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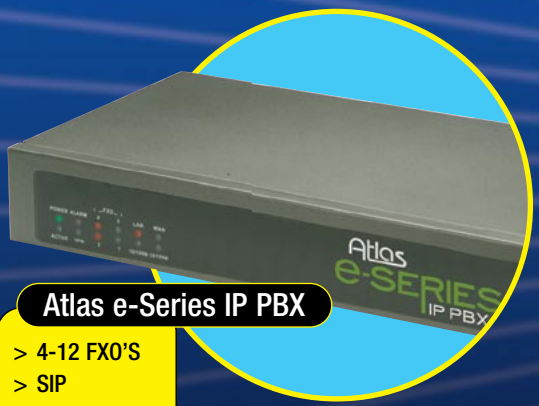

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Apple's Brilliant Moves

By now the Ooo's and Ah's about Apple's new version of the iPhone (News - Alert) ("2.0") have abated a bit, and at least some of us have taken a step back to ponder what it all means.

Yours Truly was one of the many people who hesitated buying the first iPhone because of its price – $399 – and so the new, slightly smaller model is $199, with a GPS device, WiFi (b/g), a passable 2 megapixel camera and a much-needed 3G chipset capable of supporting HSDPA (High-Speed Download Packet Access) and data transmission rates of 400 to 700 kilobits per second. But if you're visiting a flood plain in Iowa and no HSDPA service is available, the new iPhone, like an old analog modem, can "fall back" to the more available and somewhat slower EDGE (Enhanced Data-Rates for GSM Evolution) or even all the way down to Ye Olde conventional GSM/GPRS.

The price is actually a big deal. Back in the early 1980s when I was starting to dabble with minicomputers and looking at micros, Apple was touting its super machine, the Lisa, introduced on January 19, 1983, with an astounding price tag of US $9,995. That's a lot to pay for a GUI, mouse and protected memory, not to mention an operating system written in – eek! – Pascal. I decided instead to buy an Atari 800, then a Commodore Amiga (the greatest computer of all time), then an Epson IBM (News - Alert) clone.

Amazingly, the iPhone 2.0 has two other "master strokes" that will finally propel Apple into the ionosphere of the business world. First, it's targeting the Research in Motion (News - Alert) crowd, whose love affair with the BlackBerry has overshadowed even the clever smartphones of the pioneer in this area, Palm. Second, Apple is finally *really* opening up the product to third-party developers, hopefully of the wild-eyed independent programmer variety.

Apple's long-time obsession with maintaining complete control and secrecy over the internal workings of the Macintosh discouraged Yours Truly and others from having anything to do with Apple products. Sure you could buy a C compiler that would run on a Mac, but where was the API to write to? Apple had the least friendly developer environment of the 1980s and 1990s. But today, Steve Jobs, not in the best of health and yet no doubt working around the clock, has climaxed his (and Apple's) roller coaster ride, transforming the company back into a wild success story. Although it's true that Apple computers have been making some serious inroads in the business world lately, it's just plain hilarious that Apple is finally going blast open the gates of corporate America once and for all with – a touchcreen do-everything phone! It's destined to be the mobile god-box of the 21st century. It's outrageous. It's 1977 all over again.

And it will be Steve Jobs' legacy.

Everyone has their own favorite story about Jobs, the immodest genius with an impulsive temperament more akin to a Hollywood producer than a high-tech guru. And yet he consistently achieved and set creative milestones that his competitors could never even have imagined – especially at Microsoft (News - Alert), which continues in its attempts to echo some of his innovations. (I wonder what Steve Wozniak thinks of all this.)

And now, Jobs has set Apple on the proper course. With or without him, it's likely that the company will continue to impress us for years to come. **IT**

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

Hyperconnectivity, Live and in Person

You can't escape the reality that interconnectivity between humans will increase at a more rapid pace as time goes on. The myriad ways in which we connect with one another, e-mail, social networks, blogging, IM, SMS, telephone, voicemail and others are mushrooming.

It seems obvious that today's teens will demand social networking in the workplace meaning that IT departments will have to support these myriad communications mechanisms while dealing with the repercussions of compliance management. Not allowing social networks into your company may even be a deal-breaker when hiring the best talent in the market. We may see a time where publicly traded companies fearful of social networks will lose workers to smaller companies who are more social-network friendly.

Another challenge is web browsers on phones. If you provide a device with a web browser to your company's employees and one of them discloses information on it to another person via a social network, will you be able to produce this as evidence in an investigation?

I got to discuss and learn more about these issues recently in Dallas at the INNUA/ Global Connect 2008 event. The organizations hosting the conference are a mix of independent Nortel (News - Alert) user groups.

One of my first and more memorable conversations was with Phil Edholm (www.tmcnet.com/2169.1) the company's CTO. Our talk centered on how technology has the ability to truly change the way companies work. He explained how his company is building SOA objects which allow companies to be more efficient. He also beamed with enthusiasm as he explained how these software objects are reusable — meaning objects created for one application can quickly be repurposed for similar applications with little recoding.

This is not a trivial concept — object-oriented programming revolutionized the world of technology and if you can more easily embed communications into object-oriented buckets which can be more easily weaved into the corporate infrastructure, you improve productivity greatly.

The trend towards increased use of SOA is clear… Avaya too (www.tmcnet.com/2170.1) has been espousing similar concepts and NEC's purchase (www.tmcnet.com/2171.1) of Sphere was primarily to acquire the Chicago-based company's SOA technology. A large focus of TMC's Communications Developer (www.tmcnet.com/communications-developer) event this September will revolve around building SOA-based communications applications.

Edholm was especially proud to explain how Nortel has automated hospital interactions, and more specifically the methods and systems by which patients are discharged. The average hospital bed costs one to two million dollars and this obviously means there is tremendous incentive to get the people out of these beds as soon as possible. (Once they are better, of course!) Healthy patients also want to get home as fast as they can.

Many times, 5 or 6 physicians must approve a patient's discharge and the process of tracking down this many doctors can be time-consuming. Indeed, sometimes nurses decide not to discharge patients on their shift — instead leaving the work to nurses on the next one. Keep in mind that while the patient is still in the hospital, drugs, food and other preparations are being made for them and this additional expense is absolutely unnecessary.

One application I witnessed to facilitate patient discharge actually came from the Periphonics division of Nortel. The company was purchased by the Canadian telecom giant just under a decade ago and then went very silent. Now they are back in the spotlight and have produced a solution which is basically a group find-me, follow-me application that calls every doctor and once they are all contacted and have consented to the discharge, the proper nurse is alerted and the patient can leave.

At this point, various departments in the hospital can also be notified by phone or computer and even the family can be notified by a predictive dialer and IVR that they can come and pick up their loved one. Interesting that Avaya would call such an application CEBP and/or intelligent communications. I tend to prefer "just-in-time communications" (www.tmcnet.com/2072.1), a term I coined some years ago which has lately been eclipsed by the term "unified communications".

At a Nortel dinner, IDC's Nora Freedman (News - Alert) discussed a recent hyperconnectivity study her company had conducted. What's so interesting about the study is that a higher percentage of Asians are "hyperconnected" than the U.S. (The definition of hyperconnectivity is

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roughly someone who uses multiple modes of communications such as social networks, etc., via multiple devices. I liken it to the level of withdrawal you feel if someone takes your devices and/or broadband connection away.)

Edholm says that one likely reason for this involves the U.S. having more information workers who are automated — such as bank tellers, etc. In Asia there are fewer of these automated information workers, which implies that a higher ratio of people using technology are hyperconnected.

Other interesting parts of the survey revealed that many people receive and send text messages in houses of worship as well as in bed. Oh, and one other difference between the Hyperconnected and the rest of the world — if their house catches fire and they can escape only with a single device, they take their laptops with them. Others just grab their cell phones.

In a keynote speech, Nortel's CEO Mike Zafirovski discussed how as mobile broadband becomes better, we will all become even more hyperconnected. Other interesting parts of his talk revolved around how the enterprise and service provider markets are both important to Nortel.

A moment of surprise for me that revealed an opportunity for the industry occurred shortly after the keynote and during a panel of analysts and customers. During this session, a room full of hundreds of Nortel customers were asked if they believe unified communications will become pervasive. Most of the hands in the room went up. When asked who in the audience has a unified communications strategy, not a single hand went up. Truly shocking.

I learned a great deal at this conference and I'm glad I went. What I can't stop thinking about is the work/life balance. This topic came up in a conversation with Phil Edholm (News - Alert). Both at this conference and in general I'm hearing from colleagues and coworkers how they wait until their spouse falls asleep and then they tiptoe to their computers and work. One wonders if humans will be forced to evolve into creatures that do not ever sleep. Or will Starbucks just open up a store in the bedrooms of those who pass over the theoretical Hyperconnected line? Or maybe we'll all end up with prescriptions for the no-sleep drug Modafinil (Provigil). I could go on and on about this for hours but its time for me to brew another pot of coffee… IT

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What's On TMCnet Right Now?

To stay current and to keep up-to-date with all that's happening in the fast-paced world of IP telephony, just point your browser to www.tmcnet.com for all the latest news and analysis.With more than 36 million page views per month, translating into more than 3.1 million unique visitors, TMCnet.com is where you need to be if you want to know what's happening in the world of VoIP.

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

Networks in 2015: A Vision and a Strategy

Nokia Siemens Networks outlined the strategy that will enable their ambitious objectives to be realized. It's a little over a year since Nokia Networks and the comms side of Siemens came together to form NSN and the initial period was obviously spent on reducing staffing levels and consolidating the product portfolio. During that time the company was vulnerable to attack from competitors, so it was critically important to come up with a grand plan that would keep customers on board and eventually increase market share and achieve profitability. And it was the grand plan that was presented to the press and analysts.

www.tmcnet.com/2173.1

SMEs Spending Less on Data Services

The latest survey by J.D. Power and Associates of business communications spending finds "more small and midsize businesses are spending less on telecommunications data services than they were in 2007." That doesn't mean they are using communications less, but that prices are declining. Approximately 81 percent of small and midsize businesses are spending less than $1,000 per month for data services, compared with 76 percent a year ago.

www.tmcnet.com/2174.1

Polycom Intros Breakthrough Upgrades to HD Voice and Video-Conferencing Solution

Officials at Polycom Inc. say their SoundStructure series now includes integration with Polycom HDX tabletop and ceiling microphone arrays. The series – whose price ranges from $4,995 to $7,995, depending on the number of channels in the system – already has won "rave reviews and accolades" from audio-visual integrators, consultants and publications. SoundStructure series products are designed as flexible and comprehensive audio systems that deliver state-of-the-art performance and audio processing capabilities for conference rooms, classrooms and customized meeting rooms, according to Polycom.

www.tmcnet.com/2176.1

EasyLink Desktop Messaging Helps Corporations Become More "Green"

Rather than acting as means to improve corporate reputations, eco-friendly business practices have become a legitimate wake-up call. Companies are increasingly enhancing their corporate social responsibility ranking by providing sustainability reports, and brainstorming new ways to reduce their energy and paper consumption. Today, nearly one thousand companies publish sustainability reports — including about half of the S&P 100 corporations — up from zero just ten years ago. Even Wal-Mart, long considered an environmental scourge by activists, recently found environmental religion.

www.tmcnet.com/2177.1

TMC's Whitepapers of the Month

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

Selecting a Gateway for your Microsoft Office Communications Server 2007 Deployment

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

www.tmcnet.com/2072.1

Guarding Against Network Failures — How to Ensure the "Always-On" Business

You need your network to run your business. In today's competitive business environment few businesses can afford a branch location to go off-line, let alone the headquarters or data center location. This whitepaper examines the importance of path diversity and backup connectivity as an increasing number of enterprise-critical business applications are run over public and private networks.

www.tmcnet.com/1961.1

Fixed Service Strategies for Mobile Network Operators

The telecommunications market is in the midst of a significant paradigm shift, with two major trends reinforcing each other: first, the maturity of new technology such as IP communications and Fixed Mobile Convergence (FMC) and second, deregulation, which leads to unbundling of fixed networks, decreases prices on broadband Internet access and stimulates growth of IP telephony services. For Mobile Network Operators (MNOs), this new environment creates some threats but also represents a historic opportunity to expand into fixed services.

www.tmcnet.com/2074.1

This Month's Featured Channels

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http://www.tmcnet.com/channels/voicemail-replacement

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http://www.tmcnet.com/channels/managed-voip

BlackBerry Reseller

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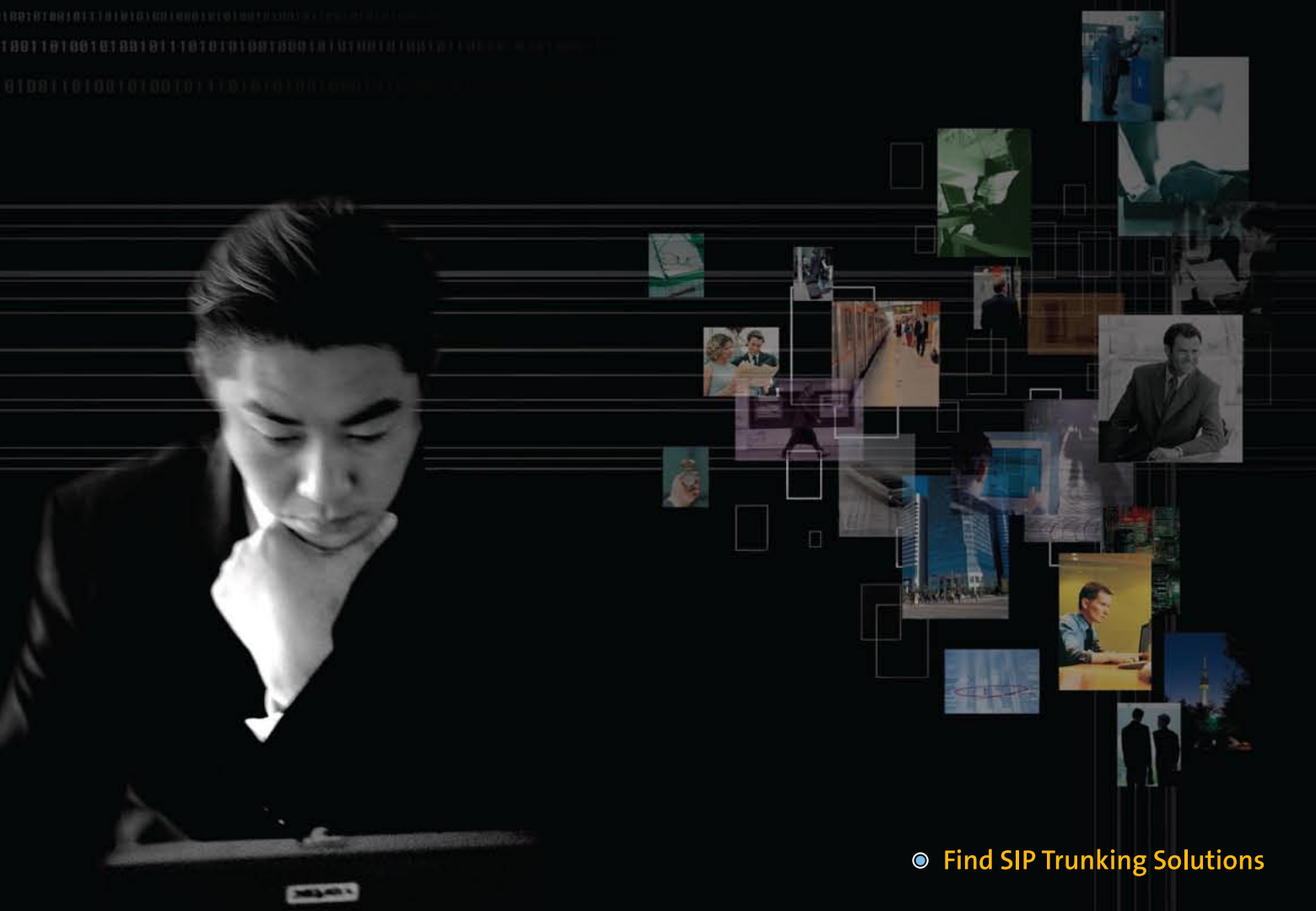

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By: Brough Turner

Reinventing SIP

Work on the Session Initiation Protocol (News - Alert) (SIP) began in 1996 and the first standards track specification (RFC 2543) was out in 1999. The expectation was that SIP, as a peer-to-peer protocol, would redefine the very nature of telecommunications. No longer would telephony depend upon a central agency — the "phone company." Instead individuals would directly connect with other individuals. But a decade later SIP's peer-to-peer story has been lost. VoIP is deployed but SIP's impact has been limited.

Indeed, the biggest telecom story of the past 12 years has been the global adoption of mobile phones — over 3 billion of them in just 12 years — all using traditional circuit-switched telephony. And arguably, the most interesting telephony service enhancement, after mobility, has come from Skype with its seamless integration of presence, instant messaging, wideband audio and video. But Skype is based on proprietary protocols, not SIP. And VoIP has helped drive down the cost of international calling, but this is the result of VoIP based on MGCP, H.248 or H.323 more than SIP, at least so far.

SIP has been adopted by PBX manufacturers in recent years, but this hasn't revolutionized business practices. The IT department still buys the PBX and the telephone sets from a single vendor and then contracts with a service provider to handle calls outside the enterprise.

Finally, SIP itself has evolved from its focus on peer-to-peer communications to become the centerpiece of a complex family of protocols called IP Multimedia Subsystem (News - Alert) (IMS) conceived by telecom traditionalists and defined by the 3rd Generation Partnership Project (3GPP). With IMS, everything is mediated by a service provider. Some might say SIP has been co-opted.

What went wrong? SIP by itself didn't work in the presence of firewalls and network address translation (NAT); i.e., with the real Internet. The Internet community responded with workaround protocols like STUN, TURN and ICE, but these require servers in the network; i.e., a central agency.

Peer-to-Peer, Take Two

Just when the original vision seemed entirely lost, a new IETF group has arisen under the name Peer-to-Peer SIP (p2psip) chartered to "develop protocols and mechanisms for the use of the Session Initiation Protocol (SIP) in settings where the service of establishing and managing sessions is handled by a collection of intelligent endpoints, rather than centralized servers." More significantly, this effort is proceeding on the assumption that NATs and firewalls exist and that the P2P SIP networks must support the servers needed to handle NAT and firewalls.

