Ad Index** GoTo:

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By Ken Osowski

SIP Trunking and Beyond – Time to Giddy Up?

SIP trunking has made some great strides in recent years, enabling service providers to cost effectively introduce VoIP services to business customers. It started with a proof-of-concept phase that quickly transitioned to a phase where vendor and standardization efforts combined to ensure device interoperability that helped the market for service provider-offered SIP trunking services expand.

According to a recent Infonetics Research report, SIP trunking services took off in calendar year 2010, with a 143 percent worldwide revenue increase driven predominantly from activity in North America, ending up for the year at $599 million. But the good news doesn't stop here. Infonetics Research forecasts a 68 percent compound annual growth rate for worldwide SIP trunking revenues, reaching $5.6 billion in 2015! And even though North America represents 62 percent of the total trunks in service currently, the market demand in EMEA and APAC will start to catch up very quickly.

providers though, businesses put secure and reliable communications at the top of their lists, since it is not acceptable for them to trade off lower connectivity costs with a downgrade in security or degradation in quality of service.

Subsequent column articles will address topics that go beyond basic SIP trunking services. To avoid commoditization of the basic services, service providers will continue to look for ways to enhance their SIP trunking service revenues with add-on services. This will involve enabling secure, interoperable, and reliable IP communication services with HD voice, video, and collaboration capabilities, allowing service providers to build incremental revenue streams on top of their existing SIP trunking networks. These services could include HD audio and video conferencing, unified communications, voice recording, or the brokering of any of these services between businesses to establish a broader IP communication B-to-B connectivity model for greater market reach.

> **The switchover from PSTN to IP endpoints is reaching a transition point where PSTN connectivity is no longer economically feasible for any business. As a result, end-to-end IP communications will become the norm and enable much more than just voice services.**

To achieve this kind of hockey stick growth, SIP trunking will begin to replace PSTN connectivity at an even faster rate than we have seen. The switchover from PSTN to IP endpoints is reaching a transition point where PSTN connectivity is no longer economically feasible for any business. As a result, end-to-end IP communications will become the norm and enable much more than just voice services. These market dynamics will change how businesses communicate, ushering in a new phase for IP communications and SIP trunking.

In this bi-monthly column going forward, I will first take a look at what it takes for service providers and businesses to reduce costs and improve time-to-market for configuration of SIP trunking services. For service providers it boils down to meeting the demand with fewer SIP trunk configuration tweaks, enabling faster time-to-trunk provisioning without sacrificing secure and reliable communications. For business customers it also means a simplified configuration process, especially as businesses of all sizes start to deploy premises-based SBCs to handle an increase in IP communication traffic volumes. As with service

For businesses, going beyond basic SIP trunking services means reaching out to other businesses with these new multimedia IP communication services over their SIP trunks, even if the two businesses are communicating through SIP trunks provisioned by different service providers. Just as mobile operators allowed voice and data services to work across different mobile operator networks, IP communications will eventually federate to achieve secure and interoperable B-to-B business communications across different service providers offering SIP trunking services.

So for SIP trunking to achieve its market potential, many different aspects of this technology will evolve to accelerate deployment and enhance service capabilities. Just as basic SIP trunking went through an interoperability shake-out phase, add-on SIP trunk services will go through a similar gestation period. But this time, with a lot of experience under our collective belts, we will be better prepared to work through the issues that result in faster market adoption. **IT**

Ken Osowski is director of service provider product marketing at Acme Packet (www.acmepacket.com).

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By Ron Jackson

Simplifying IT with Converged Infrastructures

Over the last 15 years, IT has experienced a massive growth in data center sprawl. At the same time, the cost to manage these assets has climbed. Today about 60 percent of the cost is tied up in management expenditures (acquisition, management and power/cooling) compared to 60 percent being the purchase price of the server in 1996.

To address expense and complexity issues, a converged infrastructure approach to IT design, purchase and management is emerging. A converged infrastructure is a predesigned, integrated, and often pre-built stack of compute, storage, network and management systems.

If you consider a unit of IT to be defined as so many services, delivered with so much capacity, provided with certain service levels, then an infrastructure stack of compute, storage and network elements can be quantified based upon IT production needs. Since the acquisition of IT assets is based on IT units, the risk of overbuilding server, storage or network environments is reduced because asset purchase is based upon service capacity needs. This means that IT can deliver services more efficiently, less expensively and with a reduced risk of interoperability issues.

Most organizations spend at least six months planning a new infrastructure environment. This includes selecting components, conducting internal meetings to ensure compatibility and coordinating budgets. A converged infrastructure stack also saves time by removing much of the design and planning effort associated with delivering new services.

A critical element of a converged infrastructure is its federated management, which auto discovers the compute, storage and network elements. It provides provisioning mechanisms for services and contains some degree of service-level controls. In an orchestrated fashion, services are defined, elements are provisioned and reserve capacity may be allocated. In most cases, service provisioning can be accomplished in minutes vs. the lengthy process of coordinating change management tasks between technology teams; this further reduces time to market for IT services.

It is these objectives – simplified management, reduced capital costs, less planning and design effort, and quicker provisioning – that are leading some consumers of IT to consider converged infrastructure for their organization. **IT**

Ron Jackson is a network product manager at Forsythe (www.forsythe.com).

By Max Schroeder

A Reseller Educational Series
Competing Effectively in the Global Economy – The New 18th Century

Statistics for the first half of 2011 revealed that while many businesses reported increased revenues and profits, unemployment remained over 9 percent. Globalization was mentioned as a contributing factor, and some analysts predicted that unemployment levels would remain high. The term associated with this latest economic model is the "new normal". Frankly, nothing is new, and change is the true definition of normal.

A few analysts concluded that increases in productivity explained these contradictions, and I agree. Businesses utilizing new technologies are simply more efficient and require fewer employees to compete in today's global economy. The industrial revolution that began in England in the 18th Century displaced workers – their new normal. As the revolution continued businesses adapted and prospered. Employment returned to conventional levels, plus the overall standard of living improved significantly.

To compete effectively, today's resellers must also become more productive, plus sell the concept to their customers. Begin with a full audit of your operation. Create a checklist to include billing procedures, VoIP, UC, fax and all the technology currently being used. Make sure your staff members are engaged from the onset and contributing their views to assist with the analysis and get trained in the process. This is particularly important for the sales and technical teams so they can transfer this knowledge to customers.

Determine if your current infrastructure maximizes productivity or whether is it time for some changes. This is simply a cost/benefit decision. One example would be staff mobility. Can your staff work from home or on the road and be fully productive? Home workers generally put in more hours per week than office workers plus are happier and cost the company less – everybody wins. If your current infrastructure does not support this model completely, what needs to be added or updated? Certainly technologies like VoIP, FoIP, UC and CRM present many opportunities for increased productivity.

The next step is to extend this project to existing customers. Statistically, opportunities for upgrading existing infrastructures are much greater than start-up or green-field sales, so it is an excellent starting point. Plus it is a great customer retention tool. **IT**

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

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By Alan Murphy

Flying Your Apps in the Cloud (Or On the Ground)

Deploying and managing enterprise-class applications in any data center is not trivial, and the level of complexity can vary widely depending on the type of data center.

For most organizations the deployment lifecycle for any application is a continual, never-ending process: from spec to design to staging to testing to deployment…and then start the process over with the next latest and greatest version. When IT adds in new infrastructure challenges such as deploying an application in the cloud, things can begin to spin out of control. It's no wonder that enterprise IT often feels like it's chasing its own tail.

Virtualization certainly made an impact on the application deployment lifecycle, but not in a completely positive way. The speed at which applications can be tested and deployed in the data center is drastically increased with virtualization – the physical requirements of sourcing a new physical server, adding it to the data center, re-wiring the networking, all of those manual labor pieces are basically removed once the virtualized infrastructure is in place. But the nature of the application deployment lifecycle changes with virtualization and becomes more complex; there are many more automated components involved in dynamic provisioning than there in the static data center. Faster to deploy means that much of the infrastructure has to be already in place; otherwise, applications won't function as expected or won't run at all because they're misconfigured. Most IT departments would agree that a highly virtualized dynamic data center is more efficient than a physical, static data center, but it's also a more complex running environment for the applications.

risk. These smaller DIY data centers also typically come with a higher capex and opex and require a fully developed internal infrastructure. At the other end of the spectrum are off-premises data centers, including solutions offered by cloud providers, where applications can be provisioned quickly with very low cost but are completely dependent on the infrastructure offered by the cloud provider. Most critically for the application, off-premises deployments come with new and different management limitations that don't exist in on-premises data centers. When an application is located in the internal data center of any size, IT can use any management tool they would like for monitoring, alerting, and provisioning new resources. When the application is running on a cloud provider's infrastructure, IT is beholden to the provider's management tools, which often can be limiting, unfamiliar, and incapable of integrating with existing on-premises tools. The risk of managing the basic functions of any application increase drastically when control of the application running environment and infrastructure is turned over to a third party.

This application deployment risk vs. reward debate for moving applications into the cloud is almost a brainteaser. One of the key advantages of cloud computing is the ability to abstract the large number of components required to deploy a new system. Rapid provisioning requires both a solid workflow – a series of repeatable events based on the environment that the provisioning system can call when needed – and a pre-determined configuration for each of the components on which the new system relies. Yet infrastructure abstraction becomes a management burden when application services span beyond the data center, either to secondary and redundant data centers or to off-premises cloud

Virtualization certainly made an impact on the application deployment lifecycle, but not in a completely positive way.

The same can be said for an off-premises cloud data center. Cloud gained its incredible momentum toward mass adoption due to the extremely low barrier to entry. With nothing more than a credit card, any business organization can spin up application resources with a cloud provider and be up and running in minutes with virtually no IT experience. IT had no choice but to adopt the cloud model because the business was moving there without them, yet IT was tasked with managing these new off-premises application resources. Creating new cloud-based applications may still be trivial for anyone, but managing those business-critical applications as part of the internal infrastructure has become a daily challenge for IT.

Any application deployment balances the line between flexibility and risk, factored heavily on where the application resides. The smallest on-premises data center – remember the server closet? – offers applications the most flexibility and control, but contains the highest

providers. Simplifying the application deployment lifecycle with dynamic cloud-based provisioning drastically increases the complexity of managing those applications once they're flying in the cloud. How can IT solve this conundrum?

The key to moving applications into the cloud successfully – and if you've been reading this column for any time you'll recognize this theme – is managing the process throughout the entire application deployment lifecycle and controlling flexibility vs. risk. The cloud can offer enterprise IT a completely new, more efficient application deployment model, but it's a model that needs to be adapted to the business to guarantee application success, not the other way around. **IT**

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

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By Steven Johnson

Video: The Next UC Wave

Video from the desktop is poised to become the next wave of unified communications applications to reach the enterprise market. Voice has become entrenched, proven to be secure enough for business and deliver exceptional voice quality (when deployed with the right equipment).

Today, video calls are confined to the enterprise local area network, or at best within the service provider's own network. This limitation creates islands of use that restrict users to videoconferencing with a limited number of contacts. Since video is not a service that can be deployed via SIP trunking service (SIP trunks support voice only), expanding video calling outside of these artificial boundaries may be difficult.

But with an enterprise session border controller in the picture, video and other point-to-point services can be effectively added to the enterprise communications arsenal. In this scenario, since the E-SBC sits at the edge of the enterprise network, it can be configured to route video directly over the Internet while voice traffic is routed to the SIP trunking softswitch.

The E-SBC can deliver video-over-SIP over either a managed connection or the public Internet. But most importantly, the video can bridge service networks to allow point-to-point calling to anyone with an Internet connection.

The E-SBC performs an important role in this scenario, routing different types of traffic over different routes to reach the called party. And the security features ensure that the internal corporate network will be protected. Quality of service will ensure the priority of the voice and video SIP traffic to keep traffic flowing the way your business, or your customers, need it to.

Video is available now on most desktop, laptop and tablet computers, and with an E-SBC the power of video can be harnessed to enhance business communications beyond the enterprise island.

Stop by Ingate's new Unified Communications: SIP Trunking, Voice, Video and More event at ITEXPO West to learn more. **IT**

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

By Nick Maier

Are College Students the Canary in the Coal Mine for Enterprise Smartphone Use?

In record numbers, college students have returned to campus with smartphones in hand and no intention of ever using the landline in their dorms.

As a result, many colleges and universities are phasing out the landlines that have traditionally connected students with their schools and the outside world. Aside from the occasional poor signal through the brick and steel exterior walls of the dorm, this tech trend is changing the game for college telecommunications managers charged with providing a safe campus for students, faculty, staff and visitors.

Smartphone usage at Ball State University has reached the tipping point, according to a study conducted by Michael

Hanley, an associate professor at Ball State and the director of the Institute for Mobile Media Research. The study, released in June, found that 53 percent of students on the Muncie, Ind., campus use smartphones, double the number of smartphone users the previous year. The study pegs mobile phone usage among students at a staggering 99.5 percent.

Many campuses have public safety departments that answer 911 calls that come through the campus phone system so they can respond quickly to someone in need. Today, 911 calls from students using their smartphones or mobile phones typically are routed to city or county emergency dispatchers who then must transfer the call back to the campus emergency responders. In the meantime, precious time is lost.

The same trend is occurring, albeit more slowly, in the workplace, where more and more employees are using their smartphones in lieu of the phones on their desks. Is there any reason to believe this trend won't continue to accelerate? Even with GPS technology built into phones, finding a 911 caller in a multi-story building is difficult.

The time has come for enlightened communications professionals to acknowledge the "canary in a coal mine" and address this critical public safety need by capturing the current location of all 911 callers – regardless of the type of phone they use – and routing that information to the closest possible emergency responder. **IT**

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

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Please come visit us at BOOTH 926 at the IT Expo in Austin, TX

By Hunter Newby

Fiber, Broadband, the Net – What Does it All Mean?

It is difficult to have a meaningful and productive discussion between any two or more people if those people all speak a different language. In any business dealing, let alone a casual conversation, if one person for example only speaks English and the other only Chinese then not a whole lot will be accomplished. At least in this situation it is clear that one side does not understand the other. In the world of communications infrastructure, ironically, people are speaking the same language, but in many cases they have different definitions of the words they are using. This leads to mass confusion and bad decisions that ultimately can cause serious problems.

In order for mistakes to be avoided it is critical that everyone be on the same page. The difficulty in this is that it is not possible to test everyone's telecom dictionary knowledge before a conversation begins. Therefore it is important to validate certain points as the dialogue progresses.

Fiber is another term that is often used and difficult to define properly in the course of a conversation or presentation without running the risk of being labeled as long-winded, or verbose. The truth is that dark fiber is quite different than lit and, or managed fiber. Those that wish to light their own networks and want dark fiber cannot purchase fiber that is already lit. Lit fiber is not really fiber, it is a circuit.

Industry experts are even using well-known acronyms in conversations that sound exactly like something most people already know, but they are using them to describe something else entirely. A good example of this is POTS, which just about everyone in telecom knows as the acro-word for the plain old telephone system. But when certain optical equipment vendors are speaking of their products they now say POT-S, which to them means packet optical transport system, but sounds in conversation exactly like the other POTS. Just imagine how most people react when they hear in a presentation that POTS is going to save the communications infrastructure.

There are many over-used and widely misunderstood terms today including: wireless backhaul, Net, capacity, fiber and broadband.

There are many over-used and widely misunderstood terms today including: wireless backhaul, Net, capacity, fiber and broadband. To some, wireless backhaul means the transport of voice/data from mobile phones and devices, but to others it can mean using microwave technology for the actual transport link itself. In some cases microwave transport is used to backhaul mobile data traffic. The term wireless therefore has both a mobile and microwave meaning, but in the stream of a conversation it is easily lost in translation.

The Net in net neutrality is understood by most people in the U.S. to refer to Internet, so they believe that net neutrality is about Internet neutrality. The Net actually refers to the word network, which has its own definition, but is basically related to the physical and data link layers and not layer 3 – the Internet protocol layer. Network neutrality is something completely different than imposing regulations on individual websites, but since so few people understand this we now find ourselves faced with Internet regulations when in fact the regulations should be on fair access to the Internet instead. This difference in terminology has caused, is causing and will cause serious issues.

Probably the most problematic of all is the confusion caused by the word broadband. The definition of broadband is so loose that it can be argued to have no real definition at all. Unless the person speaking of it takes the time to explain it in great detail, or the listener asks several qualifying questions, it is easy to take away a misconception and just as easy to mislead for the purpose of a deception.

Broadband in most minds is analogous with speed. Speed is analogous with fast. In certain places in the U.S., broadband speed is being defined as 128kbps, which just about everyone functioning online today would say is not even remotely close to anything considered fast. In this case, broadband speed is an oxymoron.

A word to the wise, know what the words being spoken and heard mean and you will be the wiser for it. Sometimes the journey to a common understanding is more enlightening than the end result. Know enough never to assume and always verify and, ultimately, bad decisions and mistakes can be averted. **IT**

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

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Alcatel·Lucent

By Paula Bernier

UC in the Cloud: Understanding the Benefits and Challenges

UC in the Cloud: Understanding the Benefits and Challenges is the subject of a panel at ITEXPO West, which is being held this month in Austin, Texas.

Speakers on this panel include Jeff Wissing of ADTRAN Inc.; Brad Forsythe of Interactive Intelligence; and Srinivas Mantripragada of RedShift Networks Inc. Moderating will be Frank Stinson of IntelliCom Analytics.

INTERNET TELEPHONY recently spoke with Forsythe, technical sales consultant at Interactive Intelligence, to get a flavor of what to expect from the session.

Forsythe says that interest and adoption of unified communications technologies and solutions remain high. Lots of Interactive Intelligence customers, he says, want to move to VoIP across the entire enterprise.

Meanwhile, instant messaging seems to be getting more and more popular, he says. Part of the appeal of IM, he notes, is that it allows people to IM at the same time they are communicating another way – so they may be talking to a client while IMing with co-workers.
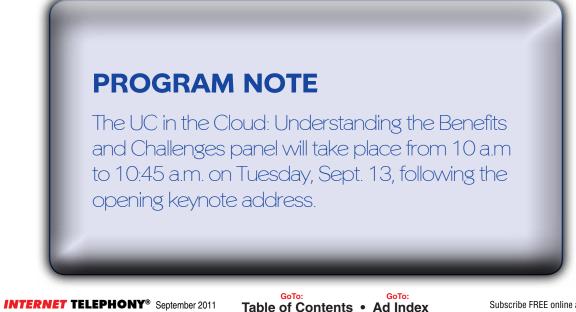
Presence management also is always big in the UC world, adds Forsythe, noting the importance of giving customers the capability to share their presence either with everyone or with select subgroups.

Video is also a top-of-mind means of communication on the UC front. If you have remote employees, says Forsythe, video can be a good tool to connect with them face to face.

As for UC in the cloud, Forsythe says Interactive Intelligence has heard a lot of interest from customers in a hosted UC offering. Interactive Intelligence offers hosted UC today, he says, adding that customers have the ability to at any time move to that model.

He adds that often there are some limitations to going with a hosted model, but that Interactive Intelligence is trying to keep those limitations to a minimum. By limitation, Forsythe explains, he's referring to the fact that in a hosted world – where platforms are shared among multiple customers – there's often less customization.

Of course, he says, how important that is depends on the needs of the customer. Typically, he adds, the benefits of cloud UC far outweigh the challenges because it's less capital intensive, offers quicker turn up time, and Interactive Intelligence offers a high number of features, whether premises-based or cloud-based. **IT**

PROGRAM NOTE

The UC in the Cloud: Understanding the Benefits and Challenges panel will take place from 10 a.m to 10:45 a.m. on Tuesday, Sept. 13, following the opening keynote address.

Unified Communications

By Michael Stanford

Dual-Mode Mobility

Wi-Fi and cellular technologies are turning out to be complementary. Cellular technology is relatively long range, and it can handle clients moving at car speeds; but it can have capacity and coverage difficulties, especially indoors, and the equipment is relatively expensive. Wi-Fi is predominantly an in-building solution; it is short range, high density, high capacity and commodity priced. Wi-Fi is ubiquitous in the devices that consume most mobile data: smartphones, tablets and laptops. Wi-Fi access points are cheap and widely deployed. Consequently, mobile data is evolving to a dual-mode solution, with Wi-Fi indoors and cellular technologies outdoors, with an overlap in large indoor spaces like airports and malls.

Femtocells are low-cost self-configuring solutions to poor coverage and under capacity in cellular networks. But in the situations for which they were originally intended – residences and offices – they are too late. Wi-Fi is already there, already solving these problems. With Wi-Fi incumbent and adequate for indoor use, the economics of indoor femtocells don't add up. So femtocell providers are turning to that overlap area, repurposing their chips and technologies to deliver low-cost, self-configuring small cells to augment macro cellular networks in places like malls, airports, rural areas and urban hot zones.

This approach is being championed by Ubiquisys, which offers a "Self Organizing Network of small cells that don't require radio planning and that complement the macro network's capacity and coverage." One of the expenses of wireless network deployment, both enterprise and cellular, is radio resource management planning: determining the most cost-effective number and layout of stationary access devices, so this "self-organizing" feature is a massive step forward. A similar capability is being touted on the Wi-Fi side by companies like Aerohive, with its suite of cooperative controller-less protocols that enable "automatic channel selection and power control, auto-discovery and configuration".

The small cell approach will succeed because it is compelling economically when compared to older cellular technology solutions, but the degree of its success may be partial. In the U.S. both Verizon and AT&T have announced plans to use Wi-Fi hot zones for the overlap situations. **IT**

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

By Mike Sheridan

The More Things Change… The More They Stay the Same

It's hard to believe that more than three years have passed since I started sharing my thoughts and experiences with you. During this time, unified communications has changed from a poorly understood term to a well understood cost saver for the CIO. And unified communications combined with collaboration provide even greater savings but, perhaps more importantly, productivity improvements for workers across the Internet.