One gets a sense of Skype jealousy, but that's good. Open standards that facilitate end-to-end solutions for the real Internet are just what we need to reclaim the vision and bring about a real revolution in telecommunications. IT

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

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Packet Voice Over Wireless

By: Michael Stanford

Is It Time for Wideband Telephony?

Do you care how good your phone sounds? It seems that most people don't. In an earlier column I wrote that the popularity of mobile phone service in the face of its lousy sound quality shows that customers value mobility over audio performance, but not that sound quality is unimportant.

A May 2008 study by Keynote found that wireline voice subscriptions in the U.S. declined by 10 percent in 2007, while cable VoIP subscriptions grew by 75 percent. This study also found that the quality of VoIP calls is inferior to that of wireline calls. In other words, customers value price over audio performance, too.

VoIP can sound vastly better than traditional voice, because it can use wideband codecs, which convey audio frequencies from 100 Hz to 7 KHz, compared to 200 Hz to 3.4 KHz on traditional phones. Skype is the poster child for wideband codecs, which can make it sound great. Skype isn't much help to businesses though, because business phone systems are still based on PBXs.

The uptake of wideband codecs in PBX systems has been glacial, for several reasons, one of which is the network (or fax machine) effect — a wideband phone is no help unless the phone at the other end is wideband, too. Plus they have to support a common wideband codec, the connection between them has to have adequate bandwidth and reliability, and it has to be IP all the way, with no hops on the PSTN.

Supporting a common wideband codec is more of a challenge than one might expect. The standard codec that will prevail in the future, AMR-WB (also known as G.722.2) is impeded by complicated and costly licensing; the most widely deployed wideband codecs are proprietary: Microsoft RTAudio which is included with Windows, and Skype's SVOPC.

Business phone systems are beginning to overcome this challenge. Cisco, Avaya, 3Com, Siemens (News - Alert) and Panasonic all now have wideband IP phones in their product lines, and wideband IP phones are also available from non-PBX manufacturers like Polycom, Grandstream and Snom. All of these are interoperable in wideband, since they have the same codec, G.722.

High quality IP connections from end-to-end are easily doable for calls that stay on the LAN, but if a call goes outside the company it is virtually certain to cross the PSTN at some point. There are several initiatives aimed at fixing this, most notably ENUM, which piggybacks on the DNS infrastructure and translates standard (E.164) phone numbers into IP addresses.

As end-to-end IP calls become more common, so will the use of wideband codecs. The audio quality of business phone calls will improve for the first time in decades. IT

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

Ask the Mobile VoIP Expert

By: Mark Hewitt

Social Networking "untethered"

It's time to cut the cord to social networks… and Mobile VoIP is the way to do just that! With engineers and business people in a frenzy about WiFi, WiMax and other technologies still looming somewhere in the future for mobile devices, Mobile VoIP systems that leverage our *current* cellular infrastructure have made the case for cutting the cord to a broad range of desk-bound applications. I believe that the "next big thing" will be Mobile Social Networking.

While there are several mobile "Social Messengers", I suspect that Twitter is leading the way for how people will actually interact. Google's (News - Alert) Android mobile O/S has certainly gained the attention of developers, as it centers in the "Geo-location" space associated with mobility and current handset technologies, and I suspect that wireless carriers' "Walled Gardens" will limit normal adoption and thus empower Mobile VoIP operators that can leverage software to bridge the gap created by limited-use mobile networks. Meanwhile, WiFi and Bluetooth discovery applications are fun but not very practical.

A few exciting applications, such as "Live Mobile Broadcasting" and "Friend Discovery", are already starting to find their way into handsets around the world. Some examples include Next2Friends and Reporo; I often see Jeff Pulver (News - Alert) streaming video from his world travels on PulverTV.

The commercial aspects of social networking are already well-known and widely used. We all find it easier to make a purchase when we receive a recommendation from a known friend or colleague — someone we trust. Facebook (News - Alert) and MySpace have experienced both the pros and cons of breaching such trust and today are making a quick comeback.

It is interesting to note that the increasing acceptance of OpenID (www.myopenid.com) may actually become the cornerstone of consumer confidence. While offenders like Yahoo have tried to "hijack" the emergence of this movement, it is the simplicity of allowing each consumer to control the persona and authority of services and their own content that will win out in the end. You will soon see a new Mobile Product for multi-factor authentication called CallVerifID that uses your mobile phone to approve login or other OpenID-enabled services.

I predict that, ultimately, code of conduct and security will win the hearts and wallets of consumers. I suspect there will be no single solution for the vast diversity of interests that consumers have; rather, the social networking of the future will depend on freedom to connect.

If you would like to learn more about Mobile Social Networking, join me on Twitter or FaceBook and share your experiences. IT

Mark Hewitt is Chief Strategic Officer of i2Telecom International, Inc. (www.i2telecom.com).

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Inside Networking

By: Tony Rybczynski

Why the Desktop Phone Isn't Going Away Anytime Soon

If you're a very mobile knowledge worker, you may have a Blackberry and a laptop equipped with a telephony or unified communications (UC) client. The laptop with a headset is effectively your phone wherever you have broadband connectivity. When in the office, your desk phone's primary use may be as a speakerphone. So why not connect a USB speakerphone (e.g. LG-Nortel USB phone 8501) to your docking station, and use your PC click-to-call capabilities? If you get a call while your PC is (re-)booting, many UC systems allow you to concurrently ring your cell phone, so you won't miss any calls. It's business as usual. This is a perfectly workable solution for highly mobile knowledge workers like myself.

Here's my three reasons why this may not be for everyone:

#1 Ease of use: users are comfortable with the familiar look and feel of a phone, including use of a handset, hands-free operation, and numeric key pad. IP phones with multi-line (and even color bit-mapped displays) and USB ports have taken this to new levels. IP phones can support corporate dashboards; directories with click-to-call; conference managers with simplified chairman controls; push-to-talk capabilities; zone paging; and visual voicemail. They can support security, weather and IT alerts, travel advisories and company announcements. Finally, the phone, whether wired, cordless or wireless, can be converged with the desktop PC to provide a unified experience.

#2 Reliability/quality: Users want to avoid voice quality impacts during PC background activities, booting and rebooting (e.g. due to security patches) and lack of operation during power failures. They may say, "I want/need a phone to do my job". While the PC platform is getting better every year, we're not there for many environments! That said, the PC is a critical business tool – answering the phone while your PC is not available doesn't necessarily allow you to conduct business in any meaningful way.

#3 Cost: A traditional phone's TCO is about a few dollars/day, orders of magnitude less than a PC. Basic SIP phones have brought the cost points close to those of analog sets. Also, the costs of moves, adds and changes come down with IP telephony. But, isn't the incremental cost for IP telephony on a PC close to zero? The answer is not necessarily – what about the cost of headsets which have a relatively limited life expectancy?

So the question is generally less about 'should you invest in phones?' and more about what's the right functionality/price, given UC, mobility needs, PC functionality and most importantly job roles and the people that do these jobs. IT

Tony Rybczynski (News - Alert) is Director of Strategic Enterprise Technologies at Nortel (www.nortel.com). He has over 20 years experience in the application of packet network technology.

Tech Score

By: Jeff Hudgins

ATCA vs. Carrier Grade Rack Mount Servers. . . Making the Right Choice

Telecom Equipment Manufacturers (TEMs) and Network Equipment Providers (NEPs) are continually being challenged to create communications platforms with high performance levels in a shorter period of time. To accomplish this goal, TEMs and NEPs are leveraging the benefits of open-standards platforms, and these benefits are well understood in the IMS network. The decision of which open-standard architecture to use is not quite as clear.

The AdvancedTCA (ATCA) PICMG 3.0 standard, ratified in 2002, has significantly gained traction in recent years. The Carrier Grade Rack Mount Server strategy has also seen significant adoption over this same period of time. TEMs and NEPs are designing dual product strategies that incorporate ATCA platforms as well as Carrier Grade Rack Mount Servers (CGRMS) to increase their deployment strategies and leverage the benefits of both architectures. The table accompanying this column breaks out the critical attributes and highlights the primary considerations when comparing ATCA to CGRMS.

Final Score. Both ATCA and CGRMS have something to offer, but it's not always a clear choice. At a high level, ATCA appears to compete favorably in high network processing applications, but at the same time CGRMS is more cost-effective in less dense applications. Over the next several months, I will unpack some of these key attributes and identify trade-offs between them. IT

Jeff Hudgins is VP of Engineering at NEI, Inc. (www.NEI.com)

Attribute	ATCA	CGRMS
Compute processing - scale & performance		X
Flexibility	X	
Interoperability	X	
Life cycle & platform longevity	X	
Manageability	X	
Memory - scale & performance		X
Network processing - scale & performance	X	
Power consumption	X	
Price/performance		X
Reliability	X	
Storage - scale & performance		X

VoIPeering

By: Hunter Newby

The Sun Never Sets on the BBC

The BBC iPlayer has been out on the global public Internet for a short while now and it has certainly contributed its fair share of controversy in the techno-media. In case you were not aware, the BBC has launched what it calls the iPlayer which serves up their video content. It's an interesting and useful service for end users that has caused contention and disruption for two groups on two different levels.

The first is that the BBC decided to make its iPlayer only work with Microsoft Windows, a move that has the open source / free community quite a bit perturbed. The BBC aligning with only Microsoft limits the ability of users to access the service in other ways they may choose, but also limits the BBC it would seem. Why would the BBC only want to have all of their content accessible through one system?

The second is that the BBC iPlayer is a video streaming application that exists on the public Internet, therefore any buyer of Internet access from an ISP can access and use the service – presumably. There is the minor issue of the ability to access, a.k.a throughput, or available capacity. If the user's ISP doesn't have (i.e., unavailable, can't afford, will not pay for) enough network capacity to support the user's request, the session simply will not happen. Why would the BBC launch a service that might not be accessible by any and all people through any and all ISPs?

The answer to both may be control. Proprietary anything is not very conducive to 'open and freely accessible', but it does help solve royalty and piracy issues. That's convenient, but seemingly opposite the premise of public broadcasting. One thing is for sure – the BBC has created a service that exposes a very fundamental weakness in building a business on another seemingly public and open network, the public Internet – profit. Certain ISPs now cry poverty as their customers use more of their access, but don't pay more for it. The BBC iPlayer is "putting a strain" on the capacity and capital behind their networks.

When "Peer-to-Peer" services first hit the scene (Kazaa, Napster) the main issue was ownership rights which is tied to royalties. Along came legislation and iTunes. What was not an issue was network costs since music files aren't generally large, but video has changed that. Bit Torrent, YouTube and now the BBC have exposed the cracks of underfunded and flawed ISPs that can't reach profitability based on 75-100 percent network utilization. By working with Microsoft and by default only those ISPs that have the network in place to provide access to the BBC, natural selection is being un-naturally determined. IT

Hunter Newby (News - Alert) is the Chief Strategy Officer and a Director of a Special Purpose Acquisition Corporation focused on the communications industry. Reach him at hunter@hunternewby.com or visit www.hunternewby.com.

Enterprise View

By: Max Schroeder

A Reseller Educational Series – Market Trends

Featured Vendor —
Dialogic (News - Alert) Corporation
Interview with Bud Walder (News - Alert),
Enterprise, Marketing Manager

The series of acquisitions and mergers leading up to the present Dialogic organization has brought together a powerhouse of fax, voice and media products. I asked Bud Walder how this is playing out in the 2008 marketplace.

Max: What changes do you see as a result of the merger\acquisition process in opening new markets?

Bud: As you know, Dialogic acquired Cantata in 2007, which included the Brooktrout® portfolio of fax boards and software. The respective market-leading product portfolios are turning out to be quite complementary on the Enterprise side of the business. We see strong cross-pollination with both developers and channel partners as existing solutions for both technology bases find new opportunities on the combined platforms. For example, our Dialogic® 4000 Media Gateway Series is, in essence, an application-ready platform; it already runs one of the servers needed for Microsoft Office Communications Server 2007. It is simple reasoning to forecast this platform running other co-resident IP applications, including FoIP server solutions.

Max: What other opportunities does the Dialogic Media Gateway Series (DMG) offer?

Bud: We completed interop validation testing with the DMG Series and the Dialogic Brooktrout SR140 Fax Software earlier this year. The result gives us the industry's first V.34 T.38 solution set for FoIP applications. The DMG Series was designed specifically to enable IP telephony applications to co-exist with legacy PBX environments and FoIP solutions are no exception. Solution providers can now rely on Dialogic to provide both the leading platform for IP-based fax solutions and the corresponding media gateways needed to deploy those solutions with a single source for platform service and support.

Max: Are you seeing a strong shift to FoIP?

Bud: We are seeing a strong uptake on the VoIP and FoIP-based solutions, which have lagged the IP-PBX adoption rate in previous years. There is a strong ROI to be had from adopting IP applications and solution providers are doing a much better job of communicating that message. For instance, we just co-published a DMG case study involving a legacy Ericsson (News - Alert) PBX customer who was able to adopt Microsoft Exchange Server 2007 with Unified Messaging (a completely SIP-based voice messaging solution). The customer was able to get the IP-based unified messaging solution they needed for a fraction of the cost of the alternatives. The marketplace is definitely getting the message that FoIP and VoIP applications are the way to go. IT

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

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By: Rich Tehrani & Max Schroeder

Continuity Planning 101 — Back to the Basics
A Continuing Educational Series

Hurricanes, like many other things considered capable of creating major disasters, do not cause the majority of business interruptions. In fact, if we combine hurricanes, tornados, floods, severe storms, earthquakes, etc., we still fall well below the 50 percent mark for business interruptions. Generally, most interruptions are caused by hardware failures and power disruptions.

The Atlantic hurricane season officially opens in June and extends until November. This educational series traditionally uses the opening of the season as a trigger (similar to using the Spring and Autumn time changes as a reminder for replacing your smoke alarm batteries) to prompt our readers to prepare for business contingencies.

Regardless of the cause, any interruption can be a disaster for an individual business. Fortunately the US Government and non-profit organizations provide a lot of materials to assist business owners in preparing for adverse contingencies. The following link will bring you to an article by the Associated Press emphasizing that companies need to go beyond traditional planning and seek newer and more sophisticated methods:

www.sba.gov/idc/groups/public/documents/sba_homepage/serv_disaster_ap051707.pdf

The article contains links to other resources including the Department of Homeland Security homepage www.ready.gov. By clicking the homepage banner you will link to: www.ready.gov/business/publications/index.html and have access to a boatload of materials. Some of the materials are suitable for consultants and resellers to use as handouts to help clients understand the need to have a contingency plan in place. Key information on how to plan for employees and their families, improve cyber security and implement a communications plan are also included in the documents.

When you go to next link (The Institute for Business and Home Safety), pay attention to the admonition on the opening page: "At least one-fourth of all businesses that close because of a disaster never reopen." The Institute provides a series of toolkits to help small businesses develop contingency plans. www.disastersafety.org/business_protection

The links and materials listed above provide basic information on how you can develop a plan for your business and TMC recommends that you also seek out consultants and resellers specializing in this area.

For more information please go to: www.tmcnet.com/disaster-planning/Default.aspx or contact Max Schroeder at maxschroeder@tmcnet.com. You can also visit the Disaster Planning Pavilion at ITEXPO West 2008 the LA Convention Center www.tmcnet.com/voip/conference For exhibitor pavilion information please contact Joe Fabiano at 203-852-6000 jfabiano@tmcnet.com IT

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

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

By: Richard "Zippy" Grigonis

Introducing Trenton Systems

Over the years I've written quite a bit about how Trenton Technology (www.trentontechnology.com) has been my favorite maker of Single Board Computers (SBCs). They've been designing and manufacturing board-level embedded computing products for a long time. Trenton engineers perfected embedded computing innovations over a period of many years, beginning with their work developing the first PCI/ISA standard (PICMG 1.0) for SBCs and backplanes, and continuing with their recent efforts in writing the PICMG 1.3 or SHB Express industry standard for PCI Express-based System Host Boards (SHBs) and backplanes.

Trenton's customers have long wanted the company to incorporate their individual boards into complete computing solutions. This led to a pilot program, Trenton Systems, to provide complete integrated solutions for selected customers who wanted a total solution from Trenton, imbued with Trenton's traditional engineering, quality and support. The initial program fared so well that the operation has been expanded to a full-blown company, Trenton Systems, Inc. (www.trentonsystems.com).

With the appearance of Trenton Systems, system architects and board designers can now be brought into the same room and work together as a team, enabling a complete, innovative and reliable system solution to be engineered. Customers no longer need fret about choosing processors, backplanes, protocols, switch fabrics, optimum air-flow, or what-not.

Trenton Systems provides standard and custom industrial computing solutions, 19-inch rackmount industrial computers based on CompactPCI and MicroTCA (News - Alert) form factors with PICMG 1.3 system host boards and PICMG 1.0 single board computers. Trenton's engineers can offer free and extensive technical support. And best of all, Trenton has U.S.-dedicated manufacturing facilities.

Unlike many of their competitors that gone out of business or have merged amoeba-like into other, impersonal and larger corporations, Trenton has always been Trenton, whether it was Trenton Terminals, Trenton Technology or the new Trenton Systems. Tons of its equipment continue to run in the communications and other industries.

Yours Truly even owns their equipment, which I guess counts as a celebrity endorsement (okay, a *minor* celebrity endorsement).