The next opportunity is to bring these benefits to your customers. Through adoption of unified communications and collaboration and the application of your own personal experiences we can step beyond customer transactions to engaging with customers on their terms.

I recently read an interesting article in the July issue of McKinsey Quarterly that further expands on some of these thoughts. In the article, Virgin Atlantic Airways CEO Steve Ridgway talks about the customer experience and what it means to him and his organization. He discusses that while the right tools to create this experience are very important, that isn't going to be enough.

He states: "The real key is people and developing the chemistry and the attitudes, in our staff, that create the right experience for customers. We're constantly pushing this in our professional training because without the human element, all the rest counts for nothing. There's massive complexity in doing this well because it extends from a customer's first phone call to saying, 'Goodbye. Come back soon.' When we get both things right – connecting the tools and the people – then our staff can really engage customers with attitude and spirit."

So it's only natural that over time we see great lessons learned. Sometimes I think we get so caught up in the technologies that we miss the big picture – we miss what's really important. And this is something that must be recognized to be successful. We must realize that there is no single right path to take. It comes down to how observant you are, how willing you are, and how tenacious you are. That is going to get you where you're going and more importantly, where your customers want to go. **IT**

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

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By Paula Bernier

Gale Brings Automation in Cloud, Sees Opportunity in Call Center and UC Environments

The popular children's game telephone demonstrates one of the key tenets of humanity, which is that although we have much in common, different people tend to take away different things from the same instructions. That can be great in terms of creativity, but not so good if you're seeking consistency in repeatable processes.

That's why Gale Technologies provides automation software for quality assurance, lab and production environments. The company's software automates configuration of compute, network, storage and virtualization environments.

Bill Martinson, vice president of corporate strategy at Gale Technologies, which counts Cisco Systems, Ericsson and NetApp among its customers, says organizations today are spending most of their IT budgets on virtualization, but they've already virtualized the low-hanging fruit and are now running into a wall. However, he says, they still want to automate heterogeneous environments. Gale can help with that, he says.

The company recently announced new service tiering capabilities for its GaleForce Turnkey Cloud solutions. It lets organizations convert compute, network, and storage infrastructure into a private or hybrid cloud environment. Gale and NetApp jointly demonstrated the GaleForce Turnkey Cloud Solution for NetApp with service tiering, along with integration to the Cisco Unified Computing System and Cisco Nexus data center switches, at the recent Cisco Live 2011 event.

"Providing service tiering capabilities expands yet simplifies the control users have when building, deploying, and managing real-world clouds. We are working to remove the complexities that have plagued cloud computing and strive to offer simple solutions to completely transform existing environments into real cloud deployments," says Akhil Sahai, vice president of product management at Gale Technologies. "The GaleForce Turnkey Cloud has continued to gain tremendous acceptance from enterprise and service providers. With the help of our partners NetApp and Cisco, Gale is working to further provide users with integrated tools that accelerate cloud implementations."

> Martinson also sees opportunities in doing infrastructure automation related to voice and unified communications. He says Gale already knows how to do that, and can help people on that front as they are rolling out new call centers or upgrading to UC.

The company's flagship software is GaleForce, which builds cloud-like environments out of existing infrastructure within labs and enterprises via provisioning and orchestration of bare-metal, physical and virtual IT resources. The solution is aimed at increasing time to market and lowering costs by enabling "thousands of users to reserve, schedule and execute workloads on a shared, heterogeneous environment with automated provisioning and decommissioning of workload environments."

Gale also on July 19 announced three new resource adapters for the GaleForce automation software. That includes the NetApp OnCommand open management storage APIs, Cisco UCS servers, and Cisco Nexus 5000 series switches.

Martinson also sees opportunities in doing infrastructure automation related to voice and unified communications. He says Gale already knows how to do that, and can help people on that front as they are rolling out new call centers or upgrading to UC. **IT**

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By Paula Bernier

Adobe Labs Discusses Its HTML5 Initiatives

Adobe last month took the wraps off a new HTML5-based tool for creating interactive and animated web content. Called Adobe Edge, the product initially will be free for download, during which time the company will collect feedback on it.

TMC's own Rich Tehrani says that in his recent interview with Paul Gubbay, vice president of design web and interactive at Adobe Systems, Gubbay explained that his company can't dictate to customers which programming tools they will use. So instead, what Adobe is doing is optimizing its tools and technologies to help developers create across platforms.

"One interesting point he made is that Flash has always been the blueprint of where HTML should be going," writes Tehrani.

Heidi Voltmer, Adobe's group product marketing manager for web solutions, says Adobe Edge is similar in look and feel to other Adobe products, and enables easy and intuitive content creation. It can be used to create content from the ground up, and can animate existing imagery. Voltmer says the solution is likely to appeal mostly to interactive Flash Professional users as well as web designers who don't want to write tons of Java script.

Adobe Edge will be available without charge on the Adobe Labs website until some point in 2012, Voltmer says, adding that the company will add features to Adobe Edge over time. As part of the Adobe Edge effort, she notes, the company will be looking to implement best practices around HTML5.

She adds that HTML5 is also supported in the Creative Suite 5.5 that shipped in May and was added to Adobe's Dreamweaver tool.

Adobe also has been doing a lot of work related to its WebKit, a rendering engine for lots of browsers. New on this front is CSS Regions, a spec that allows for richer page layouts by using HTML in the browser.

According to the Adobe Labs website, key highlights of CSS Regions include story threading, which allows content to flow in multiple disjointed boxes expressed in CSS and HTML, making it possible to have more complex, magazine-style threaded layouts, including pull quotes and sidebars; region styling, which allows content to be styled based on the region it flows into (although region styling is not currently implemented in the CSS Regions prototype); and arbitrary content shapes and exclusions, which allow content to fit into arbitrary shapes (not just rectangular boxes) or to flow around complex shapes.

Voltmer adds that Adobe also has been a contributor to the mobile user interface effort within the jQuery open source project. The idea here is to make apps look better on mobile devices, and to work on the data grid related to HTML5.

And Gubbay tells Tehrani that in the future we can expect Flash and AIR to allow development of very complex user interfaces like those used in gaming. HTML5, he says, isn't quite there yet.

"One of the greatest inconsistencies on the web is how video is played, and we will continue to see Adobe concentrate on making premium video better," says Tehrani. "Think about applications provided by companies like Netflix and HBO. Moreover, we can expect Edge to support video in the future – sorry, it doesn't right now." **IT**

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Learn how to manage the transition and visit these communities on TMCnet today!

By Peter Radizeski

Top 3 Ways to Improve

We all need to get a little better, especially with all the changes happening in the channel. We have to do more and more to get the same result, it seems. Here are three ways to see marked improvement.

One way is to develop better habits. Brian Tracy states, "Fully 95 percent of your success in life and work will be determined by the kinds of habits that you develop over time." Habits are learned through repetition and practice. You will develop a new habit (or break an old habit) with 30 to 45 days of consecutive effort.

Another avenue to improvement is better planning – and by plan I mean get better at scheduling. If it isn't on your schedule, it probably won't get done. Your schedule should reflect what is important to you – family time, networking, prospecting, farming and hunting. We all have the same amount of time in a day. We all have a list of tasks and activities that have to get done. The sales activities we perform on a daily basis determine not just our sales success, but our paychecks as agents. Blocking out time for prospecting and marketing (like writing a blog post) is a must. So is adding a block of time to put out fires, do paperwork, and have lunch with a client and dinner with your family. The better you get at setting and managing your schedule, the more efficient you become – and the more time you get back.

A final way is to learn something new. I do this by reading every day. RSS feeds from prominent industry blogs, a business book, a sales book, a book on time management. I also listen to webinars and podcasts to gain additional product information. The nice thing about the Internet is that it is a 24x7 education channel if you want it to be.

Things are changing – fast. You will need to be the best you can be to succeed. **IT**

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

By Paula Bernier

Wondershare Seeks Channel Partners

Wondershare – which sells photo, video, PDF and PC utility software – is seeing "explosive growth" and it's looking for some good channel partners with which it can share the wealth.

The company is just getting its channel program off the ground, says Xin Zhang, manager of business development, who is leading the charge. Wondershare, she says, is looking for partners in the education and retail spaces, and some other verticals.

Bob DeMoulin, corporate communications manager, declined to provide revenue numbers or other financial details about Wondershare, but he did say the eight-year-old organization recently got second round funding from IDG Capital Partners, which is tied to the media house; made Deloitte Technology's Fast 500 list; and was ranked 34 out of 200 by Forbes in its list of the best-run enterprises in China. (Shenzhen, China-based Wondershare also has offices in Europe, Hong Kong, Japan and the U.S.)

Wondershare is noteworthy in the breadth of affordable solutions it delivers, says DeMoulin, and the company continues to add to its product arsenal.

In May, Wondershare bought Spotmau Corp., which sells PC utility applications. The acquired is probably best known for its PowerSuite 2011 suite of utilities for Windows computers; it detects and repairs problems that negatively affect PC performance and cause crashes. Wondershare was also interested in Spotmau because it helps the company move into the business of offering customers diagnostic and repair services.

Wondershare recently expanded the functionality it offers on the business productivity software front. The Wondershare PDF Editor for Macintosh Version 1.1 offers an add bookmark feature that is compatible with Adobe Acrobat Reader; includes optimized document printing; and has a fix so annotates can be recognized. The Wondershare Data Recovery for Macintosh Version 2.0 includes more file formats for recovery and preview; added support for FAT file system and portable devices for Deleted File Recovery; enhanced Lost Partition Recovery and Resume Recovery functions; and a file filter. Wondershare 1-Click PC Care for Windows Version 7.4, meanwhile, has been updated from Kinager 7.3 and renamed 1-Click PC Care. It includes major improvements to software performance and minor corrections of reported issues.

DeMoulin says Video Converter Ultimate is among the company's best-selling products. It's an all-in-one DVD and video converter tool and DVD burner for converting video and audio files. **IT**

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Call Recording Outfit Accurate always to Unveil Multi-site Solution

Accurate always recently introduced three new call recording appliances targeting high-traffic call centers, and it's readying

to introduce a solution to enable centralized call recording and storage for multi-location organizations. Kate Haley, chief marketing officer of the Half Moon Bay, Calif.-based company, says the new appliances are called the Voxida 3155, 3255 and 3355. They provide recording full time, on demand, and on a per extension basis. And they can capture, analyze and store data, and include a full reporting suite as well. Because they're sold fully licensed, she adds, the cost is predictable. Accurate always also has a multimodal, geo-diverse system called the Voxida Hive, which allows people to record from multiple locations around the world via one site. It's a single, centralized way to store call recordings, and to remotely record and access them securely. Also new from the company is an enhancement to its call recording software suite. That provides more detailed encryption modules. This is aimed at customers in contact centers and the health care sector, for example, where security is of the utmost importance.
www.accuratealways.com

http://tmcnet.com/59017.1

FlashSoft Revs Up Business App Performance

FlashSoft sells server software that enables businesses to put a flash device in the server and cache their hottest data on that device. The result is application performance that is three to seven times faster than it would otherwise be. The first implementation of the solution is for Windows server, so that can be leveraged to accelerate such applications as SQL, Exchange and SharePoint. Linux and VMware implementations are in the works. FlashPoint also is working to support clustered applications.

FlashSoft has publicly announced two customers and is in evaluations with a dozen enterprises right now.
www.flashsoft.com

http://tmcnet.com/59019.1

Security Outfit Launches Cloud-based Disk Encryption

DigitalPersona Inc. has launched a new cloud-based full disk encryption solution called DigitalPersona Pro Workgroup SaaS. The solution can be used by any size organization, but the sweet spot for DigitalPersona Pro Workgroup SaaS is implementations with up to a few 100 seats, says Fabio Santini, director of product marketing at digitalPersona. Managed service providers also can leverage this solution to expand their service portfolios. DigitalPersona Pro Workgroup SaaS aims to ease security management and costs for organizations. Rather than installing security software, and the hardware on which it runs, and managing all that infrastructure, IT staff can simply manage security from a portal. Administrators can use the portal – which can be accessed remotely via the Internet – to configure, enforce and report on disk encryption policies and to recover access to locked computers in the event of an emergency.
www.digitalpersona.com

http://tmcnet.com/59018.1

ManageEngine Brings a Fresh Approach to IT Management

Increasingly, it's an on-demand, socially networked, virtualized world in which we live. ManageEngine is addressing all of these trends with its IT management software and related solutions. On the virtualization front, the company recently announced that the ManageEngine Applications Manager, the company's widely deployed server and application performance monitoring software, now offers broader and deeper virtualization support. New is multivendor support

for Citrix, Microsoft, VMware and XenSource virtualization environments. The company also recently added automated cloud resource provisioning capabilities to ManageEngine Applications Manager. That enables IT teams to automate the provisioning of cloud resources so that the server infrastructure adjusts itself in response to sudden traffic surges.
www.manageengine.com

http://tmcnet.com/59016.1

CounterPath Builds Service Around X-Lite Softphone

CounterPath, which is probably best known for its free X-Lite softphone, is launching a service around that product, says Todd Carothers, senior vice president of marketing. X-Lite Connect is a service focused on the 20-seat SME market. It allows users of X-Lite (which has seen tens of millions of downloads over the years) to enter their PBX numbers to create an X-Lite account. As a result, when those customers make calls, the system will first try to put them through via X-Lite. If the person at the destination is also on X-Lite, the two parties will be connected via a peer-to-peer, HD call. This is a free service, says Carother, but CounterPath hopes to make money from it by offering – for a fee – in-app services such as SMS, group SMS, HD video, group video, and more.
www.counterpath.com

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Proxim Targets Mobile Backhaul, International Opportunities

Proxim believes it is well positioned to provide LTE wireless network operators with wireless backhaul solutions. The company also is looking to grow its business by targeting remote learning, telemedicine and video surveillance opportunities abroad; these are applications that Proxim already addresses in the U.S., where it serves enterprise customers, and municipal, state and federal governments. "Proxim's decade-long focus on software development has created a noticeable differentiator between us and other 802.11n Wi-Fi equipment providers," says CEO Lee Gopadze. "This cross layer resource allocation software is called WORP. That acronym stands for Wireless Outdoor Router Protocol. We develop Proxim wireless network infrastructure products (base station radios and customer premises equipment) by using a COTS-standard 802.11n chipset, then adding our own software into the package. This results in products that perform to a significantly higher standard for data transmission speeds, and quality and class of service characteristics than ordinary 802.11n equipment."

www.proxim.com

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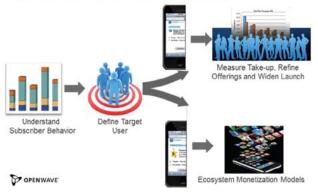## Seven Can Help Wireless Carriers Significantly Lighten Traffic Loads

Wireless service providers that are grappling with the mobile data boom may be interested to learn that Redwood City, Calif.-based Seven has software that can lessen the load by 25 percent and enable better handset power efficiency in the process. The client and server software, Open Channel, looks at traffic between applications and the cloud and identifies patterns that indicate redundant traffic, explains Ross Bott, president

and CEO of Seven. Facebook, e-commerce applications and news feeds are perfect candidates for Open Channel intervention. That's because with Facebook, for example, a lot of what happens is status updates of friends and what's going on with them. The Open Channel solution, which caches the actual content on the wireless handset, figures out what is truly new in those updates and captures only that new content. Open Channel also works to extend the life of handset battery power by keeping the radio off when its use is not needed. The software is available initially for Android phones, but support for Apple devices is in the plan.

www.seven.com

http://tmcnet.com/59024.1

Openwave Helps Carriers Address Mobile Data Deluge

Helping customers better understand and manage their mobile data usage, and using optimization to lessen congestion and ensure a high quality user experience, are two of the biggest trends happening in communications today. Openwave Systems Inc. addresses both of the above with its solutions, which are in use by more than 70 mobile network operators globally, says Indranil Chatterjee, vice president of product management. Openwave Smart Policy, which is part of Openwave Passport, allows mobile service providers to track per-user activity by bandwidth usage or minutes on the network. That way, service providers can alert customers if they're nearing the ceilings of their current plans. Also included under the Passport Smart Policy is the Price Plan Innovation Solution, which has to do with up-selling and cross-selling

new data service plans to end users, Chatterjee explains.

www.openwave.com

http://tmcnet.com/59022.1

Platform Helps Wireless Operators Attract Developers, Build New Revenue

Wireless operators are between a rock and hard place as they try to address the mobile data boom while at the same time figure out how to drive revenue-generating applications and services on their networks. Clearly, they see mobile app stores as part of the answer; but getting the developer community to build applications for their networks isn't as easy as it may seem. That's why a company called h Senid is providing telcos with a solution to this challenge. Dinesh Saparamadu, founder and CEO of h Senid, explains that the company offers an application platform that enables mobile operators to expose their network assets to the developer community. As part of the solution, h Senid brings to the table relationships with 1,500 developers from around the world and, if service providers want, some prepackaged applications. Discovery of applications leveraging the platform is supported on feature phones via USSD; IVR is another way of discovering the apps.

www.hsenid.com

http://tmcnet.com/59025.1

BridgeWave: Wireless Carriers May Pair Small Cells & the Cloud

Small cells are almost certainly coming to a cellular network near you, and the cloud could come into play as part of this new architecture as well. That could create new opportunities for alternative backhaul solutions, says Amir Makleff, president and CEO of BridgeWave. Whether cellular operators are deploying remote antennae or small cells, it's clear that fiber is not going to be available everywhere for backhaul, says Makleff, adding that products provided by BridgeWave are an alternate option for backhaul.

www.bridgewave.com

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Elfiq LB-800E Delivers Robust Link Balancing

We all know data is critical to just about any business. The real question is how to handle business continuity in the event a data connection is lost. While there are myriad ways of handling the loss of a data connection, the simplest method is the usage of a link balancer. A link balancer is a network-based appliance that proactively manages bandwidth from multiple ISP or private links. Should one or more links go down, the link balancer can automatically switch the traffic to the available ISP link(s) until the troubled link returns to normal.

In fact, a link balancer can actually be proactive and perform outbound traffic balancing, distributing traffic across multiple links based on rules you specify. A link balancer can take multiple ISPs from multiple technologies (DSL, T1, fiber, cable) and combine them to ensure business continuity. If there is link saturation or a link failure with an ISP provider, a link balancer automatically will make sure the other ISP bandwidth links are there to take over.

TMC Labs took a look at the Elfiq LB-800E, a powerful and robust link balancing appliance that was surprisingly easy to set up. To get the best possible real-world experience, we actually hooked up to our production network and configured it to work with our two ISPs and one of our web servers.

Importantly, Elfiq's line of link balancers support session persistence management because certain types of traffic, such as HTTPS (secure website access), need to have its simultaneous sessions use the same link for cookie compatibility. This does not hinder the ability to balance dynamically this type of traffic, since sessions going to a different HTTPS destination can go over a different link. Elfiq's persistence simply ensures that sessions going to a given destination remain together, on a per-destination basis. Similarly, you can configure a link balancer to use a primary link and only switch to a secondary link if the primary link reached a high utilization threshold that you preconfigured.

In addition to failover and outbound traffic balancing, the Elfiq LB-800E can perform in-bound traffic balancing and failover with no change to your existing internal infrastructure – other than the initial configuration of the Elfiq device, of course. One critical component to in-bound traffic balancing and failover is Elfiq's Intelligent DNS module. The iDNS module will intercept incoming DNS requests for specific services and balance them according to the selected algorithms

and parameters defined. Because the LB-800E knows if a link goes down, it can modify in-bound DNS requests on the fly and point to an alternative IP address. Importantly, iDNS only intercepts DNS queries for records you wish to load balance and provide failover. Any other DNS query is passed on to your existing DNS servers. All you need for failover across multiple links is an IP (ISP1) to IP (ISP2) association for each server you want to failover.

For example, suppose you have a web server www.acme.com whose DNS points to 24.38.43.100 (ISP 1) and you have a backup ISP 2 reconfigured with IP address – 44.56.66.200. Now suppose ISP 1 goes down. When outside clients (browsers, VoIP devices, apps, etc.) try and resolve www.acme.com, the Elfiq device will know that ISP 1 has gone down, intercept the DNS query via its DNS listener, and resolve the DNS to your other data link (ISP2 - 44.56.66.200). That takes care of the external side of things.

On the internal side, the Elfiq device sits between your Internet connections and your firewall so it has the ability to modify the packet to make it appear to the firewall as though it came from ISP 1 even though it came from ISP 2. The packet is then routed by your firewall using its normal rules to reach the destination server or device. When the server responds, it still responds using the same exact default gateway (the firewall). The firewall then sends the response to the Elfiq appliance, which because it maintains session states is able to map the IP address back to ISP 2's external IP address.

As you can see, this is done keeping your existing network infrastructure the same – no need to manually change default gateways on servers, no reconfiguration of your firewall(s), and no DNS changes required. The beauty of this is that it's done proactively and automatically by the Elfiq device with no human intervention.

The LB-800E Link Balancer actually checks the status of each ISP link every few seconds to validate its health – essentially probing predetermined outside sites for their availability. When a link stops responding to the tests conducted by the Link Balancer, the link is taken off the list of available links and directs traffic to the remaining links. Importantly, the LB-800E continues to test the unavailable link, and when it becomes available with acceptable metrics, it is returned to the list of available links. During an outage the LB-800E will send e-mail alerts and will also alert you when the link returns to being available. Elfiq Link Balancer events and alerts can be sent to a remote syslog server as well.

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Besides failover capabilities, another nice advantage of the Elfiq LB-800E is that it enables the use of multiple ISPs concurrently. Instead of having an idle backup data link you pay good money for, you can use all the links to their maximum limit, enabling your company to benefit from the additional bandwidth.