Trenton Systems can give you immediate pricing on any system that matches your exact requirements. In an age when customers feel isolated and "in the dark" about what computing platform to put together, Trenton's service and capabilities are a breath of fresh air. IT

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

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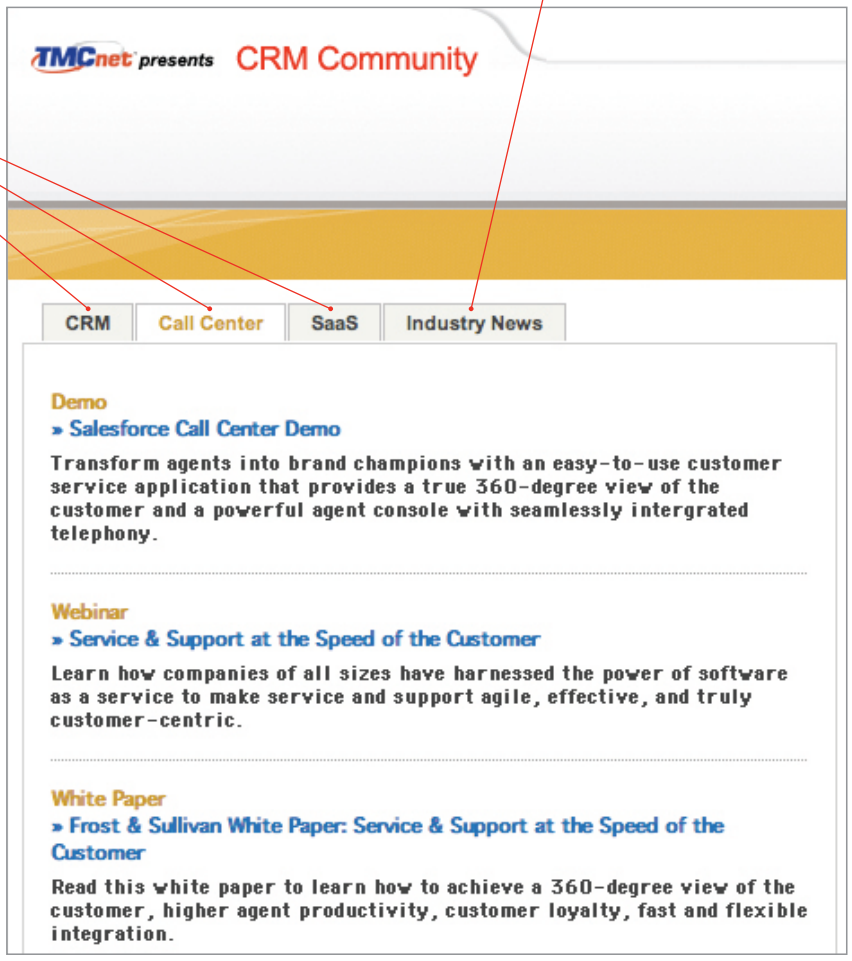

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By: Joel A. Pogar

Worth the Bandwidth after All: Rethinking Web 2.0 Collaboration Tools

Every business wants a competitive edge. There is always a demand to use technology for faster communication with more data. However, the greatest business tool of tomorrow is not more speed, more storage or faster processing; it's Web 2.0 applications that leverage the power of collaboration.

Collaboration is more than peeking around your cube to ask co-workers a question or writing your own blog … it's the ability to simultaneously, and globally, interact in an online environment to solve a problem, build a new product or work with customers in unprecedented ways.

Modern business has taken its next cue from the YouTube-sharing and instant messaging Generation Y, which grew up using IM to communicate, mash-ups for homework research and MySpace (News - Alert) to socialize with their friends. While these applications and services have traditionally been a nuisance on corporate networks, their true power as a business tool is just now being realized. It's ironic; we've spent the last seven years trying to eliminate IM and social networking sites from corporate networks. Now, these collaboration tools may give any business the competitive advantage it's looking for.

The next generation of the Internet, Web 2.0, brings a collective intelligence to the user, leveraging the power of many, anytime, anywhere. What's the big deal? Imagine how your company handles a customer support call today. With email and knowledgebase applications, the communication between support staff could be described as "serial", with information forwarded from one person to the next in a somewhat static environment. Maybe someone in the critical path to resolve the problem is on vacation and nobody knows that. The time required to resolve the issue can increase dramatically; meanwhile, your customer is waiting for an answer. Sound familiar?

Now imagine this same scenario in a Web 2.0 environment that leverages the power of collaboration. Your customer doesn't reach a single representative but an online, interactive community that uses voice and video to present the customer's problem. The support application is presence-aware and knows who is available, no matter where they are, to support the customer and instantly brings them into the session. The product experts immediately code a solution to resolve the customer issue and push the code update down to the client in minutes.

Sound too good to be true? It's happening now. Industry leaders have new collaboration applications that make this vision a reality. While they are still early in their development cycle, the capabilities are impressive and offer a new generation a new way to do business. IT

Joel A. Pogar, is Director of Network and Security Solutions at Forsythe. He has 20 years of experience in telecom, networking and IT security.

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Whether you are a start up or an established company, a one-person business or an organization of 100 employees, a VoIP-hosted phone solution with a lower TCO, reduced complexity and more advanced communication features is the obvious and smart choice.

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

VoIP Services For SMB & Residential

voipservices.tmcnet.com

By Bob Emmerson

www.tmcnet.com/2091.1

IMS Finds New Home with LTE

IMS has been around for some time, and many infrastructure vendors have invested heavily in developing IMS capabilities, solutions and products.

But market acceptance has been slower than expected. Now, with the 4G standards (LTE (News - Alert) and WiMAX (News - Alert)) taking shape, IMS has been given a new role and a niche market that looks set to carry these platforms forward into a more certain future.

This development comes from that the fact that some elements of IMS such as the Home Subscriber Server (HSS) and the Policy and Charging Rule Function (PCRF) are also key components in the LTE core architecture.

Similar elements are also defined in WiMAX. These elements are required to enable the end-to-end QoS and dynamic charging capabilities required for next-generation of mobile data services.

ABI Research (News - Alert) senior analyst Nadine Manjaro says, "IMS, which enables the rapid creation and deployment of new services and applications, was rather slow to take off because operators weren't quite sure how they were going to use it."

They struggled to find a business case for it. Now, the FCC in the United States has declared that winners of 700MHz spectrum must meet open application and device criteria. Verizon won most of that band in the recent auction and will use it for LTE.

Verizon (News - Alert) launched its Open Development Initiative based on IMS architecture called 'Advances to IMS' in March 2008. This interface for applications and devices will enable the openness that the FCC requires. IT

By Gary Kim

www.tmcnet.com/2092.1

Android Likely to Encourage Development of More Open, Third-party Apps

Android and Mobile Linux are paramount examples of "open operating systems" for mobile devices. What that actually means is somewhat open to interpretation, though Google has reaffirmed that the platform itself will be completely open, and it encourages, but does not require that all third party applications running on Android also be "open," according to published reports.

"Open" for Google includes use of the Apache software license (ASLv2). Any software adapted for Android and already covered by a free or open source license will continue to use that license. That includes Google's own enhancements to the Linux kernel, which uses the GNU Public License (GPL v2).

Any software that uses the Eclipse Android Development Tools plug-in (ADT) also will be licensed under the Eclipse Public License. The unknown is the degree to which third party developers decide their own apps are built with open or closed source code. They are free to chose either path, or to offer limited access to code.

Users will not care in a direct sense, but they benefit in a broader sense, as Android is an attempt to bring Internet-style openness — and the presumable plethora of new applications — to the mobile phone network, fast.

"Openness" is designed to underpin that development. But it is not "openness" that is crucial. Ultimately, Android, Mobile Linux or other contributors to more-open networks will succeed or fail based in large part on their ability to attract millions of users of the devices.

That, in turn, is based on the ability to create compelling devices and user experiences, as "closed" devices do. That will set the stage for everything else.

There's not much question but that more open networks are coming. What bears watching is whether openness leads to innovations we aren't expecting. I think everybody expects a touch screen, web-optimized experience that is easy to navigate. I think people expect an advanced use of global positioning satellite technology and motion sensing.

In a sense, the bar has been set fairly high. Android probably cannot afford to appear in any way to be a "me too" device. Openness is just a way to encourage creativity. It probably is fair to say that if Android doesn't massively succeed, it will be because it wasn't able to harness creativity well enough. IT

By Tom Wheeler

www.tmcnet.com/2093.1

By The People

History tells us that change seldom comes from the establishment; rather it is others who conceive and create what those in control cannot envision. In its early days the wireless business was a proof point in this history lesson. It was outsiders (including outsiders within LECs) that championed the new mobile networks. Today the most fascinating aspect of wireless is how outsiders are using the mobile network for purposes never envisioned by those who built the network.

The classic example of outsiders redefining wireless is text messaging. The GSM standard incorporated short message capability so that small pieces of information could be sent between network engineers. It was such an obtuse capability with such small anticipated throughput that it used the very constrained network control channel. Then in the late 1990s young Scandinavians discovered the capability. By 2000 nearly one billion annual text messages were being sent annually in Finland alone. Today it is carriers' largest source of non-voice revenue.

I remember, shortly after a European trip that opened my eyes to this user-generated phenomenon, proposing to the major U.S. wireless carriers an industry-run platform to facilitate intercarrier text traffic (unlike Europe's single GSM standard, the U.S. market's polyglot of standards, including one carrier's WAP-based text service, required an intermediary for interconnection). The idea went over like a lead balloon. "When people discover they can only text their friends if they are on my network I'll get new subscribers," was the refrain. The genie was out of the bottle, however. Users rather than carriers were driving the market. Soon there was interoperability.

This history came to mind as I attended the GSM Association's Mobile Money Summit in Cairo recently. Once again change is coming from the outside in. This time the change has turned SMS into an ATM machine. Almost a quarter of a billion dollars is being transmitted via mobile devices annually. GSMA forecasts that this will top US$1 trillion within five years. Who would have thought it; the wireless network being turned into a money transfer network? Mobile remittance is simply the marriage of SMS and prepaid top-ups. But the combination was discovered by mobile users, and carriers scrambled to catch up.

Since prepaid is the predominant form of mobile subscriptions elsewhere in the world, SMS-based top-up services are common. Such an ability to transfer minutes to a phone opened the door for a person in city A to top up and then forward those minutes to a friend in city B. What happened next, however, was so improbable it could only have come from outside: agents sprung up to turn those minutes into money. People without bank accounts simply invented their own ATMs using technology they already understood.

Now here's where it gets really interesting: when minutes are transferred and then exchanged for something of value, those minutes of airtime have become a fungible currency. It is not as strange as it seems. After all, animal teeth and shells were once currency. Money is whatever we agree it is.

Far from being just the payment method for those with poor or bad credit, mobile pre-payment has opened a whole new market dynamic. Most services, from wired phones, to electricity, to water are postpaid. One of the reasons behind mobile's growth, the new pay-as-you-go paradigm, can be applied in many areas.

There are rumblings of other outside-driven innovations that will evolve from the "minute as money." Far from being just the payment method for those with poor or bad credit, mobile pre-payment has opened a whole new market dynamic. Most services, from wired phones, to electricity, to water are postpaid. One of the reasons behind mobile's growth, the new pay-as-you-go paradigm, can be applied in many areas. In the developing world, for instance, access to electricity and water is a major issue. Only a couple of years ago the U.S. Treasury Secretary and rock star Bono toured Africa urging the drilling of wells to solve the water shortage. The issue, however, is not holes in the ground, one expert told me, but how to make water distribution economic in an environment where no one pays their water bills. Thus some are now asking why water or electricity couldn't be a prepaid service where you can use it until your credit runs out and then it's time to top-up again. Of course, that top-up would be done over the mobile network by transferring minutes.

The mobile network is the single largest and most ubiquitous distribution platform in the world. As such it has the potential to become a new financial engine when coupled with pay-as-you-go economics. It is not something anyone foresaw or planned, but, especially in developing countries, it holds the potential to be transformational precisely because it is a platform that allows innovators to build applications network operators never envisioned. IT

www.tmcnet.com/2094.1

Toshiba Debuts IP5000-Series IP Phones

Toshiba America Information Systems has announced they are introducing a new IP telephone, the IP5000-series. The phone features integrated Gigabit Ethernet for high-speed network connections directly to the desktop and the telephones are compatible with the Toshiba Strata CIX family of IP business communications systems. Features added to the IP5000 telephones include an Octal-stand and a headset as well as an easy-to-read backlit LCD screen and other functionalities of a digital phone.

www.telecom.toshiba.com

www.tmcnet.com/2095.1

3CX IP PBX Interoperable with Linksys IP Phones

3CX, recently announced the successful completion of interoperability testing with Linksys (News - Alert) IP telephones. The integration of these two products should yield a cost effective VoIP telephony solution designed for the small and medium business market.

According to the 3CX CEO Nick Galea, the system's interoperability with Linksys IP telephones portfolio conforms to the company's strategy of offering a SIP-based IP PBX that works with the world's leading IP phones. Galea said 3CX is pleased that the collaboration between 3CX and Linksys to perform interoperability in laboratory tests between their products has proved fruitful.

www.3cx.com

www.linksys.com

www.tmcnet.com/2098.1

Critical Links Certified on Intel Platform

Critical Links, a global provider of converged voice, data and IT solutions for SMBs, has announced that its edgeBOX product is now certified on the Intel (News - Alert) Modular Server platform through the Intel Enabled Server Acceleration Alliance program. The edgeBOX offers a broad feature set and a high level of fault tolerance, while also addressing the increasingly important concern of service assurance. The edgeBOX software also includes a wide range of capabilities such as full-fledged VoIP, VPN, security, storage and collaboration services.

www.edgebox.net

www.tmcnet.com/2097.1

Enterprise Telephony Market Up 26% in Asia Pacific, Down in North America

According to a report by Infonetics Research, the worldwide enterprise telephony market inched up two percent between the fourth quarter of 2007 and the first quarter of 2008 to $2.5 billion, with TDM, pure IP and hybrid equipment sales all posting low single-digit sequential growth. The report, "Enterprise Telephony Worldwide Market Share and Forecasts," says the overall market is up six percent from a year ago, buoyed by strong IP PBX systems equipment sales, despite falling TDM PBX/KTS equipment sales. According to the report, in Asia Pacific, TDM and IP PBX manufacturer revenue was up 26 percent sequentially from fourth quarter 2007 to first quarter 2008. Another highlight is that the TDM segment of the enterprise telephony market is forecast to drop below the $1 billion mark for the first time in 2008.

www.infonetics.com

www.tmcnet.com/2096.1

AudioCodes' New Mediant 1000 Multi-Service Business Gateway

AudioCodes (News - Alert) recently introduced its Mediant 1000 Multi-Service Business Gateway (MSBG) — a modular, all-in-one, networking device that combines a Media Gateway, enterprise class Session Border Controller, Data Router and Firewall, LAN Switch, WAN access, Stand Alone Survivability (SAS (News - Alert)) and an on-board general purpose server. The Mediant 1000 MSBG is designed to address the needs of service providers and cable operators when offering IP-Centrex and SIP Trunking services, as well as the needs of distributed enterprises.

www.audiocodes.com

www.tmcnet.com/2100.1

Grandstream Unveils New SIP Phone for SOHO

Grandstream Networks, a manufacturer of next-generation IP voice, video and IP-PBX products, has introduced a new single-line SIP phone, the GXP280, designed to meet the needs of the Small Office, Home Office (SOHO) market. The product has a one-line appearance with FLASH, to handle two simultaneous calls, dual switched 10/100Mbps Ethernet ports, a 128 x 32 pixel graphical LCD with support for multiple languages (including English, Spanish, German, French, etc), three XML programmable context sensitive soft keys, and headset jacks (both 2.5mm and RJ9 jacks).

www.grandstream.com

www.tmcnet.com/2099.1

IBM Launches Blue Business Platform SMB Initiative

IBM has announced a small and medium-sized business initiative called "Blue Business Platform" to simplify information technology for the SMB. The solution comprises a number of elements including Lotus Notes and Domino mail, file management, directory services, firewall, back-up and recovery, anti-virus, and anti-spam features. Lotus Symphony will be offered as the office productivity software within the Lotus Foundations suite. The solution carries IBM's promise to get a small or medium business up and running within 30 minutes. It is the first offering in a planned line of small business appliances, and contains the hardware and software essential to local and start-up businesses with five to 500 employees and little or no in-house technical resources.

www.ibm.com

www.tmcnet.com/2101.1

VocalTec Sells 11 VoIP Related Patents

One of the early pioneers of the VoIP industry, VocalTec (News - Alert) Communications, announced that it has signed a Patent Purchase Agreement (PPA) to sell selected patents — half of their VoIP related portfolio — to Karo Millennium (News - Alert) J.P., L.L.C. VocalTec agreed to sell 11 of its 22 patents and certain patent-related rights for the price of $12.5 million. The package being sold to Karo Millenium comprises nine U.S. patents, one Israeli patent and one Australian patent. VocalTec will hang on to an additional 11 patents as well as several trademarks, which includes the term "Internet Phone."

www.vocaltec.com

www.tmcnet.com/2102.1

Irish Service Provider TIPS Picks Quintum Solution for Managed VoIP

Irish solutions provider TIPS is using technology from Quintum to implement an innovative "land and expand" managed VoIP services strategy. Unlike a regular VoIP solutions reseller, TIPS doesn't ask its customers to take on the costs and risk associated with purchasing hardware and building their own VoIP architecture. And, unlike the average managed services provider, TIPS doesn't ask customers to drop their current carrier and give TIPS all their business. Instead, they install a Quintum switch on the customer's premises at no cost and allows the customer to decide what portion of their voice traffic they want to reroute over the TIPS network.

www.quintum.com

www.tmcnet.com/2103.1

IDT Introduces New Teleconferencing Service

IDT Asia (News - Alert), has launched a global teleconferencing service for businesses of all sizes in Singapore. The IDT Connect Asia service is specially customized for the Asian market, and allows companies to quickly and effortlessly establish teleconferences on their own, immediately and on demand. All conference calls are consolidated into the company's IDT1595 monthly statement for easy cost-management, and individual conference calls can be assigned with accounting codes when they are established so that the cost can be allocated to individual projects. In addition, IDT currently provides dialing access points into the service from 36 countries around the world, with more countries signing on, enabling a truly global reach.

www.idt.net

www.tmcnet.com/2104.1

Time Warner Cable Launches Usage Cap Trial

Starting June 5, 2008, new Time Warner Cable Internet subscribers in Beaumont, Texas, were introduced to monthly allowances for the amount of data they upload and download. Those who go over the limit will be charged $1 per gigabyte. Buckets will range from a low of about 5 Gbytes a month for users on the 768 kbps service costing $29.95 a month, up to about a cap of 40 Gbytes for users of the $54.90 per month service operating at 15 Mbps.