The Elfiq LB-800E has some powerful customization rules, and you can even modify algorithms based on time of day. Another important feature of the LB-800E is its site-to-site resiliency feature. With a Link Balancer at two sites using Elfiq's proprietary SitePathMTPX feature, communication between those sites is protected against link failures or saturation by using alternate paths to ensure connectivity. Using this feature you can load balance VoIP/VPN traffic over a number of links so your remote offices and users don't lose connectivity during a link outage. This is all done without changing your VPN appliance or firewall configuration.

The Elfiq Networks QoS feature lets you grant priority to critical data, such as e-mail, VoIP or VPN traffic, and supports QoS DiffServ marking. The quality of service module lets you set policies for ports, protocols and applications, allowing you to give lower priority to non-critical activities such as streaming radio or gaming. Importantly, should one link fail, which means less overall available bandwidth, the QoS module will apply new user-defined rules to the other links to guarantee bandwidth for all critical services. Although we didn't test this feature, the Link LB offers filtering on IP, ICMP, TCP and UDP protocols.

The web admin was very easy to navigate and configure the various settings. It has a series of wizards that guide you in the configuration of your device. It also has a batch command screen where you can copy/paste several commands into the screen and execute them all at once. It's a nice way of quickly changing the configuration or even installing a completely new configuration to the unit. It's also useful for backups. You can output the current config and then if you need to migrate to a new unit, you can simply paste the configuration into the batch command screen. The Elfiq web page also shows cumulative statistics and SNMP support allows you to pull statistics from the Elfiq device.

The reporting capabilities are pretty good. We really liked the dashboard view, which showed overall bandwidth consumption for each link. You can view current upload/download statistics per link in real time, for the last four hours, the last 24 hours, the last three days, and the last seven days. The built-in probe lets you see active IP sessions' bandwidth usage on a per link basis; link usage and history; and reports on a per IP address, application/port basis. The probe lets you see the current top 30 sessions ("top talkers"), which you can then sort by column headings, including the link port, top in kilobytes, top out kilobytes, and more. You can also see both the inside and outside IP address for each session and the port number (80, 443, 21, 3389, etc.) to determine traffic type. And you can export the chart data as a .csv file for importing into a reporting package or Excel.

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The line of Elfiq Link Balancers lets you choose different algorithms for each traffic flow you want (ACL based), which includes the following algorithms: round robin, weight, least traffic, equalized traffic, order preferred, equalized traffic first within weight, best sitepath first, round trip time (fastest path in ms), and multiplexing. Each method has its advantages. Weight first algorithm is an interesting option. It prefers the lowest configured weight conditional to saturation. In our set up, Optimum Lightpath fiber was assigned a weight of 2, which is less than weight of 5 for the Cablevision line. What this does is keep all traffic on the primary link and only if the primary saturates (or fails) does it spill over into the Cablevision link.

Significantly, the device has a LAN fail-safe feature. In the event of equipment failure, it allows you to power off the Elfiq and your firewall will still communicate with its default gateway through the inactive Elfiq unit. These ports are labeled in groups of two as bypass on the unit to make it clear that there are actual physical connections between each pair. Depending on the model number, you can have multiple bypass pairs.

During one of our tests, we took one of our ISP links down to see if our test web server would switch over to the secondary link. The Elfiq device sent us an e-mail alert, and we attempted to connect to the web server. Initially, we could not connect, but that was because our DNS has already cached the IP address to the primary (now offline) ISP link. We flushed our DNS cache, and then we were successful in connecting to the web server over the secondary link. It was

doing exactly as promised – ensuring business continuity by automatically switching to a secondary ISP link, and we were quite impressed. **IT**

Elfiq LB-800E Link Balancer
www.elfiq.com
MSRP: $3,495

Featured Specs:

Maximum throughput Full Duplex: 480mbps
Maximum number of sessions: 64,000
Maximum number of new sessions per second: 12,000
DHCP, PPPoE, Dynamic MTU/MSS support, 802.1Q (vlan) Speed of network interfaces (mbps) 10 / 100 & 10 / 100 / 1000

Ratings

Installation: 5
Documentation: 5
GUI: 5
Features: 5
Overall: A

Conclusion:

Because the Elfiq LB-800E is Layer 2, it eliminates the use of the BGP protocol for link redundancy and eliminates the high costs associated with it. The Elfiq Link Balancer can actively manage sessions between multiple links, it can use all the links concurrently, and can failover between links very quickly. Conversely, BGP is often used to re-route whole ranges of IP addresses, a lengthy process requiring hardware and human resources. The Elfiq Link Balancer saves time and money while optimizing the use of all your WAN/Internet links. The Elfiq Link Balancer can eliminate expensive links by replacing them with multiple less expensive links, without reducing performance and adding in additional redundancy to both. We almost never give perfect scores (5) for every rating, but this is a polished product that is feature-rich and easy to use. We really liked that this device required virtually no changes to the network infrastructure. Add in its native support for QoS policies, session persistence, and its VoIP SIP-aware capabilities, and we had no hesitancy in awarding the Elfiq LB-800E an Internet Telephony Editors' Choice Award.

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

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By Paula Bernier

IBM Exec to Offer ITEXPO West Attendees New Perspective on the Cloud

Before many of us had even heard the phrase cloud services, IBM was hard at work researching this concept and engaging with select customers to discover and define the potential benefits and challenges of cloud solutions. Mike McCarthy, vice president of cloud computing for IBM Global Technology Services, says the company has learned much about the value of the cloud from its clients via the thousands of engagements it's done over the last few years. He will share some of these nuggets of wisdom during his ITEXPO West keynote speech at this month's event in Austin, Texas.

As McCarthy notes, interest in the cloud has exploded.

Indeed, 60 percent of 3,000 global CIOs that IBM recently surveyed said their organizations are ready to embrace cloud computing over the next five years as a means of growing their businesses and achieving competitive advantage. That's nearly twice the number of CIOs who pledged their allegiance to cloud computing two years ago. The IBM research also indicates that seven out of 10 CIOs in the U.S., Japan and South Korea, and 68 percent in China, now identify cloud as a top priority. Meanwhile, Ovum says 63 percent of multinational corporations in the Asia Pacific are using at least one type of cloud service, which the firm defines as including networking, communications, applications, corporate IT systems, data management, security and backup.

Gartner forecasts that by the end of this year cloud-based services will account for almost a quarter of the overall hosting market, excluding co-location and mass-market hosting. And a Morgan Stanley Research study released in May forecasts a 50 percent compound annual growth rate in the growth of public cloud-based workloads over the next three years.

"Our analysis suggests robust growth not just for the newer, less developed markets in the public cloud like platform as a service and infrastructure as a service, but also the more mature software as a service segment — where we forecast workloads growing at a similar 50 percent CAGR," the Morgan Stanley Research study states. "Within on-premises environments, the provisioning of workloads into private cloud or virtualized environments should see rapid expansion as well, growing from 32 percent of workloads today to 52 percent in three years."

For its part, IBM expects to generate upwards of $7 billion from the cloud by 2015, according to McCarthy.

The cloud strategy at IBM is focused around the enterprise, not just from a technology perspective, but also in how the company

defines its pricing and payment models, McCarthy says. The fact that IBM began its cloud effort more than five years ago and has a lot of practical experience with the cloud, he adds, gives the company a unique perspective on the market.

Blue Cloud is a set of labs IBM has created around the world to do first-of-a-kind cloud projects with customers. At these labs, IBM tests new cloud apps with clients before it rolls them out on a larger scale, he says.

IBM also has been a test bed of sorts for its own cloud hardware, software and services, McCarthy says.

"We kind of ate our own cooking, if you will," he says.
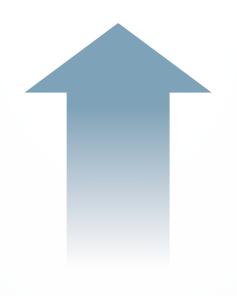
Big Blue also is active in various standards-focused efforts focused on the cloud. For example, IBM is leading the Cloud Standards Customer Council along with companies like Lockheed Martin and others, McCarthy says. The Cloud Standards Customer Council is an end user advocacy group dedicated to accelerating cloud's successful adoption, and drilling down into the standards, security and interoperability issues surrounding the transition to the cloud.

While the rise of the cloud continues on various fronts, McCarthy says that the software-as-a-service model is the furthest along.

"In the SaaS model, that's getting to be relatively mature as a model," he says, pointing out IBM's LotusLive Collaboration and Meeting Suite, and the IBM Tivoli Live offers on this front.

On the infrastructure or platform side of the cloud equation, he adds, the industry is at an inflection point in the market. Over the years a lot of companies have dipped their toes in the infrastructure-as-a-service pool, he says, but now clients are starting

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to understand there is benefit to moving workloads onto managed hosted clouds.

McCarthy says IBM has seen significant uptake of its managed cloud solutions in the last nine to 12 months. The company has always had a large number private cloud number of users, he explains, but now it's starting to see the public cloud taking off as well. That's why the company timed its IBM SmartCloud Enterprise + for delivery this year, he says.

The introduction of SmartCloud Enterprise + will follow by about a year IBM's introduction of SmartCloud Enterprise, an infrastructure-as-a-service offer. Clients have been asking IBM for more flexibility and scope, so it developed SmartCloud

Enterprise +, which McCarthy says provides new levels of choice for clients related to management support and deployment, security and isolation, availability and performance, payment and billing, and more.

IBM initially offered a KVM hypervisor, but with the new service it adds support for a VMware hypervisor. IBM also is adding new payment options; in addition to the pay-as-you-go option, clients will now also have a monthly payment option. These are just a couple of examples of what's new with SmartCloud Enterprise +.

Speaking of flexibility, McCarthy adds that it's also important to enable organizations to transition to the cloud how and when they are ready to do so. Rather than simply

laying public and private cloud offers on the table, he says, IBM helps clients forge a path to migrate existing workloads to the cloud.

"That's a really important aspect of what we've learned: How to assist clients in that migration," McCarthy says.

He explains that this process starts with a customer needs analysis.

"Cloud is real," he says. "Don't be afraid of cloud.

"There are capabilities and expertise out there to let you take advantage of it," McCarthy continues. "It's available right now, and there are vendors like IBM that know how to make this work for you." **IT**

More Info on ITEXPO Keynotes, Sessions & Co-Located Events

By Paula Bernier

ITEXPO West in Austin, Texas, has a wide range of education and networking opportunities in store. In addition to IBM's Mike McCarthy, the keynote speaker lineup includes John Antanaitis of Polycom and Mark Straton of Siemens Enterprise Communications Inc.

Straton will speak Tuesday, Sept. 13 from 4:30 p.m. to 5 p.m.

He is senior vice president of solution marketing for voice and applications at Siemens, a top-three market leader of VoIP, unified communication and data networking software, services, and devices. The company has approximately $3 billion in annual revenues.

Straton has worldwide responsibility for solutions marketing including strategy and planning, product positioning and messaging, product launch and programs. He previously was senior vice president, global marketing and led the company's global alliance, channel, sales enablement, sales promotions, product and solution marketing activities. Prior to that, he served as senior vice president of marketing and strategy at

Siemens Communications in the United States where he was responsible for fixed and mobile carrier networks, mobile phones and enterprise networks.

Antanaitis is slated to give his keynote Wednesday, Sept. 14 from 10 a.m. to 10:30 a.m.

As vice president of product marketing at Polycom, Antanaitis leads a global marketing team responsible for worldwide product positioning, messaging, new product launches and events for Polycom products, solutions and services. He joined Polycom in 2002 after spending five years in marketing and general management for Stanley Tool Works and Fortune Brands. He also worked for a decade at Motorola; there he was involved with engineering, operations and marketing in the mobile phone industry.

In addition to the keynotes, ITEXPO also offers a bevy of educational sessions organized into tracks centered on business collaboration, call center, enterprise, security, service provider, SMB, and technical subject matter. And be sure to check out the cornuco-

pia of opportunities available through the co-located events at the Austin show. That includes the:

• 4GWE Conference
• Avaya Technology on Tap
• The Asterisk 123 Seminar
• Business Video Expo
• CVx ChannelVision Expo
• Cloud Communications Expo
• Ingate's SIP Trunking Workshop
• M2M Evolution Conference
• MSPAlliance MSPWorld
• Regulatory 2.0 Workshop
• The SIP Tutorial
• Social CRM Expo
• StartupCamp4 comms edition
• Super WiFi Summit
• The VIPeering Conference

There also are many networking opportunities to be had on the ITEXPO West exhibit floor.

Exhibit hall hours will take place Tuesday, Sept. 13 from 5:30 p.m. to 7:30 p.m.; Wednesday, Sept.14 from 11 a.m. to 4 p.m.; and Thursday, Sept. 15 from 11 a.m. to 3 p.m.

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By Melodye Mueller

Real World Results
Cloud-based Managed Business Communications for SMBs

We live in a connected and agile world. With fuel prices escalating and commutes becoming longer and longer, companies can no longer maintain a traditional "cubiclesque" work environment if they want to compete for the best talent and provide outstanding customer service. This is forcing employers and employees to focus on results in the workplace vs. using physical presence as a measure of success. As a result, new business models and work environments are emerging, and business communications are proving to be pivotal tools in this transformation.

Business communications include telephony, messaging, collaboration, and mobility. Today, everything must be mobile. But this comes at a price. Traditional on-premises solutions are complex, difficult to support, and expensive. Pure hosted solutions lack reliability as well as many of the enterprise features that are available with on-premises solutions.

New optimized cloud solutions are providing just the right balance between cost, functionally and reliability. More small to medium businesses than ever before are leveraging the financial flexibility and technology benefits of cloud-based managed business communications services. By adopting a cloud approach, SMBs can realize key benefits; gain access to state-of-the-art communications services; achieve a high level of service and support; reduce the complexity; incur predictable costs; eliminate the need for capital investment; and minimize the risk in new technology adoption.

Using cloud-based business communications services, companies are providing superior customer service, creating virtual work teams, and are becoming more efficient by reducing communication latency.

Mosquito Creek Outdoors sells high quality camping, fishing, hunting, kayaking, hiking and other outdoor gear for the outdoor enthusiast. With two large storefront locations and an Internet sales group, Mosquito Creek leased an on-premises VoIP system. Employees depended on the in-store phone system to respond to merchandise inquiries offering immediate product, inventory, and price information throughout the store wherever they were located in the 17,500 square feet of retail space that spanned two buildings.

"The reliability was pretty poor," says Paul Faircloth, owner of Mosquito Creek. "The system would go down for days at a time, sometimes even weeks. The phone service company

would send someone out to fix the programming issue, but almost immediately something else would go wrong."

Faircloth says that the company lost an average of $20,000 a day when the phone system was down, including irreparable damage to customer relations and reputation, which are priceless. Faircloth replaced the on-premises system with cloud-based managed business communications services.

"Our business is tough enough, and we certainly have no desire to be in the phone service business. We leave the management and monitoring to the experts at the managed service center for all our day-to-day needs," says Faircloth. "Unlike our previous solution, our new provider delivered a telephony solution that is reliable, comes with great service, and costs less. What could be better? We are tickled."

The Troy Dolan Group is a management consulting firm specializing in customer experience management. "In today's mar-

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Melodye Mueller

ketplace most services have become commodities," says Tim Rooney, president of The Troy Dolan Group. "The only way to differentiate yourself from your competitors is by delivering a superior and memorable customer experience."

The company wanted to be able to create virtual work teams to support client engagements without regard to where employees are located. To support its mobile work force, the company chose a managed business communications service with optimized, cloud-based management and monitoring. The solution provides a full suite of mobility and collaboration features including personal auto attendant, find me/follow me, simultaneous ring, and softphones. Using the personal auto attendant, callers can be routed to an individual's voice mail, mobile phone, home phone, assistant, or to an employee's softphone-enabled laptop. With a single telephone number, employees can be reached on any device whether they are in the corporate office, home office, a hotel room, or on a client site.

"As we hire workers in other parts of the country, each remote worker will have a direct dial phone and fax number, and we'll be able to call them by merely dialing a three-digit extension," says Rooney.

Forrester's Right-Time Communications survey indicates that 25 percent of the time business processes halt until key decision makers become involved. When a communication

solution reduces the time required to get messages or live communications to the right decision maker, there is a direct and positive impact on a business.

With the widespread adoption of diverse communication devices, making those connections in a timely manner can be quite difficult. The resulting communication latency lengthens the amount of time required to make and execute critical business decisions. Incidences of telephone tag and unanswered e-mail or text messages are far more detrimental than annoying inconveniences –they impact an organization's ability to compete.

Heath Properties offers property management, marketing, leasing and sales. The company manages diverse portfolios including luxury residences, corporate housing, student housing, project and voucher-based subsidized apartments and efficiencies. Because the property management company manages so many different properties it receives a large number of phone calls with residents needing immediate response. Often the messages are long and emotional, and require a lot of time from both reception and support staff to field and manage. Sometimes voicemails are as long as 10 minutes with residents upset about something that is not working.

This organization needs to respond to customers 24 x7, 365 days a year. It was forced to look for a new system because its telephony provider could not provide an adequate landline; the old system was not reliable, and its vendor could not provide satisfactory support. The phone system would go down for 24 hours or longer, the longest outage was 26 days. The final straw was when one of its properties was on fire and management didn't know about it until the next day because the system was down. Heath's telephony vendor was not very responsive, kept passing the support call within the company and problems were difficult to resolve.

"We needed a reliable system that would allow our support staff to quickly vet each message so they could distribute it to the right person within the company in a timely manner," says Keith Beardsley, chief operating officer for Heath Properties. "We chose a service that automatically integrates all voice mail with e-mail. This enables our support staff to review messages while taking phone calls, easily organize messages, and get them to the right person quickly."

Today, Heath's new telephony vendor takes full responsibility for the entire system. With one call, any issue is resolved quickly and Heath has not experienced any significant outages. Employees now get their voice mail sent to them via e-mail, so they can access it on the go. In the past it was taking hours to dial in, listen to their voice messages, take notes and determine action. By reducing communications latency, Heath's customer service and response times have improved significantly and its response processes are more efficient. **IT**

Melodye Mueller is vice president of sales and marketing at Whaleback Systems (www.whalebacksystems.com).

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Table of Contents • Ad Index

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By Keith Mallinson

Making Profits from Mobile Broadband

Broadband is the means for profitable growth in mobile communications. It is expanding the market with web access, applications downloads and streaming. It offsets terminal decline in the voice services cash cow. Mobile broadband will soon connect most of the population and a large proportion of things worldwide.

Visions for Video

The last 15 years have brought cellular voice and SMS communications to the masses with five billion connections worldwide.

Today, we are now at another tipping point with smartphones, laptops and a variety of other connected mobile devices set to become the primary – or for many people worldwide – the only means of Internet access to rich content. In addition to personal devices, a wide variety of appliances including vending machines, smart grid meters and cars are getting connected; and it is now just a matter of time before personal connections are outnumbered.

Mobile broadband development presents significant new challenges with its exponential traffic growth that drives the need to transform networks with HSPA Evolution and LTE technologies, additional spectrum and backhaul capacity. End-to-end IP including evolved packed core and a migration to voice over IP is mirroring the dramatic changes initiated on fixed networks more than a decade ago. Innovative services, pricing and payment models will, as they did with voice and SMS, fuel profitable adoption and usage.

Transforming Networks and Pricing

The old problem with 3G until the mid 2000s was that nobody was using it much for anything other than voice and text. This changed with widespread adoption of mobile broadband dongles, the advance of smartphones, and most recently the rise of tablets. All of a sudden, network architectures and pricing plans became obsolete in the face of the mobile data escalation.

The surge in traffic growth is the major opportunity for continuing revenue and profit growth in the mobile sector. However, with traffic volumes forecast by WiseHarbor to increase 1,000-fold by 2025, mobile operators have to make significant changes if they are to remain competitive, profitable and exploit opportunities to the full.

Mobile broadband is a game changer. Legacy cost structures are out of line with traffic growth. Backhaul clearly illustrates this phenomenon. It is typical to connect base stations with T1 or E1 leased lines delivering 1.5 and 2mbps respectively.
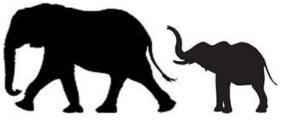
Scaling up from one to two or three circuits, as is required with increasing voice demand on a heavily-used base station, is justifiable, but a very different solution is needed when peak traffic demands have grown from a few megabits per second to exceed 100mbps. Operators must re-engineer their networks with new technologies such as fiber-based metro Ethernet to provide orders of magnitude more capacity for modest incremental cost. This may require significant up-front investments to achieve the required economies. This principle also applies in the radio access network with improved spectral efficiency from HSPA Evolved or LTE and with end-to-end IP including voice on a new and evolved packet core.

As with fixed networks, costs per GB can be dramatically reduced with capital investments in the latest and most cost-efficient technologies. Under these circumstances, data can be carried at incremental costs of less than Euro 0.1 per GB on mobile networks.

Pricing and charging also need to change. Whereas the prevailing flat rate, all-you-can-eat pricing of the mid-2000s was easy to understand, simple and cheap to administer, it impeded market development and revenue potential in two ways. A single flat rate limits revenues by restricting pricing opportunities with those people who are willing to pay more and restricts subscriber uptake with those who are only willing to pay less.