If Time Warner is correct, and only about five percent of users really impose excessive loads, there is little reason late adopters will have to fear running over their limits.

www.timewarnercable.com

www.tmcnet.com/2105.1

Comcast to Begin Traffic Shaping Tests

Comcast began testing their new "protocol agnostic" network management solution in June in two markets. Where it had been specifically targeting BitTorrent (News - Alert), Comcast now says it will switch to a different approach that shapes traffic without specifically targeting P2P protocols. The new approach will target heavy users at times of peak congestion. According to company officials, the solution will "temporarily" dampen heavy user traffic until the congestion has passed. Heavy users will find their traffic is forced to "wait in line" while other customers' data requests go through first. Apparently Comcast is considering notifying customers in real-time if their service is being managed, "should this be necessary and technically practical."

www.comcast.com

www.tmcnet.com/2106.1

ECI Telecom, Ceragon (News - Alert) in Joint Backhaul Deal

ECI Telecom and Ceragon Networks announced a joint multi-service transport radio solution for carriers. The solution combines ECI's XDM and Broad-Gate Multi-Service Provisioning Platforms (MSPP) with Ceragon's FibeAir IP & SDH microwave technology. The alliance is designed to addresses the demand for an end-to-end integrated wireline and wireless backhaul solution, and offer reduced time-to-market, improved manageability and lower integration costs.

www.ecitele.com

www.ceragon.com

www.tmcnet.com/2107.1

Max Leverages Comverse Solution

Max Telecom recently launched voice and data services for residential and corporate subscribers over its WiMAX infrastructure, according to reports. The Bulgarian telecom operator reportedly used the Comverse (News - Alert) MyCall Converged Communications, IPCentrex and business trunking solutions. According to the company's CEO, by using Comverse IP telephony solutions, Max Telecom (News - Alert) was able to migrate subscribers in a totally transparent way to receive voice services via a WiMAX access point.

www.comverse.com

www.maxtelecom.bg

www.tmcnet.com/2108.1

T-Mobile USA Hits 'Play' with Nokia 5310 XpressMusic Phone icing

T-Mobile USA announced the availability of the Nokia 5310 XpressMusic phone. T-Mobile will offer the Nokia 5310 XpressMusic which offers a variety of features, including easy to use external music controls, stereo Bluetooth connectivity, wired stereo headsets, a USB cable for side-loading music and a memory card. At only 0.39 inches thick and weighing as little as 3 ounces, the Nokia 5310 XpressMusic offers up to 18 hours of music playback, with memory for up to 3,000 songs on an optional 4GB microSD card. The device is available in three color combinations exclusively from T-Mobile: black/red, black/purple and black/orange.

www.nokia.com
www.t-mobile.com

www.tmcnet.com/2109.1

Swedish 2.6GHz Auction Reflects European 'Realistic' Spectrum (News - Alert) Value

The second European 2.6GHz spectrum auction in Sweden provides much needed information on the price that operators will pay for 2.6GHz spectrum throughout Europe, said Analysys (News - Alert) Mason, a firm that offers market insight for telecoms, IT and media. The Swedish auction concluded at a price of €0.13/MHz/pop ($0.20). Bart-Jan Sweers, Strategy Consultant at Analysys Mason, said: "Clearly prices fetched at the 2000/2001 European UMTS auctions, especially in the UK and Germany, are unlikely to be repeated. On the other hand, operators are reporting a rapid uptake of mobile broadband dongles, and new WiMAX players may be eager to enter the arena, suggesting that prices may still be substantial."

www.analysysmason.com

www.tmcnet.com/2110.1

Google CEO: Mobile Advertising to Generate More Revenue than Web

Google CEO Eric Schmidt says the next major growth wave for Google, in terms of search engine marketing, is the mobile Internet. Schmidt cited the iPhone as the first mobile device with a good web browser and that more devices will come to market, enabling advertising to become personal. The CEO predicted that within a few years, mobile advertising would generate more revenue than advertising on today's web. Cloud Computing was another trend the Google boss considered "very interesting."

www.google.com

www.tmcnet.com/2111.1

Femtocell Management and Integration to hit $360 Million by 2013

Companies providing device and service management solutions for femtocell (News - Alert) networks will garner $360 million in revenue by 2013, according to a new brief from ABI Research. The critical functions that need to be supplied by network management and integration vendors include performance management, remote configuration, security provisioning, timing, traffic routing and management, update management, access control and authentication, and accounting. The increasing adoption of industry standards such as TR-069 and IEE1588V.2, as well as innovative use of GPS and TV signals, are likely to simplify the situation significantly.

www.abiresearch.com

www.tmcnet.com/2112.1

Over 2.4 Billion Units of Bluetooth Gear Set To Ship

The use of Bluetooth-enabled equipment is set to explode over the next few years with close to 2.4 billion units expected to ship worldwide in 2013, according to ABI Research. Of the 2.4 billion, more than half will be cellular handsets; adding the accompanying headsets brings that figure to more than 75 percent of the total market, the study says. Notebook computers and portable music devices will run a distant second and third, although the compound annual growth rate for the latter is by far the greatest of any product class, said ABI Research senior analyst Douglas McEuen.

www.abiresearch.com

www.tmcnet.com/2113.1

WeFi Mashes Up with Twitter

Combining an increasingly popular Internet connection service with one of the Web's fastest-growing uses among young people, a community-based global wireless fidelity network today announced that it's integrating with a microblogging network. WeFi Inc. officials say Twitter users who sign up with their service can automatically receive real-time updates of their WeFi friends' locations. Twitter users also can receive updated messages on changes and events through WeFi by following the newly developed "wefi_twitt" user. WeFi's chief executive officer, Zur Feldman, says the new collaboration reinforces his company's position in mobilizing WiFi communication. The company already has a "mash-up" with Facebook, which allows the two websites' applications to interact easily.

www.twitter.com
www.wefi.com

www.tmcnet.com/2114.1

FCC May Auction 25 MHz of Wireless Spectrum

Federal communications officials have scheduled a vote on rules for a spectrum auction for 25 megahertz in the 2155-2180 MHz advanced wireless services band, requiring the winning bidder to offer free broadband service under what some analysts are calling an "aggressive" build-out schedule. Federal Communications Commission Chairman Kevin. The FCC raised nearly $20 billion earlier this year by auctioning 62 megahertz of the 700 MHz spectrum. Some analysts are speculating that the agency may re-auction the 700 MHz D Block, which went unclaimed in the auction earlier this year after no bids met the $1.3 billion starting price.

www.fcc.gov

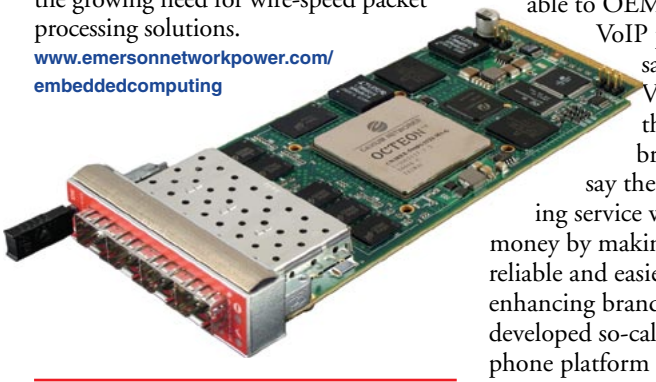
DEVELOPER

www.tmcnet.com/2115.1

Emerson Enhances MicroTCA Portfolio

Emerson (News - Alert) Network Power, is broadening the company's MicroTCA portfolio through increased software support, new and enhanced products and a wider range of operating system choices. In addition to introducing the SpiderWareM3 platform management software for remote management, monitoring and maintenance of IPMI-compatible MicroTCA platforms, Emerson added the AMC-9210 to its product line. Based on the Cavium OCTEON Plus high-performance, multi-core processor architecture, the AMC-9210 is ideal for addressing the growing need for wire-speed packet processing solutions.

www.emersonnetworkpower.com/embeddedcomputing



www.tmcnet.com/2116.1

Mushroom Cooks Up Porcini Broadband Bonding Device

Mushroom Networks (News - Alert), a developer of one-sided broadband bonding technology, has introduced the Porcini broadband bonding network appliance aimed at the small and medium business (SMB) market. The Porcini device is capable of integrating up to four broadband Internet connections of any type including DSL, cable, and T1 into a single virtual high-speed link. An additional USB port enables a fifth cellular data modem connection to be added to the overall mix.

www.broadbandbonding.com

www.tmcnet.com/2117.1

GL Simplifies SS7 and ISDN Monitoring

GL Communications announced the release of T1 E1 Analyzer Software Version 5.11 with new applications and enhancements. The additions to the T1 E1 Analyzer product suite now include new applications: SS7 and ISDN Protocol Decode Agents that permit remote real time monitoring and analysis for network wide applications. According to company officials, "A very large SS7 and ISDN network can be easily monitored with this protocol decode agents and integrated into existing third party applications."

www.gl.com

SIP

www.tmcnet.com/2118.1

Voxeo (News - Alert) IVR and SIP-based VoIP Available as OEM Platforms

Under a new program, customers will be able to OEM Voxeo's IVR and SIP VoIP platforms, providing the same proven platform Voxeo has developed over the years, with their own branding. Voxeo officials say their IVR and SIP hosting service will help businesses save money by making those services more reliable and easier to manage, while enhancing brand awareness. Voxeo has developed so-called "cloud-based" telephone platform services, which appear to customers as a single, virtualized IVR system. According to the company, the platform includes call control features to make, take, route and connect calls and voice media features that play, record, conference, recognize, and synthesize speech in a dozen different languages.

www.voxeo.com

IP CONTACT CENTER

www.tmcnet.com/2119.1

West Buys Genesys Conferencing

West Corporation has acquired Genesys (News - Alert) SA, a leading multimedia conferencing and collaboration service provider for $345 million. The firm will be combined with InterCall, West's conferencing subsidiary. With the agreement, InterCall will have access to Genesys' flagship product, Genesys Meeting Center, which provides an integrated multimedia conferencing solution that is easy to use and available on demand.

www.west.com

www.tmcnet.com/2120.1

Nuance Partners with MultiVision

Speech and imaging solutions provider Nuance Communications has struck a deal with MultiVision Communications to resell MultiVision's MediaCenter messaging and collaboration software platform to its customers. MediaCenter uses Nuance's speech recognition technologies in applications such as greeting customers by name when they are called by the automated system. Nuance's recognizer is supported by the MultiVision product to allow customers have been called to interact with the solution such as by saying: 'Yes, I want to make a payment.'

www.nuance.com
www.mvcinc.com

CHANNEL

www.tmcnet.com/2121.1

LumenVox (News - Alert) Achieves BroadWorks Compliance

LumenVox has achieved interoperability validation of its Speech Engine on the BroadSoft's (News - Alert) BroadWorks VoIP application platform. BroadSoft's application software enables service providers to deliver hosted PBX, mobile PBX and SIP and IP business trunking services. According to LumenVox, the interoperability enables BroadSoft's customers to use speech recognition technology in conjunction with BroadWorks. The LumenVox Speech Engine is a standards-based speech recognizer that supports multiple languages and can perform speech recognition on audio data from any audio source.

www.lumenvox.com
www.broadsoft.com

www.tmcnet.com/2122.1

Tangoe Reports Record Sales Volume and Revenue in First Quarter

Tangoe (News - Alert) reported record volume for direct and indirect sales during the first quarter of this year, which ended March 31. Tangoe won 33 direct and indirect deals in the first quarter, reflecting the company's increasing customer base diversification and surging growth in integrated, fixed- and mobile-related business. "Our performance is a confluence of factors – a perfect storm if you will – that have come together to fuel our growth in early 2008," said Al Rossini, senior vice president of global sales and marketing at Tangoe.

www.tangoe.com

www.tmcnet.com/2123.1

Callidus Picked by Vodafone New Zealand

Callidus Software recently announced that Vodafone (News - Alert) New Zealand, a subsidiary of Vodafone Group, selected the Callidus TrueComp suite of software products to manage sales performance and incentive compensation programs for its 2,000 sales personnel, dealers and agents in New Zealand. Callidus Software is already being used by mobile operators of Vodafone in other markets. TrueComp software's ability to "expedite the alignment of sales with corporate objectives" was cited by VNZ officials as a reason for the deal.

www.vodafone.co.nz

www.callidus.com

www.tmcnet.com/2124.1

Ezwim (News - Alert) Launches Telecom Service Management

Ezwim has launched Telecom Service Management (TSM), a workflow management service that complies with ITIL standards and defines standard workflow procedures for complex tasks. TSM is designed for enterprises operating in a complex multinational environment, dealing with many third-party vendors like operators, logistics providers, etc. It offers enterprises the flexibility to streamline unique telecom management processes into a transparent set of workflows, catalogues and SLAs. The Telecom Service Management service results in more than 50 percent cost savings in service management and an improved end-user self-service experience.

www.ezwim.com

www.tmcnet.com/2125.1

Comstructure, Abilita Partner on TEM Solution

Comstructure, known for its Telecommunications Expense Management (TEM) software solutions, and Abilita, a nationwide telecommunications consulting company, have decided to join in a strategic venture. Comstructure will give Abilita its iCIRT TEM software application that can be used by Abilita's offices and clients. iCIRT has proven to be an effective tool in reducing the cost and management of communications expenses that account for approximately three to six percent of an enterprise's total annual revenue. With the addition of the Comstructure software, Abilita will now be able to provide a full suite of total TEM services.

www.comstructure.com

www.abilita.com

www.tmcnet.com/2126.1

Austin Logistics In Deal with China's Camelot

Austin Logistics, a provider of event-based decision support solutions, has entered into a formal partnership agreement with Camelot Information Systems, a provider of business and IT consulting and the top ranked Banking Solutions Provider in China. Austin Logistics and Camelot already share common relationships with several Top 10 banks in China. "We are very pleased to partner with Camelot, and most importantly we strongly believe the synergies between our two companies will bring even greater value and service to our clients in China," said Pan Feng, managing director and chief representative to China.

www.austinlogistics.com

www.camelotchina.com

www.tmcnet.com/2127.1

Romtelecom Selects Subex's Rocware for New Ops Center

Subex Limited, a global provider of Operations and Business Support Systems (OSS/BSS) for communications service providers, has announced that Romtelecom, Romania's largest fixed-line operator, has selected Rocware solutions to form the core of a new Revenue Operations Center (ROC). Romtelecom officials say they want to reduce the risk of financial loss from revenue leakage, fraud or bad debts. Romtelecom's ROC environment will include Subex's Moneta Revenue Assurance Solution, Nikira Fraud Management Solution and the Prevea Risk Management Solution.

www.subexworld.com

www.romtelecom.ro

www.tmcnet.com/2128.1

Intec Unveils Total Service Mediation Framework

Intec announced the availability of Total Service Mediation (TSM), a complete solution designed to manage every interaction between the communications network and upstream OSS/BSS. TSM provides total set of functionality required to mediate the data flow between a telecommunications network and the support systems for that network. It is a mediation framework that integrates the user experience across Intec's entire mediation product range, Inter-mediatE, Inter-activatE and Inter-session, while providing "best of breed" functionality. The TSM framework recognizes inter-relations between the three main capturing, verifying, and executing customer-generated events and requests.

By: Robert Whitmore

Why Does It Take So Long for Some Companies to Put a TEM Process in Place?

Tangoe routinely participates in Requests for Proposals for TEM services and consults with Fortune 1000 companies on how Communications Lifecycle Management can reduce costs, improve visibility, and improve productivity. What consistently surprises Tangoe is the number of these initiatives that end in "no decision" and the length of time it takes to select a TEM provider. Even with a solid business case that promises a quick ROI through historical audits, asset optimization, ongoing invoice management, contract negotiation assistance, and internal productivity improvements, there is a still reluctance on the part of many companies to pick a TEM partner. Examples include:

- "Winning" a competitive RFP but taking 24 months to finalize a contract (leaving money on the table during the entire process)
- TEM projects going through a continuum of "high priority" to "back burner" repeatedly over the course of many years with no decision and status quo maintained
- Potential wireless savings ignored because of political hurdles and fear

Considering the current pressures companies face to reduce costs, it would be logical to assume that the selection and implementation of a TEM solution would be front-and-center in the list of overall priorities. In theory, the argument for a TEM solution is very compelling: TEM providers routinely demonstrate that the savings generated by a holistic TEM solution will be significantly higher than the cost, and in some cases they will guarantee it. Enterprises seem to make decisions on other cost savings initiatives on a frequent basis (travel, office supplies, etc.) and seem comfortable with that process. What makes TEM different? Some of the key issues include the following:

- Bills are getting paid. Existing systems and processes are sub-optimal, but processes are so ingrained into the culture of the company that it's difficult to change what is not considered "broken." The costs for providing this ongoing internal service are buried in multiple budgets, and telecom costs are usually allocated to the various consumers. Ironically, the department or individual that "champions" TEM often receives a small direct reduction in costs. Other department-specific initiatives have a higher impact to "their" (the department's) bottom line, while continuing to cost the enterprise substantially more through inefficient TEM processes.
- Too many cooks. TEM initiatives span multiple departments and in many cases don't meet organizationally until the CEO level. The "TEM team" ends up consisting of many people with different agendas with different views of the solution (i.e. in house or outsource). Many of the folks selected for the teams are the ones whose jobs will be impacted, creating TEM cynics who constantly undermine the decision process. Just getting the group together is difficult, let alone coming to a consensus on how to move forward and in what way.
- Parochial and stove pipe solutions have developed over time. Wireless is managed by one group, wireline by another, and invoice processing and payment are separate from inventory management. Each of these constituencies has developed, purchased, or outsourced some sort of TEM process (bad or good) to procure new assets and pay bills. This has actually created a large part of the TEM opportunity for vendors that have a complete lifecycle management program that spans the entire procure to pay process and encompasses both fixed and mobile services. However, crystallizing the requirements of these various groups into a TEM proposal that everyone is willing to embrace and support is a very challenging task.
- Management is skeptical about savings projections for TEM solutions. Early adopters of TEM solutions were lured by the promise of huge savings that would continue year over year. In many cases these expectations were not met. TEM business cases are simply not believed and require a lot proof points before they are accepted.

So what can you do?

- Enlist your preferred TEM provider to help build the business case and ROI models and hold them to them.
- Combine an inventory, audit, or sourcing engagement up front to drive quick savings. This will do several things:

  1. Build credibility in your business case.
  2. Ensure that resources remain committed to the project.
  3. Display to management that your TEM vendor is driving quick results.