Mobile operators worldwide are still in market experimentation with a variety of new post-paid and pay-as-you-go pricing models including time- and usage-based options with cut offs, throttling and overage charging. These and plans based on service quality all seek to expand revenue generation by tiering offerings among users with differing demand levels, price sensitivities, payment preferences and

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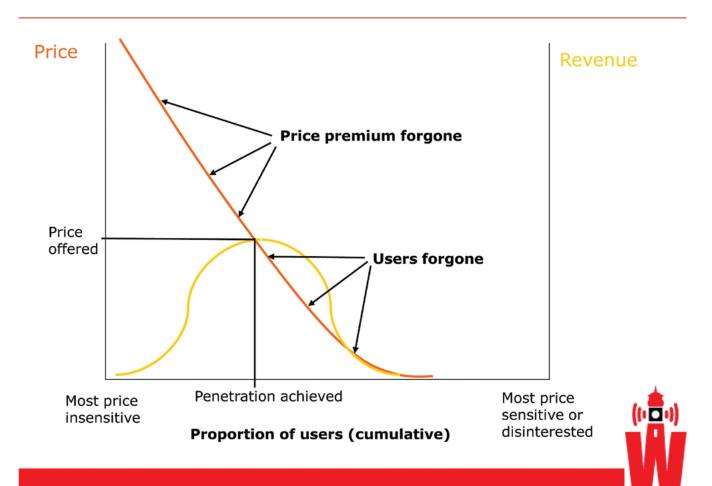
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service quality requirements. With incremental charges in excess of marginal costs for the additional traffic, operators can now encourage usage in the knowledge this will generate additional contributions to profits.

Profitability With or Without Legacy Services

Operators worldwide are committing to put mobile broadband at the center of their growth strategies. For example, T-Mobile USA boasts "America's largest 4G network" with HSPA+, "affordable smartphones and tablets, aggressive plans and pricing, rich and compelling services" to promote growth and improve its competitive position. Telstra recognizes that to deliver a ten-fold increase in traffic over three years it requires a technology roadmap that lowers unit network costs; scales across core, backhaul and RAN; provides lower latencies; and can deliver differentiated services through QoS and policy control.

With the right cost structure and pricing plans, even standalone mobile broadband can be profitable. New operators, such as Yota with its LTE network in Russia and Mobilkom with EV-DO in the Czech Republic, are successfully pursuing mobile broadband data-only strategies.

With no legacy voice business to defend, these operators are optimizing for cost-effective mobile broadband data services. As a result, these two companies have attracted partnerships with incumbents. Yota is building in 180 cities to cover 70 million in the next three years – equivalent to around half the country's population. The network will also be used by the nation's leading mobile operators including Mobile TeleSystems, MegaFon and Vimpelcom – along with Rostelcom, the fixed line operator. Similarly, Mobilkom is already providing mobile broadband, with 75 percent national coverage, on a wholesale basis to Vodafone with only half that level of 3G coverage.

Mobile broadband is not optional; it is indispensable and inevitable. As with fixed networks, convergence with IP for all services including declining voice, expanding video and other services is changing the basis of competition. Network economics and business models are changing. Profitability is achievable, but bold moves including network transformations and new service propositions are prerequisites for sustainable competitive positions. **IT**

Keith Mallinson is the founder of WiseHarbor (www.wiseharbor.com).

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All you need is a computer and an internet connection for fully unified communications

By Johannes Rietschel

Audio Over IP and the SIP Environment

The network-everywhere methodology has infiltrated our lives. Most of us are attempting to negotiate a network connection at some point every day. This is the very nature of session initiation protocol, or SIP as we fondly know it, which primarily exists for the purpose of negotiating a voice or video connection between two or more points.

SIP is best known in the business world for the simple purpose of signaling phone calls in the IP domain. What is perhaps less often understood is the fact that SIP has little to do with the audio transfer itself. SIP carries out the call set up negotiation between two or more devices that wish to be in contact at the initiation phase, signaling call events (transfer requests, for example) during the connection, and call termination. SIP does not play a role in the actual audio/video delivery.

In the SIP environment, audio carriage is almost always carried out using real-time protocol, with parameters and details being negotiated using SIP. The combined power of SIP and RTP can support VoIP as well video connections and audio contribution to studio environments. From this perspective, SIP provides a flexible architecture to enable device communication, mainly for point-to-point connections.

The role of audio over IP in the SIP universe can be quite interesting, and very useful for mixing applications such as paging and public address with phone integration and value-added services like background music and priority communications. Audio over IP goes beyond session initiation to network-based audio distribution. It can be connection-oriented or always present for unending audio streams.

SIP experts are concerned about bridges, proxies and central servers, for the purpose of understanding how everything in the system talks to each other. This is instrumental in ensuring that temporary sessions are established via the protocol. Speaking strictly for voice, it is expected that SIP acts as the traffic cop for frequent connections, disconnections, busy signals and call re-routing. This is because phone systems must react to commands.

This is mostly not the case with audio over IP distribution.

Making Connections

Our company comes from the audio over IP space. In many cases, point-to-point connection initiation is trivial in our world: We switch on the send and receive devices to establish a connection, and switch them off when we wish to shut down

the stream. The audio stream is configured, and audio is sent from one point to another. The sender is known, the receiver is known, with recognition of two valid IP addresses to support the connection. Quality of delivery may be higher rated than delay, especially when routing over the Internet.

Audio over IP distribution also fits well scenarios with delivery to multiple destination points. An office environment might want to have a paging console that can reach various groups, zones or buildings – while also supporting all-call scenarios. This is easily configured using an IP-based paging console, where voice and other audio (such as background music or music-on-hold services) can be streamed to multiple points.

Merging SIP and audio over IP in the office environment, or other multi-point scenarios such as hotels and retail settings, delivers a more powerful and comprehensive solution for communications. The integration of a SIP server into an audio over IP distribution network establishes a mediation point with central routing intelligence. This enables the system to recognize that a call is being targeted for a group, while also identifying destinations that are unable to accept such a request due to being busy, offline or otherwise unavailable.

On the other hand, adding dependency of a central server also has downsides. Call set up using a SIP server can be slow compared to direct streaming approaches.

Another strong point is that SIP can negotiate choice of codec within an audio over IP network. SIP devices typically allow negotiations of the intermittent codec used on a per-connection basis, chiefly because bandwidth may be more important than audio quality in telephone communications. In other cases, a communication partner may not support the standard codec used for most connections. Audio over IP devices are intended to transmit music of very high quality, intelligible

u·biq·ui·tous (yooʹbikwətəs)

adjective

1. Present, appearing, or found everywhere you need to connect to the variety of user endpoints, seamlessly

2. Providing the power to leverage existing infrastructure investments to deliver and integrate multiple applications

3. Facilitating intercommunication between features and services and any component on the network

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Johannes Rietschel

announcements and other audio, such as tones and bells, that are quality-critical, and thus typically use different codecs than those used for VoIP/phone calls.

The session initiation protocol can automatically negotiate the use of a matching, VoIP-supported codec when SIP-capable devices are operating within the audio over IP domain. Although naturally inclined to use high-quality audio codecs, the SIP-enabled audio over IP device will accept 8kHz voice quality if that is what is provided by the VoIP system.

SIP Gateway for Audio over IP

The introduction of a SIP gateway is the most effective way to merge audio over IP distribution with an already established SIP-based phone system. This is most useful when you are directing background music, paging and public address to loud-speaker systems as opposed to simply routing phone calls.

Let's assume that you have 100 devices in an office-wide communications system, with background music streaming in high quality, MP3 encoding, to each device from 10 channels. This can be easily accomplished without any need for SIP by using 10 multicast senders and 100 receivers with local control for channel selection.

Let's further assume that you want to make announcements to these 100 devices from your SIP-based phone system. This traditionally means that each device

must be subscribed to the PBX system. The PBX needs to talk to each device to communicate it wants to send an announcement, while also negotiating the codec. This can take some time before all the devices in the system are online and willing to listen. And it can be costly to add 100 telephone licenses to the PBX.

The gateway solution allows one device to translate a unicast SIP call to a broadcast/multicast in the audio over IP domain, for purposes such as group addressing. This allows use of the same codec to distribute a multicast announcement that the receiving devices understand.

A quality SIP gateway solution will also demand an access code to protect against unauthorized use. Security personnel roaming the building can use any office phone, dial the gateway and unlock the announcement capability on any capable device. Personnel can then select a group or zone, and the SIP gateway will translate the information into the audio over IP domain, enabling immediate, priority-based stream delivery to the audio over IP devices in the network.

The SIP gateway can also be programmed to prioritize announcements over other audio stream sources. The session initiation protocol will translate the priority announcement request only to the targeted groups or zones, allowing the general audio over IP streaming to continue uninterrupted in all other

areas. This in essence is what it means when comparing the audio over IP and SIP concepts: a continuous stream, zoning and priority compared to temporary, exclusive connections.

Generally speaking, by using a SIP-based approach for telephone routing and communications, the user can simply add some audio over IP devices as extensions to the PBX, provided they speak SIP. Existing paging systems can easily be added using just one SIP-enabled audio over IP device, perhaps with intelligent relays to select target zones. Premium devices can even output MP3 or AACplus background music while giving priority to SIP-based announcements. A SIP gateway makes sense as soon as group/zone announcements at various priority levels must be implemented into a (multi-channel) audio distribution system.

The combination of audio over IP and SIP is a perfect example of how users can take advantage of integrating multiple applications over a single network infrastructure. Audio over IP allows offices, commercial businesses and hospitality applications to stream high-quality audio and use a zone/priority-based concept. SIP is ideal for temporary voice connections, "phone style." Integrating both creates a solution that provides the best of both worlds. **IT**

Johannes Rietschel is CEO and founder of Barix AG (www.barix.com).

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Network Power

By Ray Bryant

Business Continuity – You Need More Than Just a Plan

You need to make sure your business is already prepared for anything. Stop for a moment and take a look around you – IT isn't just the computer on your desk, the laptop in your bag, or the mobile in your pocket. The truth is it is controlling who is and isn't entering your building, virtually and physically, and how and where your customers are being dealt with. It's driving your production line. And it even has a part to play in how your coffee is produced. IT is no longer confined to a small back office, possibly in the basement, staffed with geeks all speaking their own language. IT keeps you open for business, but if you're not careful it can close you down for good.

For every company there is a requirement to exercise due diligence and care of the company's assets and the future ability to produce returns for investors, from revenues. This is increasingly embedded in legislation, regulation, stan-

dards and best practice guidelines. To exercise due diligence and care, you need to plan for the day you can't – in other words, a business continuity plan.

I challenge you to get a copy of your plan (if you have one), dust it off and actually read it. In the majority of cases it will cover eventualities such as damage caused by fire, theft, or even flooding. If you're based in one of the cities, it may even include a section on external threats, i.e., terrorist attacks and other disaster eventualities. You've probably got a plan for overcoming a power failure; where to resource external staff if yours are ill; and, if you're in production, crisis management if your product fails.

What does it say about suffering a cyber attack? Chances are it doesn't.

In this day and age most companies, irrespective of whether a single office or a large international conglomerate, are reliant on computer

You wouldn't build your office on the sand, so why allow your IT infrastructure to have insecure foundations?

Ray Bryant

systems to function. If you were attacked tomorrow, the reality is it would shut you down. How long it takes to get back up and running, if at all, is down to you. Sit up, take note and plan for the inevitable.

An attacker isn't just interested in stealing your information or funds. Organizations are experiencing attacks, whether denial of service or injected with malware, that are designed to wreak havoc and ideally shut the business down. Recent high-profile victims include Facebook, Twitter and WikiLeaks. However, it's often not just the victim that suffers, as PayPal, MasterCard and Visa can attest to having fallen victim by association. Any company can be a target, as it's not just anonymous cyber terrorists waiting to pounce; disgruntled employees could wreak just as much havoc on your system if the notion takes them. What about if your IT system just fails, even the BBC has to hold its hand up to that one.

The effect of being closed for business, however temporarily, will cost the organization money. For an online retailer, it's a little more obvious as, if customers aren't able to make pur-

chases, there's the immediate loss of revenue. However, for a large manufacturing company, if its IT infrastructure fails and production has to shut down for 24 hours, the costs will soon mount potentially into the millions. The expense isn't limited to the immediate problem of restoring services or production – there's the lost time, ruined stock, ongoing costs of rebuilding confidence in the customer base and potentially among shareholders, plus the knock on effects such as an increase in insurance premiums. The costs quickly mount.

The AT&T Business Continuity Study 2010, reported that:
• More than three-quarters (77 percent) of organizations indicate that employee use of mobile devices play a major/minor role in the business continuity plan.
• Half have virtualized their computing infrastructure, with less than four out of 10 (38 percent) having implemented a business continuity plan for the virtualized infrastructure.
• Most (84 percent) companies have e-mail or text messaging capabilities to reach employees outside of work, and about three-fourths (73 percent) have sys-

tems in place that enable most employees to work from home or remote locations.

On the surface, all of these resources offer a lifeline to an organization in the event of a general infrastructure failing; you've probably rubber stamped the budget on some of these initiatives yourself. However, on a day to day basis they also throw open the doors to the outside world, risking extreme disruption through attack.

An organization's IT team has many responsibilities with one main, overriding objective: to deliver the best service possible. However, this does not always promote the best security possible. Why? Well, budgets are usually the biggest issue. CEOs must understand the need for enhanced security and ensure their IT teams deliver it.

When the corporation has spent millions on network defenses it is then close to incompetence to not make sure those investments are working to the optimum effectiveness. Regular audit and validation leads to enhanced security; that costs very little and is a must-have process. With constant vulnerability testing and security enhancement through configuration, better rules can be defined and implemented. This activity can even avoid additional capital expenditure in unnecessary security devices, saving budgets.
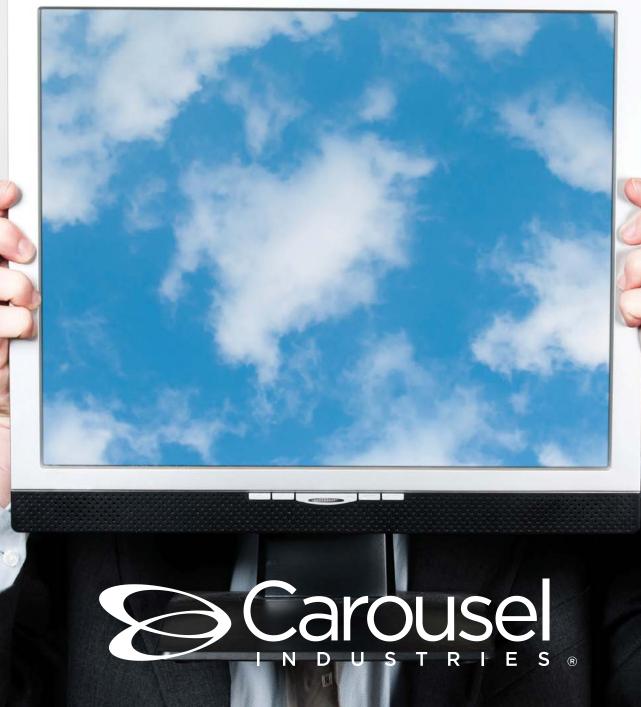
Making sure your defenses are working to the optimum extent is not just the responsibility of your CIO, CSO or whatever you call your IT management head, it goes all the way to the top. The function of the CEO and board of directors, as part of their legal responsibility and charge by shareholders, is to exercise good corporate governance.

You wouldn't build your office on the sand, so why allow your IT infrastructure to have insecure foundations? Ignoring your network defenses is tantamount to corporate suicide. **IT**

Ray Bryant is CEO of Idappcom (www. idappcom.com).

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By Paula Bernier

Vitelity Launches New Marketing Campaign, Unveils Cloud Service

Vitelity LLC is well known in open source circles. Now it's moving to raise its profile with those that aren't already familiar with its solutions and its work in the open source community.

Chris Hall, CEO of Vitelity, recently spoke with INTERNET TELEPHONY about the company, its new marketing campaign, and its recent move into cloud services.

How and when did Vitelity get started?
Hall: I started it in 2003 by myself. It was a time when open source had just started, with voice over IP and Asterisk just finally becoming stable. I just decided to do it.

What does Vitelity sell to whom?
Hall: We're a wholesale voice over IP provider. We sell to other VoIP providers, and we sell to a group of more intermediate expert users, people who can use Asterisk.

What kind of service providers buy Vitelity services?
Hall: Many other VoIP operators. We have smaller cable operators that buy from us to sell to their clients. On our retail side are just advanced businesses or home users who know how to configure their own equipment and want something that's simple and has a lot of features.

Who does Vitelity consider to be its primary competition?
Hall: Our competition might be somebody like Bandwidth.com or a regional CLEC like PAETEC.

How exactly does what Vitelity offers tie into open source?
Hall: We run a lot of our stuff on open source, and we're a big player in the open source community. We're the largest Asterisk provider. We provide [services] to more Asterisk users than any other company.

Why do customers pick Vitelity over the competition?
Hall: Because of time to set up, and our features – we have features nobody else has. We have a lot more products people can resell of ours. A lot of our products are more polished than what the competition offers. And we have a larger footprint.

Tell us about Vitelity's products.
Hall: We have an SMS product that is completely polished, so you can send and receive text messages from your iPhone or Android phone or your web browser. We also have desktop software. We have an Internet fax product that is custom brandable and competes with eFax. We have hosted servers and a hosted PBX that are completely brandable. In fact, all of our products are brandable, so you can use your own brand.

Chris Hall

What important trends does Vitelity see in communications today, and how is it moving to address them to meet customer needs?
Hall: We see that the industry is moving a lot to a hosted platform. More and more customers are pushing toward hosted PBX, that sort of thing. So what we're trying to do is roll out our services to a more hosted-style platform. Originally our hosted PBX was based on TrixBox and some of these others. We're in the process of writing our own because TrixBox doesn't quite have all the features customers want, plus it's a lot of overhead to have each customer on their own TrixBox server. In July we rolled out our own hosted PBX solution. It's different in the pricing structure and features; it's much more feature rich because it's based on the many products we have that our competition doesn't. Most of our competitors don't have Internet fax. They don't have the SMS products that we have. Most of them don't even have the hosted PBX side. And we offer free voicemail. We offer free unlimited devices that you can connect to our network. So our own hosted PBX has all those features combined into one platform.

What is Vitelity's go-to-market?
Hall: Mainly it's word of mouth and knowledge – people know who we are. We don't have a big [marketing] push. Most of our sales come from just word of mouth. We also do trade shows like ITEXPO, which we'll be attending this month in Austin.

But you're working to expand your marketing efforts, correct?
Hall: Right. This summer we began reinventing ourselves with our hosted PBX platform and also by doing a complete rebranding and rewriting our user portal to make it a little more user friendly. We changed our logo, the way we market ourselves, and we hired new marketing people. The goal is to increase potential customer awareness and to reinvent the image. **IT**

GoTo:
Table of Contents • **Ad Index**

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Small Cells to Make a Big Difference in Customer Experience

By Erik Linask

It wasn't long ago that connectivity was the big challenge. Regardless of where subscribers – both business and consumer users – traveled, there was always a question of whether reliable Internet access or cell phone coverage would be available.

With the buildouts of the latest high-bandwidth networks, that has become largely a non-factor, with most places in developed areas having access via multiple carriers. Instead, with the preponderance of new mobile devices, the applications built for them, and again, the high-bandwidth wireless networks that deliver those apps, battery life should be the big problem.

On a recent trip to the New Jersey shore, however, I realized that isn't quite accurate. Even in its home state, coverage from Verizon Wireless was, at best, poor, making the case that companies like Taqua have the right idea, seeking to build momentum around femtocells.

Taqua has always been focused on providing carriers with cutting edge capabilities, enabling its customers to bring the very latest services to subscribers. Understanding the challenges that clearly remain – particularly within-building coverage – its acquisition of Tatara Systems furthers that goal.

seamless service without requiring users to change devices – a key to an enhanced user experience.

"Leveraging the SIP architecture, TCS is designed to function with multiple access technologies," says Payam Maveddat, EVP of product management at Taqua. "While specific consumer and enterprise applications may differ, their implementation is very similar, enabling services like hosted PBX, location-based apps and alerts, home phone service, connected home services and apps, and more."

Not only can carriers ensure higher service reliability and speed, they will now have access into customer premises to deliver the next generation of connected services, including true unified communications for both business and consumer markets.

Of course, the other sister-opportunity is the use of picocells in both rural and urban deployments – again, to reduce network congestion and increase coverage in areas where cell towers may not be possible (in addition to the cost factor between building new towers and placing picocells).

Importantly for Taqua, in addition to providing another way for its traditional Tier 2 and 3 carrier customers to differentiate themselves, the Tatara acquisition also brings with it a Tier 1 customer, as Sprint is an existing Tatara customer, already having deployed the TCS

> ## With network operators in a constant struggle to gain a greater share of the consumer and enterprise budget, the ability to move into the customer premises offers a new entry point for delivering a new breed of services.

Tatara's FMC play focuses on femtocell technology as a cost-effective and practical approach for enhancing coverage for both voice and data services via in-building cellular access points.

"The number of global femtocell commitments is doubling every few months," GM of Taqua's Convergence Server business unit, Marc Cremer, notes. "It's no longer a question of if; it's being realized, and we expect the trend to continue, with femtocells being a catalyst for $2 billion in consumer services by 2015."

With user expectations for seamless connectivity growing – and their tolerance for poor service rapidly eroding – carriers have to address the demand. While new networks are being built, and existing ones enhanced, the quickest solution is small cell deployment, which also helps, at least temporarily, lessen the traffic burden on wireless networks by offloading it to in-building Wi-Fi.

Driving the solution is the Taqua Convergence Server (TCS), which enables the femto-based FMC capability, providing

6100 convergence server in its femtocell deployments in consumer markets, and soon in enterprise and SMB markets as well. In addition, the many carrier network technology vendor partners that come with the deal, including Alcatel-Lucent, Ericsson, NSN, and others, will help Taqua increase its market presence.

With network operators in a constant struggle to gain a greater share of the consumer and enterprise budget, the ability to move into the customer premises offers a new entry point for delivering a new breed of services. And with its recently launched IP eXchange peering applications, Taqua also is on the way to delivering connectivity to these same applications into other carriers.

CEO Eric Pratt has noted on multiple occasions that, Taqua is not really about technology – it's about people. While the Tatara Systems acquisition is about putting in place a new layer of technology, that technology is really about providing a higher level of service to the end user – making sure the technology is leveraged in a way that maximizes customer experience. **IT**

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