- Work out the internal politics of selecting a TEM solution prior to engaging vendors. "Stealth TEM" doesn't work. My company, Tangoe has, unfortunately, been involved in TEM projects that seem to have a sponsor and a business case, then get shot down at the very end by someone with authority who was not engaged in the process and has a vested interest in maintaining the *status quo*. This is a tremendous waste of both customer and vendor resources. IT

Robert Whitemore is Senior Vice President, Professional Services, at Tangoe (www.tangoe.com).

Critical Embedded Systems MediaFest 2008

By Richard "Zippy" Grigonis

Yours Truly recently attended the new Critical Embedded Systems MediaFest 2008 (www.critical-embedded-systems.com), "The Business and Technology Media Event for the Bus & Board Industry" held at the Hilton Scottsdale Resort and Villas in Scottsdale, Arizona, May 5-6. Perhaps "new" isn't an appropriate term, since from 1999 until 2007, it was a show and conference called Bus & Board. Indeed, it's still my favorite computer-related show, run under the auspices of the VME International Trade Association (VITA) and the dynamic Ray Alderman. The new CES show is essentially a combination of Bus and Board and two other VITA-sponsored events: the Military Embedded Electronics and Computing Conference and CoolCON, which was devoted to the liquid cooling of electronics.

There were a surprising number debuts and demos at the show. . .

AdvancedIO Systems – The new V1120 XMC module, a dual-channel 10 GbE device that's the first member of the V1100 family, the industry's first conduction-cooled XMC product family for 10 GbE connectivity and packet processing, in particular open-standard, extremely high bandwidth networking and point-to-point connectivity in high performance real-time systems operating in harsh environments. The V1120 uses a Xilinx Virtex-5 FPGA that can handle high-performance real-time processing and recording applications. (www.advancedio.com)

Aitech Defense Systems – AiTech now offers a 3U high CompactPCI (News - Alert) (cPCI) radiation-tolerant single-slot Single Board Computer (SBC) called the S950. It protects against Single Event Upsets (SEUs) making it ideal for various Low Earth Orbit (LEO), and geocentric orbit (GEO) applications including redundant computers and guidance and navigation computers and well as in command and data handling computers, solid-state recorders and video controllers. AiTech also now sells the E192, a 2-slot, 3U cPCI enclosure with rugged environmental properties and a modular and removable power supply. And AiTeh's C108, a rugged 6U single-slot VME PowerPC (MPC7448 processor) SBC, has now been upgraded to include an 8 GB USB Solid State Drive (SSD). (www.rugged.com)

American Portwell (News - Alert) Technology – Announced the new PEB-2736, utilizing the Intel ECX form factor, and the new UMPC-2710, both based on the Intel Atom processor Z500 series and the Intel System Controller Hub US15W. The small devices will find a home in low-power systems and handheld mobile devices for applications such as Portable POS, Medical Healthcare, Mobile Kiosk, Entry-Gaming, Digital Signage and In-Vehicle Infotainment. The PEB-2736 operates at a power consumption of less than 10 watts at full load. It supports dual display by LVDS and SDVO connector. The modular SDVO and SDIO board architecture can be easily customized to meet the customer's time to market and proprietary requirements. The PEB-2736 supports one SO-DIMM memory slot for DDR2 SDRAM up to 1GB, and comes with one IDE, one CompactFlash socket, two RS232, high definition audio CH5.1, six USB2.0 and three SDIO ports. Wireless applications can be supported via mini-card socket on optional daughter card. (www.portwell.com)

Elma Electronics/Elma Bustronic – Bustronic announced MicroTCA backplanes in the Pico style format, designed for sister-company Elma Electronic's (News - Alert) 1U MicroTCA enclosure solution. The Pico format is typically in a horizontally-mounted chassis that saves vertical rack space. The Bustronic Pico backplanes will typically have a Star topology, with one MCH and one Power Module. The rest of the slots will allow for AMC modules in various sizes. (www.bustronic.com)

Emerson Network Power – Unveiled the Centellis 500, a MicroTCA system that leverages innovative plastic packaging, Emerson's MicroTCA Carrier Hub (MCH) and a high performace processor module that, at under $5,000, costs half the price of previous generation MicroTCA systems. It can support such apps as IP-PBX,

packet processing, VoIP gateway, network Point of Sales (POS), industrial automation, access router, WiMAX, telemedicare, remote radiology and patient monitoring. (www.EmersonNetworkPower.com/EmbeddedComputing)

GE Fanuc Intelligent Platforms – They announced at CES the VPXcel3 SBC320 – the first 3U VPX single board computer to feature Core™2 Duo processing technology combined with a server class memory controller. Available in five air- and conduction-cooled ruggedization levels, the SBC320 is designed for demanding space-constrained embedded computing applications where leading edge processing capability is combined with low heat dissipation. Joining the 3U VPX SBC310, SBC330 and SBC340 – which offer a choice of processor architectures – the SBC320 brings the total of VPX products announced by GE Fanuc to 11. (www.gefanuc.com)

General Micro Systems (GMS) – GMS introduced a 3U high (5.25-inch) cPCI SBC called the "CoolOne" (CC40x), said to be the first conduction-cooled board with a typical operating power consumption of 3.5 watts/5 watts maximum, which would make it currently the most energy-efficient board in its type and class. CoolOne remains cool thanks in part to its conduction-cooled package and partly because of its onboard Intel Atom processor operating at (up to) 1.6GHz with 512 KB of L2 Cache. With (up to) a 533MHz Front Side Bus, the board delivers as much as 1GB of 533MHz DDR-2 SDRAM. High performance is further ensured by (up to) 16 GB of Bootable Flash memory via CompactFlash, six USB-2.0 ports, two serial ports with RS232/422 support, and two 8-bit Secure Digital I/O or MMC ports for custom I/O. A Special Application Module (SAM) for custom I/O also provides up to 64 GB configured as a high-speed SATA solid state drive, and an optional mini module and PCI Express Card can be used for further individualized configurations. With its ability to withstand extreme temperatures, combined with its small weight and energy efficiency, the CoolOne is ideal for handheld or UMPC device applications. GMS also announced the "Pinnacle", one of a new family of SBCs utilizing high-performance Core 2 Duo processors operating at 2.16 GHz. (www.gms4vme.com)

MEN Micro Inc. – Also known as Mikro Elektronik Nurnberg, they've announced the ESMexpress System-On-Module Standard, a new computing standard in development destined to be the ANSI-VITA 59 (RSE Rugged System-On-Module Express) Standard. ESMexpress brings the cost and time savings of Computer-On-Modules or COMs (also known as Systems-On-Modules or SOMs) technology to rugged, harsh and mission-critical environments. An initial ESMexpress product from MEN Micro, the XM1, is powered by the first-generation Intel Atom processor (Z530 at 1.6 GHz or Z510 at 1.1 GHz) based on 45-nm technology. It runs on the module with 1 GB of soldered DDR2 SDRAM and yields very low power dissipation, reduced design costs and space-saving design flexibility. Also, MEN's new XM50 is the first PowerPC-based ESMexpress module for low power processing in rugged embedded applications. With its 1.5 GHz PowerQUICC III MPC8548 processor, the XM50 should be ideal for communication-intensive applications for the railway, avionics, medical engineering and industrial automation markets. (www.men.de)

Mercury Computer Systems – At the show they unveiled their smallest embedded system yet, the PowerBlock 50, an ultra-compact embedded computer designed for maximum performance in a minimal footprint, for small platforms in the 6- to 10-pound range. Optimized for real-time image, sensor, and signal processing and ruggedized for harsh environments, it's fully integrated and programmable, with liquid cooling. The PowerBlock 50's modular architecture allows for flexible configurations of multiple processors (e.g. PowerQUICC, Virtex-4, and Intel) delivering well over 100 GFLOPS of processing power, SATA storage and Gigabit Ethernet and RS-232 I/O interfaces. A fully configured PowerBlock 50 weighs less than 10 pounds and measures approximately 4x5x6 inches – it can literally be held comfortably in one hand. (www.mc.com)

Pentek – Introduced the Model 7151 high-resolution software radio module. Four 200 MHz 16-bit A/D converters feed a proprietary FPGA IP core that delivers 256 channels of independently-tuned Digital Down Conversion (DDC), arranged in four banks of 64 DDC channels, with each bank configurable for a unique output signal bandwidth for apps demanding mixed signal types or multiple modulation schemes. It's well-suited for GSM cell-phone monitoring and signal-intelligence applications. (www.pentek.com) **IT**

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

ClearOne — Putting the World on Greener Terms

By Mark Child, Director of Product Marketing — Telephony, ClearOne

"Going green". It's the hottest topic imaginable. I entered "going green" into my Google search window and got 13,800,000 hits. The first page alone listed articles and tips from Fortune Magazine, BusinessWeek, Time, Forbes, NBC, the Washington Post, the World Wildlife Fund — even Oprah. We're bombarded from every angle with screaming headlines about how fast the polar ice cap is melting, how much energy it takes to keep a light bulb burning, how to calculate your carbon footprint, and on, and on.

Is it important? Obviously. But what can I, personally, do about it?

Having worked in the technology sector for 20-plus years, my worldview is naturally skewed to all things high-tech. And a recent USA Today headline really caught my eye: "Want to save the planet? Stay home." The author posed the argument that many of us are doing various things to help the planet. We take shorter showers, replace old appliances with energy-efficient ones, and even buy clothes made from recycled soda bottles. But the vast majority of us still drive our cars — alone — to work.

Apparently, the biggest contributor to greenhouse gasses is me! Yup, I'm one of the 76 percent of all Americans who drive — alone — an average of 25 minutes to my office. Then, when I get to work, I spend my day talking on the phone and emailing people who aren't in my office. Many of them aren't even in my country. Even the meetings I attend are often held in a conference room with people who are talking to me over a conference bridge from who-knows-where.

The energy-saving, compact fluorescent light bulb over my balding little head just went off. I could do all of that from home! I have a broadband connection, a laptop, a VoIP client—I even have a personal conferencing phone I can use for hands-free calls. So why don't I work from home?

The work-from-home website Undress4Success.com estimates that only 4 percent of the U.S. workforce works from home. But their research shows that 40 percent of us have jobs that could be done from home. And if we did work from home, we'd save about 625 million barrels of oil every year; that amounts to roughly 80 percent of our annual Gulf Oil imports. On top of that, we could reduce greenhouse gases by 107 million metric tons of CO^2, and save billions of dollars at the pump in the process. They say you could plant the entire face of the planet with windmills and not get that kind of benefit.

Okay, I should telecommute. I get that. But what about my business travel?

I had a lot of business travel last year. On average, I was flying somewhere (and back) twice a month! No wonder my dog barks at me when I walk in the door (we need to get reacquainted).

Not only am I pouring CO^2 into the air from my car's tailpipe, but I'm also contributing to the tons of CO^2 those jets are producing.

Some pundits suggest that we're experiencing a perfect storm of contributing factors that might help bring about the end of the "road warrior". Everyone knows we're in the middle of an economic downturn. And corporate travel is one of the first areas management will look at in order to cut expenses. We're seeing fuel prices skyrocket and travel costs will have to increase to keep pace.

Airplane travel is tremendously unproductive. Add up the time it takes to get to the airport, check bags, get through security, wait for a delayed flight, wait for your luggage, pick up a rental car… Not only is it unproductive, it's hard. I think the writing is on the wall: There will be a drastic reduction in business travel.

Besides, I need to reduce my carbon footprint. And if I eliminate five LA to New York trips this year, I can reduce my carbon footprint by as much as 4.25 tons.

So what's the answer? For starters, I should work from home more often. And I need to use all of that technology that's sitting on my desk. My CHAT 50 Conference Phone from ClearOne plugs right into my laptop's USB port and lets me have a hands-free audio conference anywhere I have a broadband connection. I can use my VoIP softphone with my CHAT 50 and very easily have conversations with any number of customers, vendors, co-workers or friends, regardless of location. I can even use my CHAT 50 with my cell phone. And there are a lot of great online collaboration tools I can use to share presentations and documents while we're on the call. Talk about productivity!

Sure, there will be times when a face-to-face meeting is still the best option. But tools like the high-definition conferencing products from ClearOne make it possible for me to be productive and green—all at the same time. I feel better already. IT

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Talking with David Clarke, PIKA Technologies

By: Richard "Zippy" Grigonis

PIKA Technologies (www.pikatechnologies.com) is known for its family of analog and digital voice boards compatible with Digium's Asterisk (News - Alert) and Fonality's trixbox CE. It also offers the Appliance for Asterisk® to developers looking for a small, low-cost computer replacement to deploy Asterisk based applications in the SOHO and SME markets. PIKA even offers a T.30 software fax application that works with any Asterisk-compatible board/hardware.

David Clarke (News - Alert) is a Business Development Manager for PIKA. A key member of the PIKA management team since 1993, he is responsible for expanding the business through partnerships as well as identifying new market opportunities. Clarke is a graduate of Carleton University and holds a degree in Electrical Engineering. You can reach him at david.clarke@pikatech.com.

RG: PIKA Connect for Linux-based Asterisk enables connectivity to Skype. Is Skype becoming popular with smaller businesses, or are there security concerns?

DG: Yes, there are security concerns with Skype but more so in the large enterprise than in small business. We don't feel that security issues are keeping small businesses from using Skype.

Skype is not as popular for Skype-to-PSTN calls as it could have been, because there are such competitive long distance rates for small business, so there is not as much of a cost savings as there was a couple of years ago.

Using open-source either in whole or in part is gaining ground as a viable method to deliver solutions. In the future, look for developers of open-source solutions to find new ways to monetize their efforts outside of the traditional and widely-used "pay for support and custom development" method.

RG: Do open source customers tend to buy components and build their own systems, or do they just by assembled systems, like any other IP PBX shopper?

DG: It's important here to distinguish between the two types of customers referred to in this question.

The IP PBX shopper is primarily one that is looking to buy a solution for their enterprise/company, not to build one themselves using various open-source components. By far, the vast majority would not even be remotely capable of doing so. They may in fact not even be aware or concerned with the fact that the IP PBX they are considering is based on some open-source code.

PIKA's customers, the ones who are supplying finished IP PBX solutions to the IP PBX shopper, are the ones building the systems. They build the systems using a combination of proprietary telephony hardware from companies like PIKA, a desktop PC or server, and an open-source PBX solution, such as Asterisk. In addition, they generally try and add value of their own such as sexy GUI's, niche functionality, and, of course, support. With the introduction of telephony appliances such as PIKA's WARP appliance, they are now able to buy the telephony hardware integrated directly into the "PC" from a single provider. These appliances can offer fewer integration issues for the developer and reduce their cost, especially in the lower-end market (i.e., offices with 20 people or less).

RG: Is open source growing? How do you see its future?

DG: Yes, it is growing on all fronts. Using open-source either in whole or in part is gaining ground as a viable method to deliver solutions. In the future, look for developers of open-source solutions to find new ways to monetize their efforts outside of the traditional and widely-used "pay for support and custom development" method. Secondly, look for increased legal issues in the area of intellectual property rights. With widespread use of open-source code will come closer scrutiny as to where exactly this 'contributed' code is coming from, and whether it has the right to be called 'open'. IT

www.tmcnet.com/2134.1

Sangoma Develops New Hybrid Concept in Telephony Cards

Sangoma recently took the wraps off their Flex-BRI card. This new hybrid concept is the first in a series of mixed modular designs to be announced, which will allow customers to combine analog and digital signals on one interface card. The FlexBRI is expected to be in production in early fall. Designed in response to customer demands in Germany the FlexBRI card supports fax machines or other analog devices and fits comfortably in a small 1U server. The FlexBRI will support up to four ports of BRI and two ports of FXO or FXS Analog. The card will share the same analog FXO/FXS and BRI modules with Sangoma's A200, A400, A500 cards, so channel partners will not need to stock more part numbers.
www.sangoma.com

www.tmcnet.com/2129.1

SugarCRM (News - Alert) Sweetens Jigsaw's Open Data Initiative

Jigsaw, a provider of business information and data services that leverages user-generated content contributed by its global membership, recently unveiled an Open Data Initiative designed to make it "easy to search, select and import company data for Free into leading CRM and Contact Management solutions." SugarCRM, a provider of commercial open source customer relationship management (CRM) solutions, has announced its support for the Jigsaw Open Data Initiative. As a founding member of Jigsaw's new initiative, SugarCRM is also able to pre-load its CRM solutions for new customers with "free company data" provided by Jigsaw.
www.sugarcrm.com
www.jigsaw.com

www.tmcnet.com/2130.1

Digium (News - Alert) Forms Partnership with Fanstel to Deliver Interoperability

Digium Inc., the Asterisk Company, and Fanstel (News - Alert) Corp. have announced a partnership that is designed to help ensure interoperability between Fanstel telephones and Digium products. Fanstel SIP telephones are now Digium/Asterisk Certified, which means that companies that want the flexibility and cost-savings of a VoIP platform based on Asterisk Business Edition can benefit from full-featured Fanstel telephones. Founded in 1990, Fanstel is a manufacturer of carrier-grade and enterprise-grade telephone products. Fanstel has delivered high-quality telephone products to 55 countries.
www.digium.com
www.fanstel.com

www.tmcnet.com/2131.1

PBX in a Flash Selects Vitelity Communications

Vitelity Communications has been selected as the exclusive network provider for PBX in a Flash, an open-source, Asterisk-based PBX phone system with 12,000 to 15,000 downloads a month, according to the company. Under the terms of the deal, Vitelity will be able to offer their service to PBX in a Flash customers, who will benefit from Vitelity's constant innovation, including the Asterisk configuration wizard that simplifies setup and interoperability.
www.vitelity.com
www.pbxinaflash.com

www.tmcnet.com/2132.1

Google's Android Mobile Platform Will Be Open Source

Google's new "Android" mobile platform will be completely open-sourced under standard industry licenses, according to the blog of a principal systems developer. Ed Burnette, a SAS employee who keeps a blog that's separate from his job, said today that "the core platform components and libraries needed to port Android to new devices will be open sourced under commonly used, industry standard licenses, says Google." Burnette cited three Google sources that he met at the Internet giant's annual I/O conference in San Francisco in May. "Except where noted, everything will use the Apache software license (ASL v2)," Burnette writes. "This is the same open source license used by projects like the Apache HTTP server, Tomcat, Harmony, and many other large projects in the open source community."
www.android.com

www.tmcnet.com/2133.1

NASCAR Racing Team Purchases VoIP Phone System

VoIP Supply announced it is supplying a VoIP phone system to NASCAR's Joe Gibbs Racing out of North Carolina. The NASCAR racing team reportedly purchased a complete IP-based phone system solution from VoIP Supply, which consists of equipment from manufacturers such as Aastra (News - Alert), Rhino Equipment and Sangoma Technologies. An IP-based phone system solution will enable Joe Gibbs Racing, the home of NASCAR superstars Tony Stewart and Kyle Busch, to lower costs, increase productivity and scale their telecommunications infrastructure as they grow, according to VoIP Supply.
www.voipsupply.com

Announcing the First-Ever WiMAX Distinction Award Winners

Defined by the IEEE (News - Alert), the 802.16e standard for WiMAX (Worldwide Interoperability for Microwave Access), was developed to provide a common framework for wireless connectivity in fixed, portable, and mobile environments. Simply stated, WiMAX is a scalable wireless access technology designed to provide high throughput over long distances.

Internet Telephony® magazine is proud to present TMC's first-ever WiMAX Distinction Award, designed to honor those companies who are developing and designing the next generation of products and solutions that will define the WiMAX space for years to come. The winners were chosen by a panel of TMC's print and Web editorial team. Applicants submitted a formal application for consideration.

They companies that received this honor represent a broad cross-section of the industry, from equipment manufacturers, to testing companies to device manufacturers to vendors offering provisioning and policy shaping services. IT

Internet Telephony® magazine congratulates the winners.

– The Editors

Aperto Networks	PacketMAX 4000	*www.apertonet.com*
Bridgewater Systems	Over-The-Air Device and User Provisioning for WiMAX	*www.bridgewatersystems.com*
Fujitsu Network Communciations	BroadOne WX300 macrocell base station	*www.us.fujitsu.com/telecom*
Motive, Inc.	Motive WiMax Service Management Solution	*www.motive.com*
Motorola	Motorola wi4 WiMAX CPEi 750 Desktop CPE	*www.motorola.com*
OPNET Technologies	OPNET WiMAX Network Simulation Solution	*www.opnet.com*
Powerwave Technologies, Inc.	Universal WiMAX Digital Radio Head	*www.powerwave.com*
Proxim Wireless	Proxim MeshMAX 5054	*www.proxim.com*
Redback Networks	SmartEdge 1200	*www.redback.com*
Redline Communications	Redline RMS	*www.redlinecommunications.com*
Sandvine Inc.	Sandvine Policy Traffic Switch (PTS)	*www.sandvine.com*
SOMA Networks	SOMA Network's FlexMAX Mobile WiMAX System	*www.somanetworks.com*
Spirent Communication	Spirent SR5500	*www.spirent.com*
Tektronix Communications	Tektronix G35 WiMAX	*www.tek.com*
Teradyne, Inc.	UltraWave RF Test Instrument	*www.teradyne.com*
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Enterprise Network Management: Seeing is Believing

By Richard "Zippy" Grigonis

Enterprise networks are far more complex than ever before — often an amalgam of LANs, MANs and WANs — so the term "enterprise network management" has also expanded in scope. It's really a combination of various sub-disciplines, such as configuration management, fault management (i.e. "troubleshooting"), telecom expense management, performance management and security management. Enterprise network management sits just below "systems management", which handles higher-level issues of applications and middleware management. Fortunately, there are a huge number of products out there to help you visualize and ultimately understand your network, not to mention troubleshoot it.

For many years enterprises relied on mainstay management packages that have stood the test of time: In particular, IBM's Tivoli and HP OpenView, a Hewlett Packard product family of network and systems management products, with optional add-ons from both HP and third parties. (Following HP's acquisition of Mercury Interactive in July of 2006, HP OpenView was rebranded under the name, HP Software.) As for IBM's Tivoli, it's still going strong, with an enormous, dizzying array of management capabilities.

Nortel's appropriately-named Enterprise Network Management System (ENMS) enables network administrators to identify and resolve problems and performance bottlenecks before they affect such network services as multicast video and IP telephony. Nortel says that whereas multiple competing systems are necessary to manage a network, Nortel's single system can handle both wired and wireless, voice and data converged networks.

Nortel's ENMS can provide a traditional "data-centric view" of a network, a global view of both the network and status of devices on the network. The data-centric view is normally the first point of contact where issues are identified, and acts as a launch point for more detailed views. The data centric view supports all Nortel's products (domain management) and can be used without the VoIP and converged views for customers who do not have a converged network. This data centric view provides common launch points for other Nortel applications to integrate with ENMS.

The administrator can then move on to a "VoIP view", which provides a view of the network from a VoIP system perspective. The status of network devices, as well as the VoIP system components and IP Phones, is maintained and carried through to the VoIP view, providing a quick way of identifying device issues. Using the VoIP view, you can see the VoIP system components (call servers, signaling servers, gateways) and the system-associated IP Phones. This view does not include the data infrastructure, so it allows the network operator to quickly distinguish between a VoIP system issue and/or a device or data infrastructure issue — the VoIP view provides a Logical View of the VoIP network or the Service View.

The ENMS "Converged view" mode provides an end-to-end view of the converged network. This view — also called the physical view — includes the VoIP system components, IP Phones, the data infrastructure (switches, routers, subnets), as well as the physical connectivity between the devices. As with the VoIP view, the status monitoring of devices continues to the converged view of the network.

Thus, you now have a complete view of the converged network and the interconnectivity associated with the devices. For example, status alarm devices in error can be quickly identified and the error's impact determined, such as a router's failure and how this would affect the VoIP calls within a given subnet.

The ENMS Campus Edition supports up to 500 managed IP interfaces, the Enterprise Edition supports up to 5,000 managed IP interfaces, and the "enterprise upgrade" — Enterprise Upgrade: Enterprise Edition can support up to 10,000 managed IP interfaces.

I Can See It Now

The "visualization" of a network has become increasingly important in all of these products. One tool, IPsonar by Lumeta, is favored by U.S. federal government agencies such as the Federal Aviation Administration (FAA), U.S. intelligence agencies and the Department of Energy, as well as 15 of the 25 largest banks, five of the 10 largest pharmaceutical companies and three of the largest energy companies in the world.

IPsonar is a network assurance solution that scans the network to collect all data related to network topology, address space, leaks and device fingerprints. IPsonar maps every asset on a network (including assets not currently under management) visualizes the connectivity between assets and networks to uncover risk patterns and policy weaknesses, and enables network and security teams to bring unknown assets under management while deploying security technology more effectively to

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mitigate risk. Network and security managers and executives can accurately visualize what's on the network, drilling down to analyze potential areas of risk and identify appropriate corrective actions.

Of course, some giant global enterprises may take on some of the characteristics of a service provider, particularly if they find themselves having to distribute something like high-definition video on a large scale to employees, partners or customers. In such cases they might want to look at a more service provider-type of bandwidth management technology, such as Sycamore Network's SILVX network management and SN 9000 Intelligent Multiservice Switch.

In most cases, larger enterprises will be more concerned with managing thousands of IP phones and IP PBXs. Nectar (News - Alert) Services Corp., an IP communications and management services provider and wholly-owned subsidiary of Juma Technology, recently debuted its Enterprise Session Management platform (ESM), which can take hundreds or even thousands of disparate hybrid and IP PBXs found in large multi-location enterprises (based on SIP or H.323), and bring them together into a unified enterprise telephony platform having intelligent call routing, advanced business continuity features and considerable carrier-service cost reductions thanks to "On-Net" calling over the corporate WAN. Its carrier-class routing and session management functionality is controlled via a simple, intuitive web-based application, which yields global visibility and management of all voice traffic from the Nectar web portal.

Nectar has also unveiled the Nectar Converged Management Platform (Nectar/CMP), which provides a unified view of the systems that support business applications and processes and unifies separate management disciplines spanning voice, data, security, and applications. The Nextar/CMP is tailored and maintained for each client to provide visibility of overall system health, accelerate fault isolation and lower Mean-Time-To-Repair (MTTR). The platform has a dashboard interface and a business process correlation system, 24/7 remote monitoring and alarming, release upgrades, patch management, application topology, event integration, fault isolation analysis services and help desk support.

Finding Fault

Aside from getting a visual conception of a network and its components, most administrators are looking for help in troubleshooting things that go wrong on their ever-growing, nearly bewilderingly-complex networks, especially where their voice and/or video packet traffic must make a detour through the outside world.

Many enterprises are implementing proactive network support strategies. According to a recent survey by the Service and Support Professionals Association (SSPA), the largest and most influential association for technology services and support professionals, 42 percent of respondents said their biggest push in 2008 will be proactive support, followed by online communities with 25 percent, and knowledgebases and multi-channel service with 17 percent each.

NextNine's Virtual Support Engineer was recently honored as a Spring 2008 "Recognized Innovator" finalist by the SSPA. NextNine's product enables services organizations to more quickly identify the true failing component at the heart of one or a series of support incidents so a fix or workaround can be crafted. NextNine Service Automation software, thanks to its proactive, preventive abilities, enables organizations to improve the level of support they provide. The Virtual Support Engineer, a key component of the NextNine Service Automation platform, continuously monitors systems, and proactively detects problem symptoms before they cause service disruptions or downtime, thus allowing support engineers to virtually "be there" 24x7.

Clever: Power-over-Ethernet

Everything from phones to security cameras, tilt and zoom (PTZ) CCTV cameras, RFID and access control systems, WiFi Access Points (APs), WiMAX access equipment, thin clients and even door lock controllers are increasingly becoming IP-based. To accommodate these devices, your LAN may expand into hard-to-wire areas where electrical power is not readily available, or the number of devices may simply increase to the point where there are too few electrical outlets.

Fortunately an increasing number of IP devices can support Power-over-Ethernet (PoE) or "Active Ethernet" wherein DC power is sent along with LAN signals over certain types of Ethernet cabling. This is a particularly attractive solution for Historic buildings and structures sealed because of asbestos.

In 2006, semiconductor maker Microsemi Corporation acquired PoE equipment vendor PowerDsine, which patented PoE and helped draft the 803.2af standard for the technology. Their new 7000 series of HiPoE Midspan switches delivers up to 30 watts of power, double what previous 802.3af-based systems were capable of. PowerDsine has released four models of its new Midspan switches — one port, four, 16 and 24-port versions. Microsemi Vitesse Semiconductor Corporation, a provider of advanced IC solutions for carrier and enterprise Ethernet networks, also recently announced their first joint reference design for power Gigabit Ethernet switches compatible with the new higher-power IEEE802.3at-draft3.0 Power-over-Ethernet standard.

The reference design, based on Microsemi's PD69012 chipset and Vitesse's VSC74xx family of Gigabit Ethernet switches, allows Ethernet OEM/ODM equipment suppliers to use the same printed circuit board to provide both 24-port PoE and non-PoE versions of a Gigabit Ethernet switch platform. The joint reference design supports 30 watts per port, per IEEE802.3at-draft3.0, and is capable of driving up to 36 watts per port. Furthermore, Microsemi's Dynamic Power Management technology allows customers to use small power supplies for switches that must power both high power and low power devices, a typical situation in enterprise applications involving both VoIP phones and 802.11n WLAN access points.

Microsemi's Yuval Barnea, Vice President of Systems Business, says, "Our design is a cost-effective way to upgrade a network to support Power-over-Ethernet. We can handle from one to 48 ports and up to a Gigabit per second in bandwidth. We were the first to announce pre-802.3at equipment. IT directors want to treat our devices like any other device on the network. PowerDsine came to us with their PowerView Pro, the latest generation of a secure, web-based SNMPv3-based management application, that supports efficient monitoring and control of network devices. PowerView Pro can do remote power-off/power-on, unit scheduling, UPS power monitoring and web-based monitoring. You can use it at home, in the office, at a remote location, or wherever you like. Of course, it's the real-time reporting of system status and alerts to the IT manager that is particularly attractive, which is done by

SNMP traps that can trigger SMS or even emails to the manager. It also enables him to enable, configure and monitor a series of our Midspans in real-time using a graphical interface. It can activate or deactivate Midspan ports on a daily or weekly schedule for security purposes. It can even recycle power to remote faulty devices, such as an AP in an airport or a wide campus installation. This saves both time and costs."

So, ironically, with all the talk about grandiose high-level enterprise management systems, ingenious low-level "nitty-gritty" items on the network such as PoE are often just as useful, particularly among Small and Medium Sized Businesses (SMBs).

For example, SEH Technology, the printing and network computing specialist, recently introduced their PS06 Ethernet network interface card to its print server portfolio for HP output devices with EIO ports. This new PS06 Ethernet print server supports printing via either IPv4 or IPv6 in Ethernet networks (including socket, LPR, and IPP printing) and includes high level security features such as several IEEE 802.1x standard authentication methods and print data encryption during transmission. Compared to its predecessor, SEH's IC106-FAST-(News - Alert) HP-TX interface card, the PS06 considerably speeds up printing via HTTPs encryption. The multiprotocol print server works with all common operating systems, including Windows, Linux, UNIX, Apple, and Novell. The latest ThinPrint print client provides for bandwidth-optimized network printing and ThinPrint SSL decoding. All for a mere US$209.99.

To sum up, you can now view your network pretty from any perspective you desire. Indeed, there are whole families of enterprise network management products out there that can help you securely view, troubleshoot and otherwise manage the "sandbox" where your business-critical applications and data play. IT

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

The following companies were mentioned in this article:

HP Technology Solutions Group
www.hp.com

IBM Tivoli Software
www.ibm.com/tivoli

Lumeta
www.lumeta.com

Microsemi
www.microsemi.com

Nectar
www.nectarcorp.com

NextNine
www.nextnine.com

Nortel
www.nortel.com

SEH Technology
www.seh.de/english/index.htm

Sycamore Networks
www.sycamorenet.com

Innovative Ideas from the "Fixed-Mobile Convergence" Experts

M5T Aims for a Common Fixed-Mobile Convergence Vision

by Richard "Zippy" Grigonis

Samuel Guénette is the General Manager of M5T (www.m5t.com), the sister company of Mediatrix. He is responsible for the company's operations direction and activities, and recently he sat down with Yours Truly to discuss the direction of the Fixed-Mobile Convergence (News - Alert) (FMC) market today.

RG: Do you see the FMC marketplace changing?

SG: The dream of using one telephone with one number whether you are at home, at work, or in another country makes a lot of business sense to a world that is becoming more and more mobile. Numerous studies over the last year have emerged praising FMC as an ideal productivity tool for businesses of all sizes. The FMC market is growing slowly and steadily but we at M5T can see it exploding over the next few years as it becomes more the norm rather than the exception. It is altogether feasible that smart phones PDAs and other mobile devices will one day likely replace desk phones for most office workers.

RG: For the average business or business user, how can FMC benefit them?

SG: FMC makes mobility far more affordable for the majority of employers, not only for workers on the road but also those in offices. We have equipped most of our team with smart phones and have seen a definite increase in not only productivity but we have also seen a cost-saving benefit for roaming and other long distance fees. I no longer have to worry about contacting any of my team, I can simply dial their extension and it will not make a difference if they are in the office or half-way around the world.

RG: M5T recently introduced the M5T MC Client. Tell me a little about it.

SG: The M5T MC Client is a Fixed-to-Mobile Convergence application which enables reliable and secure seamless service, wherever the user is and whatever the access mode he's using (Cellular or WLAN).

The M5T MC Client has been designed for Enterprises, Internet Telephony Service Providers (ITSPs), Mobile Virtual Network Operators (MVNOs), and Cable Operators wanting to offer differentiating services and features. Additionally, the MC Client provides IP-PBX and softswitch vendors the opportunity to provide a single number FMC solution, which enables their users to effectively access all of their current IP-PBX features on their mobile phone from anywhere in the world. We designed a unique tab and icon-driven interface that enables even the most novice user to navigate quickly to any needed feature.

One of the great advantages of the MC Client is that it can be configured to intelligently detect and connect to wireless networks; it will also allow the user to create a list of preferred wireless networks. The M5T MC Client can also switch automatically from 3G to WiFi and back again, this allows seamless voice communications, handing off calls between networks as required.

RG: M5T is principally known as a leader in SIP-based technologies. What made you decide to develop an FMC Client?

SG: As a company, M5T has seen tremendous growth over that last 5 years and we are now in a position where we can build upon our core strength as a SIP-based developer. We like to view the M5T MC Client really as a natural extension of our core SIP-based technologies. The MC Client has enabled us to take the next logical step from creating strictly the SIP-based components for telecommunications to branching out and developing specific applications that deliver agile functionalities with comprehensive security controls to safeguard communications.

RG: We hear that M5T is one of the driving forces behind a new initiative for developers of Fixed-Mobile Convergence solutions. I want to go into more detail with you next month about this but can you give us a little insight about the group?

SG: We recently have teamed up with several key partners to create the *FMC Connection (FMCC)*. The FMC Connection is a collaboration of industry-leading technology companies that share a common vision of delivering Fixed Mobile Convergence solutions, products and services to the fast growing FMC marketplace.

The FMC Connection is focused on promoting, developing, and marketing solutions that will allow the rapid deployment of FMC into current and next generation business services. We are also looking to inform not only the people in our industry about the FMC revolution but also the public at large.

RG: More information about the FMC Connection will appear in the August issue of *Internet Telephony (News - Alert) Magazine*.

For more information about the M5T MC Client go to www.m5t.com or info@m5t.com. IT

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Agenda-At-A-Glance

Day One: Tuesday – September 16, 2008

	IPTV Workshop for Carriers	TMC University: Microsoft OCS	TMC University: FMC/Mobility	TMC University: Open Source	Call Center 2.0 at ITEXPO	TMC University: SIP in the Contact Center
	Conference fee required	*Conference fee required*	*Conference fee required*	*Conference fee required*	*Conference fee required*	*Conference fee required*
8:30 - 9:00	Continental Breakfast - Paid Attendees Only					
9:00 - 9:45	How to Implement IPTV Networks	Intro	Overcoming FMC Challenges	Advantages of Open Source VoIP	Adding Intelligence to the Next-Generation Contact Center	Welcome to the Contact Center of the Future
10:00 - 10:45	Overcoming IPTV Challenges	OCS-PBX Interoperability	Addressing Femtocell Integration Challenges	Opportunities in Deploying Open Source Applications	Contact Centers: Results from the Labs	Adoption of IP in the Next-Generation Contact Center
11:00 - 11:45	Measuring Quality of Experience for Successful IPTV Deployments	OCS Servers	Messaging and Mobile UC	Understanding Open Source Standards	Trends in IP Contact Center Deployment	Technology Considerations for Contact Ctr Evolution
11:45	Conference Luncheon - Paid Attendees Only					
12:45 - 1:30	What Will it Take to Deploy IPTV?	Call Flow Scenarios	E-911 Considerations	Using Open Source to Roll Out Next-Gen Applications	Contact Center Security Strategies	Top 10 Reasons to Consider Hosted Call Centers
1:45 - 2:30	The Progression of Streaming Video	Configuration & Planning	Cost Containment as a Driver for FMC Deployment	Recognizing the Opportunities in the SMB Market	Embracing Unified Communications in the Contact Center	Make Your Contact Center Smarter: Best Practices
2:45 - 3:30	TMC University Exam	TMC University Exam	TMC University Exam	TMC University Exam	Planning Ahead for Optimal Contact Center Deployment	TMC University Exam
3:30 - 5:00	FREE Keynote Session					
5:00 - 6:00	FREE Networking Reception					

Day Two: Wednesday – September 17, 2008

	Service Provider Solutions	Unified Communications	Hosted Communications Workshop	TMC University: IP Network Security	Call Center 2.0 at ITEXPO	TMC University: SaaS
	Conference fee required	*Conference fee required*	*Conference fee required*	*Conference fee required*	*Conference fee required*	*Conference fee required*
8:30	Continental Breakfast - Paid Attendees Only					
9:00 - 9:45	Quality of Service Considerations	Deploying UC	Welcome to Hosted VoIP	VoIP Security Myths & Realities	Position Your Contact Center in a Web 2.0 World	Software-as-a-Service: The Basics
10:00 - 10:45	The Continuing Evolution: From TDM to SIP	Network Management & QoS	Deploying Hosted VoIP	Best Practices in VoIP Security	Understanding Your Customers	Using Hosted Speech Solutions in the Call Center
11:00 - 11:45	Applications as a Competitive Differentiator	Exploring Mobility in Unified Communications	Delivering on the Promise of Hosted VoIP	Security Considerations for the Enterprise	Benefits of VoIP Enabled Recording	CRM Software as a Service
11:45	Conference Luncheon - Paid Attendees Only					
12:45 - 1:30	Service Creation Considerations	UC for the SMB	Open Source Options for Hosted Voice	Deploying Secure Wireless VoIP	IP Contact Center Shootout	SaaS and the Home Agent Model
1:45 - 2:30	Imagining Tomorrow's Wireless Landscape	UC Round Table: The Future of the Industry	Session TBD	TMC University Exam		TMC University Exam
2:30 - 4:00	FREE Keynote Session					
4:00 - 8:00	**Exhibit Hall Grand Opening Reception**					

Paving the Way to Next Generation Media and Signaling VoIP Gateways

By James Rafferty

The rapid adoption of Session Initiation Protocol (SIP) and the distribution of network elements are moving VoIP to a new distributed model. SIP has won the standards battle for the IP side of VoIP networks, but the existing Public Switched Telephone Network (PSTN) makes substantial use of circuit-switched signaling technologies. This is driving the need for cost-effective solutions that can help operators to leverage their existing investments in circuit-based technology, but still offer a migration path to future SIP-based services.

Media gateways will be key components of such transition strategies, but operators will have several choices on how to best meet these needs. There are several factors for evaluating how media gateways can support this new model which can impact the success of service providers' and OEMs' applications and services.

VoIP Networks: Architectural Shift

VoIP networks are experiencing explosive growth around the globe. According to an analyst at Dell'Oro Group, "IP Telephony Carrier market revenues are forecasted to grow from $1.6 billion in 2004 to $4.7 billion in 2010" [Dell'Oro]. As these VoIP networks grow and mature, characteristic changes in the architecture and products are revealed.

First generation VoIP networks consisted of islands of transport connected via TDM cross connects. These networks traditionally used ISDN (Integrated Service Digital Network) for TDM connectivity and H.323 for VoIP signaling and generally used a large Class 4 TDM switch for routing and billing calls. In actuality, the VoIP gateways in such networks were used for long haul transport and the enhanced services were handled in traditional TDM-based platforms. SS7 connectivity was also made available through connectivity to existing Class 4 TDM switches.

The Introduction of SIP

With the introduction of SIP, architectures have moved from a strict hierarchical model to a distributed design. These new network elements include media servers for media processing, proxy servers for call control, and application servers for enhanced services. These enhanced features mean that media processing and session control occur in the IP domain, which can result in more network efficiency and the ability to reconfigure capacity on the fly. Additional services can be added in the IP domain through upgrades or additional application servers.

How Can Today's Media Gateway Support the New Model?

Both service providers and OEMs need VoIP media gateways that evolve as quickly as network requirements do, but VoIP

gateway solutions have until now been cumbersome to deploy and upgrade. First generation VoIP networks that used IP simply for transport are still handling enhanced services within the TDM domain. But in the new model, messaging, prepaid, fax, and other enhanced services can be handled in the IP domain. When evaluating media gateways for this new model, service providers and OEMs can consider several factors, such as SS7 interconnectivity, IP peering and fax support, which can impact the performance of their applications and services.

SS7 Interconnectivity

Traditionally, it was the role of a TDM-based Class 4 switch to provide access to SS7 networks from IP-based networks. SS7 signaling links would come directly into the Class 4 switch and be converted to other signaling approaches, such as ISDN or tonal-based for connectivity to the typical media gateway. This approach puts geographic limitations on the reach of the SS7 network and requires costly SS7 point codes in each physical location. When evaluating media gateways, service providers may consider not only whether the gateways will be able to integrate SIP and H.323 signaling, but also that they can address ISDN and SS7 connectivity.

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Using integrated SS7, next-generation carriers can extend their networks into emerging markets and connect to the operators that require SS7 connectivity. A media gateway combined with an SS7 signaling server can control geographically distributed SS7 voice circuits from a single point code. This can make the network easier to manage as well as reduce costs for SS7 network connectivity.

IP Peering

With next-generation service providers moving to an all IP-based ecosystem, concerns about security, access control, and compatibility can arise. Session Border Controllers (SBCs) have emerged as a common solution for access control issues in these next-generation networks. SBCs can handle security, manage network address translations, and translate VoIP signaling between two incompatible networks. One area where they are often limited, however, is in translating incompatible RTP packet streams of media such as voice or fax. Traditionally, SBCs cannot convert or transcode media streams.

As VoIP evolves, connectivity between different signaling protocols, conversion between voice compression protocols and peering between IP networks are poised to be the next great challenges in network design...

The optimal media gateway evolves as the network evolves...

What service providers need is a media gateway that can work in concert with an SBC and convert IP-based media streams. Support for G.711, G.723, G.729, iLBC and AMR voice coders allows for convergence of wireless and wireline networks and new standards such as Telephone Number Mapping (ENUM) take IP peering to the next level. ENUM defines a mapping between telephone numbers and various IP address types, including SIP addresses. With ENUM, native SIP users, even at different VoIP service providers, can call each other directly without ever involving a PSTN service. This can result in faster connection times and lower phone charges. Media gateways that support ENUM map call routing information directly to SIP.

Fax

With an estimated 200 million fax machines generating over 100 billion fax pages around the world [Davidson], fax technology is still a critical business communications tool. Fax is a standard method of transmitting an electronic copy of an original document and is at the heart of a wide range of document exchange processes in important functional areas such as finance, legal, human resources, and procurement.

It is important that a media gateway support T.30 on the TDM side as well as T.38 and G.711 pass through on the IP side. Considerable amounts of network traffic are fax-based and thus, for the utmost compatibility, these protocols must be supported.

Choosing the Right Media Gateway

As VoIP evolves, connectivity between different signaling protocols, conversion between voice compression protocols and peering between IP networks are poised to be the next great challenges in network design.

The optimal media gateway evolves as the network evolves. Integrated media and signaling support for ISDN, CAS, and SS7 provides an affordable way to help increase a service provider's network presence in existing and emerging markets. With the advent of wireline and wireless convergence in the IP Multimedia Subsystem (IMS) architecture, support for popular voice compression protocols like G.711, G.723, and G.729 along with AMR and iLBC will ensure compatibility.

IMS has been touted as a likely reference architecture for an evolution to IP-oriented enhanced services. The formal components of this architecture tend to distribute media gateway control, signaling translation and media translation into separate components. However, many carriers are finding that combining these components into an integrated media gateway offers a practical solution for meeting today's telecommunications needs, while reducing both capital and operating expenses.

The close coordination of signaling between the IP and circuit network domains offers both backward compatibility with the installed SS7 infrastructure and a way to map SS7 and other circuit protocols to the SIP protocol at a detailed level. Thus, the integrated media gateway is an effective solution for today's pre-IMS networks and offers a market-proven approach for bringing the media and signaling gateway components together for a variety of future IMS implementations. IT

James Rafferty is Product Line Director at Dialogic Corporation (www.dialogic.com).

References

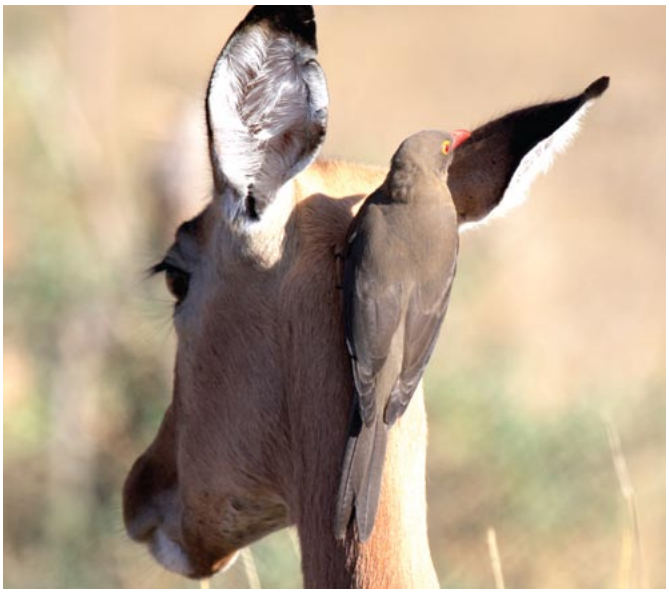
[Davidson] *Computer-Based Fax Markets, 2005-2010*, Market Research Report, Davidson Consulting, 2005,http://www.davidsonconsulting.biz/services.html.

[Dell'Oro] *IP Telephony Carrier Market Growth Fueled by Subscriber Access Solutions: Multimedia Services to Follow Voiceover-Broadband,* Dell'Oro Group, February 7, 2006, http://www.delloro.com/news/2006/IPTelCar020706.htm.

Inseparable: Presence and Unified Communications

By Richard "Zippy" Grigonis

Unified Communications without presence is just unified messaging with mobility. Presence can determine if a person at any moment can be contacted and how. In contact centers, presence makes first-call resolution a reality, enabling a company expert to be found immediately who can help close a sales call or resolve a customer service inquiry. Presence saves time and increases productivity by enabling users to communicate more efficiently across the entire organization. In the most advanced systems, presence tells you where people are, what meeting they're attending and when they'll be back at their desks. This kind of presence status information now available changes everything, making phone tag and "voicemail jail" a distant memory.



Those who pooh-pooh unified communications say that, in many cases, UC complicates things more often than not, and doesn't live up to its hype. Such naysayers should take a look at Zeacom (News - Alert), which has worked with contact centers and enterprises for years, providing cost-effective UC solutions that make high-end functions, such as rich presence, mobility and Microsoft Outlook integration, accessible to small and medium-sized organizations, not must big ones.

Rich presence is an integral component to Zeacom Communications Center 5.0; it gives you a complete view of your organization by providing real-time information on the whereabouts and availability of staff regardless of their location. For example, "Presence Pages" allow users to view the status of all other users within the organization. These Presence Pages allow users to access Global, Personal and Microsoft Outlook Contacts buttons for one-touch and speed-dialing. Users enable presence so that when they are in the office, their availability is recognized and displayed ("At my Desk", "Away from my Desk") for all Desktop and Console users across the network. A user is seen to be available if they use their mouse, keyboard or telephone. After 10 minutes (or a configurable period) of inactivity, the user is considered to be away. Moreover, desktop and console users can request return notification for any presence user. This activates a screen pop to notify the user when the person they wish to speak to becomes available.

If a user's current Profile is 'forwarded' (i.e., the user's phone is diverted to voice messaging) and their presence is detected, the desktop module pops a reminder to the user so they can update their Profile (e.g. change it to "In the Office" so that they can receive calls at their desk). Presence users can also choose to display the subject of their active Microsoft Outlook appointment for other users to view. This is particularly useful for keeping operators and receptionists informed of staff whereabouts and availability.

One of the first companies to make major R&D efforts in both UC and presence was Avaya. Avaya recently unveiled new distributed UC solutions that support both remote workers and branch offices. Avaya says their new video-capable Unified Communications (News - Alert) for Teleworkers solution costs less than 15 cents per day per employee (when costs are spread over a three-year period).

Avaya is also now introducing the Avaya one-X Communicator and Avaya Intelligent Presence Server. Avaya one-X Communicator combines telephony functions, desktop video, visual voicemail, presence, email, IM, conference bridge integration, directories, and contact history into one desktop client software package that supports both SIP (Session Initiation Protocol) and H.323.

As for the Avaya Intelligent Presence Server, it can aggregate presence information from not only Avaya systems but Microsoft's and IBM's too (it integrates with Microsoft Office Communicator and Exchange, and IBM Lotus Sametime). It supports SIP/SMPLE and XMPP.

Since presence is the adhesive of unified communications, it makes sense to talk to a UC provider such as Dialcom, which offers its Spontania, a real-time, enterprise-grade, premise-based collaboration platform that seamlessly extends IM, voice, video and data in real-time to any user, over any device or network, regardless of geographic location.

Dialcom's President, Bob Johnson, says, "Spontania facilitates the execution by any user of any number of communication modalities so he or she can collaborate with one or many people directly from the workplace, specifically the PC or an end-device such as a smartphone or a PDA. Spontania can deal with VoIP, so people can talk with each other; it essentially operates as a phone bridge, if you will, directly off the PC. It supports video so you can share video. You can share and transfer files. You can act on a common file, do a whiteboard, and so forth. This is all tied into a presence engine that has its own chat capability too."

"In a sense," Johnson continues, "the nature of the software resembles a middleware-enabler of a number of means of communication that may exist in an organization and can be amplified through this, and if they don't exist it actually provides some of those to the organization. We don't have a 'switchboard' but we do work with switches, if you will, and we can pipe collaboration through standard switches. We've had a number of business

process integrations where we installed this capability and we were able to tie it into an actual business application serving a contact center or some other ERP capability, and via our tool, people can communicate much easier than before, as well as more rapidly and more broadly."

"Instant messaging I think has been slow to be adopted in business, but is gaining ground because of the demographics that are shifting to young people, who have grown up with things such as cell phones in their ears, as well as social networks and chats", says Johnson. "Those people when in the workplace want to know what this technology can do for them, and how they can socialize and work with other people."

"What's key is, when you tie all of this into a business process, you have to ask yourself how you can get real contextual presence based on subject matter or a particular procedure within a business process in which you may be engaged," says Johnson. "Who are the subject matter experts, and so forth, and how do you go from a general presence engine to something that may be very specific awareness, and how do you bring that in so that you can have a really effective way of communicating without having to look people up somewhere and figure out how to communicate with them? And I think context presence will be one of the exciting things in the future that starts to tie all of this together in a very elegant way, but I also think it's a long way away. There are too many 'moveable parts' right now for most people to deal with. But when it actually comes into being, it will be great, but we don't have an answer for an ultimate presence system yet."

"Another key thing is the whole business of unified communications and collaboration," says Johnson. "There are many ways to approach and define these ideas, but there are so many 'moving parts' to UC that I think most businesses are overwhelmed at the thought of it and don't know how to start adopting it let alone know what they can gain from it. There are so many players in UC and collaboration that come at it from different angles, and yet they all make the same claims, including us, really. But what we've been able to do as a company is to say, 'Look, we don't have every piece that you need, but we have a way to talk to most of those pieces and we have a way to unify some of those within your organization so that you can actually use them effectively, at least in certain contexts'. It's the 'crawl-walk-run' scenario, and we're all now somewhere in the middle of that evolution, so businesses can start to experience what can happen as this technology starts to expand and evolve. What we offer is almost like a 'starter kit' so companies can get a head start on being able to adopt the capabilities and achieve gains from this mysterious thing called unified communications and collaboration."

Tighter Integration with Business Processes

Logicalis is an international provider of high-performance IT integration solutions – delivering secure, converged computing and communications infrastructure and services.

Ron Temske, Vice President of Cisco Solutions at Logicalis, says, "We work within the UC space, primarily with Cisco, so most of my statements will be somewhat specific to their products. We've done quite a bit with presence. With most of our customers, presence is primarily a simple 'Are you on the phone and at your desk?' kind of tool today. Customers are still in their early phases with this, but they're intrigued by it. Obviously, we haven't fully explored all of the capabilities and possibilities of UC and presence. It's very much in its infancy. In related areas, you're seeing the integration between instant messaging voicemail, email, collaboration, and its becoming more seamless to, say, stop IMing each other and click-to-call each other, and things like that."

"Presence becomes more interesting when it can incorporate many sources of data into determining presence status, because then it becomes more useful," says Temske. "It can also become a bit scary. We've heard customers say it would be great if they could extend presence from their wireless carriers back to their system such that if you're at your desk and you forgot to forward your calls, the system knows that your cell phone is in a car doing 55 miles per hour down the freeway, so it's either been stolen or you're not in your office. Our customers also ask us when they'll have carrier-federated presence."

"We've seen not just a lot of integration among what I call UC applications but also tighter integration with line-of-business applications," says Temske. "The call center was the first wave of that, with very simple screen pops and the ability to transfer information. But now people want their whole CRM system integrated. An account manager may want click-to-call out of Siebel or even just Act. We're seeing a greatly increased demand for that. Many new technologies go through this phase. When phones appeared that could run applications, you naturally saw a lot of people writing phone applications that had no real reason to be there. There were there because they could be, not because they should be. We've gone past that craze and people are asking how they can better leverage the combined capabilities, where the objective isn't just to run an application on my phone but to seamlessly share data and information from my business applications and whatever devices I may use."

Let's Get Together

NEC Unified Solutions helps companies unify their business communications through innovative software, applications, development tools, and services.

Paul Lopez, General Manager of Marketing and Services at NEC Unified Solutions, says, "Presence has existed for quite a while. We've had it in contact center products. A typical use case is when someone calls in and an agent needs to verify or see if some expert is available to take the call or conference someone in. Those basic features have been available for a while and only recently is presence now getting more prominence from an IP perspective, such as in IP telephony solutions. We see it has a foundational building block to get other benefits. Presence in and of itself is just a utility. It's not an end-all be-all. The real utility comes with what you construct on top of it."

"What we see now with presence is the ability to provide more robust communication capabilities at the desktop and at the end-user level, whether they're mobile or at a desktop," says Lopez. "So all of our products are presence-enabled, and all of our software that we've introduced is presence-enabled. That includes everything from our mobile client that runs in a variety of PDAs to our soft client that runs on the desktop, which we call our Unified Client, as well as products that are shrink-wrapped in a total solution for SMBs. For example, we've had a lot of success recently with a UC for business solution. It's a really nice comprehensive package that includes everything from a contact center, conferencing, unified messaging, unified communications, all in one shrink-wrapped box solution. For small businesses, it's been a real plus. They no longer have to worry about configuring Active Directory and presence and extensive management tools, like a larger enterprise would do."

Lopez continues, "When thinking about presence, you have to ask yourself, 'Do I really need to know the finite, granular presence of everybody in the enterprise?' For example, if you and I work at the same company and you take a business trip and you're out of the state or country, maybe I just need to know that you're out of the office. Do I need to know that you're in Japan and in a particular venue? Probably not. When you're designing your network and your solution, you need to consider the impact of presence in a network environment, and how many hits will be taken by an SQL server, Active Directory, and all the enterprise applications that are running to maintain and access the presence status database."

"At NEC we've included a little more enhanced presence capability *versus* some other solutions," says Lopez. "For example, we do have the ability to offer some additional layers of presence within our mobile or unified client. If you have a PDA device with our mobile client installed and you leave your workstation, taking your PDA with you, our system knows that you're not at your desk or laptop, but you're accessible by your PDA, and that has certain features and functions such as instant messaging or voice or whatever to allow communications. Single Number Reach is another great feature that has attracted many of our customers. It's quite useful. For example, in a health care environment, where a doctor was going to call back a patient to check on surgery, they're calling after hours, and they're on their cell phone. They don't necessarily want their cell phone number to appear on a Caller ID device at the patient's home, so through presence and our mobile client and gateway solution, what comes through when the call is made is actually an extension on the enterprise telephony system. We know the doctor's presence and he can set his status with his PDA, and there is a level of privacy that we can offer to that type of user."

Nortel's Wes Durow, Vice President, Global Enterprise Marketing and Strategy, says, "Until recently there was considerable investment in tools for discrete-productivity gains, tools such as email and cell phones, voicemail and unified messaging and business process applications, all built by Oracle and SAP (News - Alert) and others. They're all great individually, but we're now in an environment where it's almost like there's a cyber Kudzu around our corporations and their business processes, so today you're in a much different environment. After all, different studies indicate that 70 percent of our outgoing voice calls end up in a message box. Then consider the number of inboxes you have: a voicemail inbox, a cell phone inbox, and a personal email inbox. And you have to deal with middleware and HR solutions to okay somebody's raise, vacation or salary, and purchasing online solutions where you go in and approve somebody's purchase orders. Same thing with IT – who has remote access authorization capability? Who gets a PC and where is it moved? So, on average, you have about seven different kinds of inboxes that you're managing during the day. We're adding latency to the system, which we want to reduce. That's where we see the drive and the interest in the first phase of UC at the desktop level, and then the evolution of that into the middleware application level and business process application level."

"Fred Weber is an 800-person construction and materials supply company out of St. Louis, Missouri," says Durow. "They realized they had finite resources, it terms of labor and various raw materials, but they wanted to be able to interface with all of the materials suppliers to ensure that, when they're on-site, they don't want workers on-site getting paid for not doing any work. At the same time they don't want to have materials on-site with no workers there, because then they have to do things like run and get a second concrete truck because the first one is starting to harden. So their whole business case about why to move to UC purely had to do with resource optimization, enabling presence, and making sure they had the right people and the right job set at the right time with the right information to be effective. Weber's entire business case is built on this."

"Heathcare has also been highly active in this space," says Durow.

Security First

As more and more disparate devices and networks become "unified", security and policy decisions become extremely important for any company wanting to harness the abilities of UC and presence. Enterprises must be able to detect unauthorized VoIP system use, prevent service disruptions and eavesdropping, and monitor for new threats against the converged infrastructure, while at the same time ensuring reliability and quality of service.

For example, Enterasys Networks, a company heavily into network security, and whose convergence, connectivity and compliance solutions deliver business-oriented, policy-based visibility and control of individual user and application priority and security to businesses worldwide, recently announced that it was the first networking company to complete certification for ShoreTel's (News - Alert) Technology Partner Program. ShoreTel is a major provider of pure IP UC solutions. ShoreTel enables any-sized company to seamlessly integrate all of their voice, data and messaging with their business processes.

Rather than approaching VoIP security in a piecemeal, slapdash fashion, Enterasys recommends an intelligent, automated and integrated approach to enable and secure wired and wireless VoIP communications. The Enterasys Secure Open Convergence solution can sense and automatically respond to security threats against the IP telephony infrastructure, enforce network access control policies, and comply with regulations for monitoring and safety such as CALEA and E911 in the U.S. Advanced Enterasys Dragon security applications have the ability to detect specific threats against the voice infrastructure by using a strong set of VoIP attack signatures that include decoders for H.323, H.245, SIP and Media Gateway Control Protocol (MGCP). Once threats against voice services are detected, NetSight automated security management can locate the exact source of the threat and take appropriate action.

The Enterasys Matrix and SecureStack switches are network switching and routing devices which automatically discover, classify and prioritize ShoreTel UC systems and traffic. Embedded security, priority and bandwidth control is provided for every user, device and application while maintaining performance. The Enterasys open architecture interoperates with the existing infrastructure.

Like Two Peas in a Pod

Unified communications and presence are two inseparable items that will dominate the business world, and perhaps even your personal lifestyle. More efficient communications are good for everybody – unless they occur in wee hours of the morning, of course. IT

The following companies were mentioned in this article:

Avaya
www.avaya.com

Dialcom
www.dialcom.com

Enterasys Networks
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Logicalis
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Are You SIP Savvy?

By Richard "Zippy" Grigonis

The IETF's Session Initiation Protocol (SIP) started out innocuously enough, as an end-to-end application layer signaling protocol used to control real-time multimedia sessions (packet exchanges of voice, video, etc.) between participants across an IP network, operating independently of any of the underlying transport protocols (typically RTP, UDP and IP) and with no dependency on the type of session. SIP is now the most popular call control standard for VoIP in both wireline and wireless 3G networks, as defined by the Third Generation Partnership Projects (3GPP). SIP is the principal protocol in IMS (IP-based Multimedia Subsystem), the upcoming common service architecture for fixed-line and wireless networks.

Eric Winsborrow (News - Alert), Chief Marketing Officer at Sipera, says, "With our company's name, Sipera, we obviously believe this is the era of SIP. At a high level, we're seeing trends in enterprises and service providers in terms of trying to open up the network and extend capabilities beyond just plain old tip-and-ring and replacing Ma Bell-like traditional phone companies. We're really opening up this era of unified communications, be it in the enterprise or as advanced services and architectures in the service provider space. To do that, you need SIP. I worked at various companies on UC and VoIP technology in the 1990s and loved SIP when it first appeared, but for some reason we went with H.323 at Avaya and Cisco went with something else, and none of the non-SIP protocols gave us the flexibility that we wanted, quite frankly. So even back in the 1990s, we realized that SIP would eventually be used for next-gen services. Clearly, SIP is where it's at for what enterprises and service providers want to do in terms of services or just future communications capabilities."

"Experts and analysts track line usage, and SIP in 2008 will easily surpass even H.323 in number of lines deployed," says Winsborrow. "By next year there should be close to 70 million SIP lines actually deployed, and it won't be long – probably a year or two after that – when SIP overcomes all of the different protocols, at least enterprise-wide, for VoIP or these new UC services. So it took about 10 years, but SIP is now really becoming the dominant protocol. Even though SCCP has a large installed base, Cisco is moving toward SIP. Nortel is doing the same. Their CS2100, a high-end service provider box used in large Fortune 500 companies, is now SIP-enabled. Even their mainstream mid-level box, the CS1000, will be moved to SIP by the end of the year. Avaya is doing much the same thing. All major IP PBX vendors are standardizing on SIP. And Microsoft OCS, which by 2010 will be really disruptive in the VoIP space, is SIP-enabled."

Developing SIP-enabled products can be a challenge for some, though the protocol is actually less complex overall than its predecessor, H.323. For those willing to take the plunge, there are many hardware and software packages available.

Aculab Product Manager Ian Colville (News - Alert), says, "We have a SIP stack that works with our products such as our Host Media Processing-based product, which is Prosody S, or Prosody X, which is our media processing board. It's much like the way our SS7 stack or TDM-based protocols work with our board products."

Aculab's Prosody X also works with an extended SIP API called the "SIP Bridge" that coexists with the generic call control API. SIP Bridge gives you the same kind of third party call control that you experience with a TDM PBX having a sophisticated computer telephony integration. SIP Bridge can achieve this without a CTI (News - Alert) interface, or PBX for that matter. One result of this is that the Aculab SIP Bridge has become an inexpensive way to build complex IP contact center and IP PBX type products, with rich media and call control features, using APIs common across a range of IP and TDM protocols and formats. Moreover, SIP Bridge's IP calls enable many call control scenarios not possible with TDM trunking and protocols.

"We're not currently selling or licensing a SIP stack as a separate product," says Colville. "Nor do we do that with the SS7 stack. But our stacks stand in comparison to anything that you could get from a stack vendor with regards to what you would want to do with, say, a media processing board."

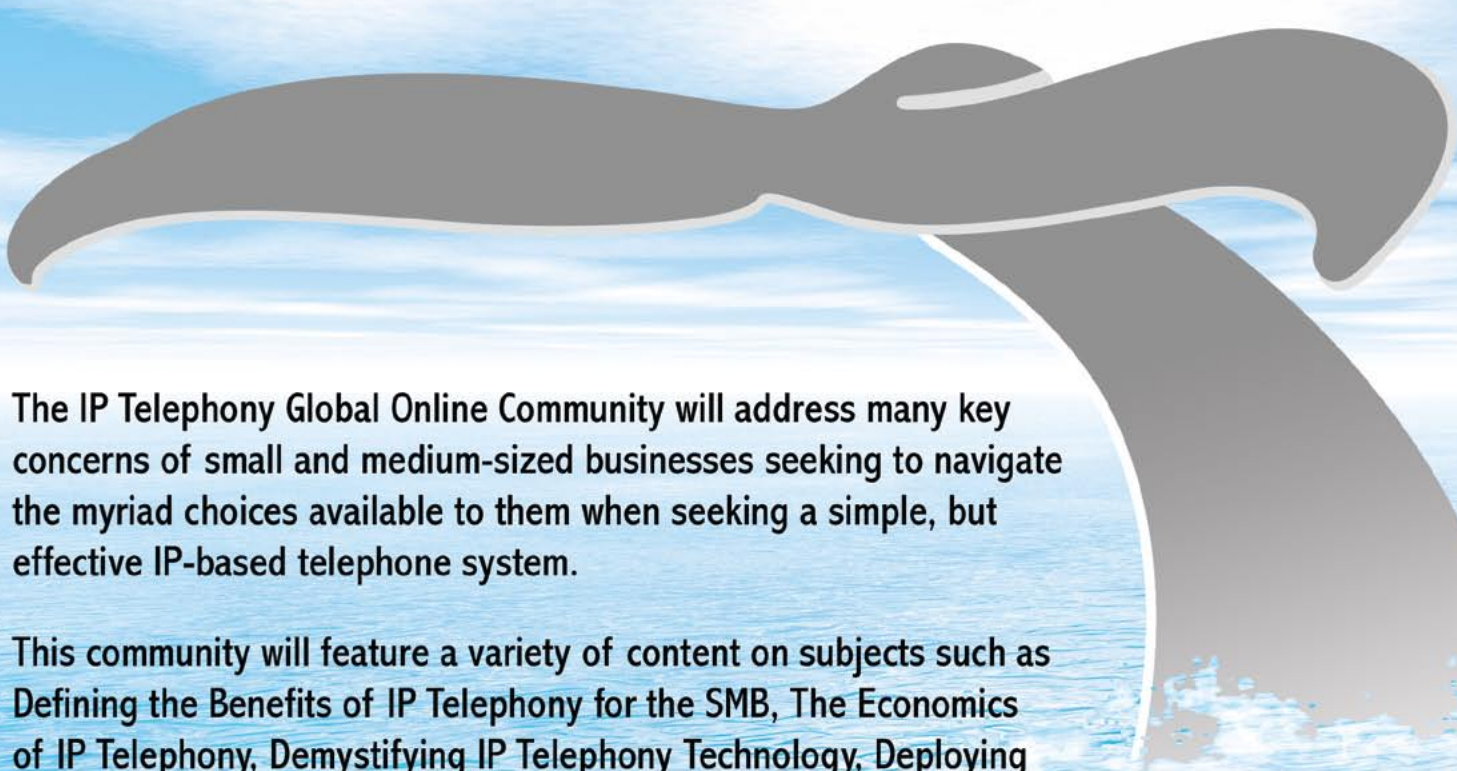
"We've been to the SIPit events, and we're members of the SIP Forum and SIP Center, and we've done work regarding interoperability, and our SIP stack performs very well in those tests," says Colville. "Our stack has been used by our customers in environments incorporating the Cisco Call Manager, for example, Avaya's Communications Manager, Siemens HiPath 4800 Series, and various gateways including those of Cisco and Audiocodes. We also work with a range of SIP servers and SIP phones, and so forth."

Developers Shouldn't Re-Invent the Wheel

As service providers enter the new era of IP communications, Tekelec (News - Alert) provides solutions that enable operators to offer new, revenue-generating multimedia services while leveraging their existing infrastructure and taking a stepped approach to all-IP networks.

Confused?

Join the IP Telephony Global Online Community to Find the Answers You Seek



The IP Telephony Global Online Community will address many key concerns of small and medium-sized businesses seeking to navigate the myriad choices available to them when seeking a simple, but effective IP-based telephone system.

This community will feature a variety of content on subjects such as Defining the Benefits of IP Telephony for the SMB, The Economics of IP Telephony, Demystifying IP Telephony Technology, Deploying Broadband Phone Solutions Designed for Small and Medium Businesses, Overcoming the Limitations of IP Centrex, What to Expect from a Managed Service Provider, and a thorough analysis of feature-related benefits.

The community will also feature a wealth of information in the form of case studies and articles that are critical to the SMB decision maker seeking to deploy various applications such as multimedia conferencing; IP-based contact centers; electronic faxing; unified messaging; multi-site deployments; road warrior mobility; and much more...

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Ajay Deo, AVP of Engineering at Tekelec, says, "The approach we've taken is that we're leveraging as much open source technology as we can. In terms of core IMS development we are using an open source technology called the OpenSER SIP Server, and then we have developed the IMS extensions on top of that. In terms of applications such as presence, instant messaging, or any other application-level product we have, we also use another open source project called reSIProcate which has well-defined APIs and performance characteristics, and further it supports the latest features worked on by the IETF. [The reSIProcate project develops an object-oriented SIP stack written in C++ and intended to serve as the SIP reference implementation. Its design objective is to create a well-documented and easy-to-use SIP stack for use in phones, gateways, SIP proxies, back-to-back user agents as well as instant messaging and presence applications.] We use that for most of our app server and app development."

Tekelec's Principal Engineer, Adam Roche, says, "Because SIP is a feature-rich protocol, and because the protocol itself is somewhat complex, it's kind of daunting when you first approach it in terms of programming, because it looks like there's so much to do. From that perspective, the best thing to do is to start with a developed stack, as we've done. If you wrote a program that uses TCP, you wouldn't write your own TCP stack too, would you? You'd use an already-written stack. There's not a whole lot of sense in having a many SIP different stacks out there. If you just have a small handful of them that do what they do extremely well, then the application developers and go and use those without having to worry about the underlying protocols too much. One nice thing about the reSIProcate project is that it was started and is maintained by most of the core contributors to the SIP protocol standardization efforts in the IETF. In fact, it is where we tend to try out the new ideas that we are working on in the IETF to make sure that they're feasible and that they work the way that they're supposed to. So, from that perspective, it is pretty cutting edge in terms of the features that is supports."

"One you've got a SIP stack and software to work with, there are a number of protocol specific-features and questions that might arise," says Roche. "There's actually a very good resource by Henning Schulzrinne called the SIP Implementer's Mailing List. You can send off questions to it and you usually get pretty coherent answers. There are a number of people on that mailing list who are also involved in SIP standardization, so not only do the answers arrive quickly, but they're pretty accurate, too."

The Many Flavors of SIP Trunking

By Joel Maloff

For a service that was forecast by Gartner (News - Alert) last year to be part of a more than $2 billion market segment by 2011, SIP trunking remains one of those technical phrases used in vendor circles that is marched out with pride to prospective distributors and customers and received by the marketplace with bewilderment. SIP trunking — despite the name — can be a valuable service alternative for many enterprises, and we will do our best to dispel the confusion.

In a survey commissioned by my company earlier this year, we discovered that even so-called industry experts — analysts, reporters, and others — could not agree on a definition for SIP trunking, nor could they consistently identify the leaders in delivery of SIP trunking services. However, it is not hard to understand the confusion in the general marketplace. For example, a February 2008 Internet Engineering Task Force (IETF) draft document entitled "What is a Session Initiation Protocol (SIP) Trunk Anyway?" provided the following definition:

A SIP trunk is a virtual sip entity on a server constrained by a predefined set of polices and rules that determine how to process requests. (J. Rosenberg, 2008, http://tools.ietf.org/id/draft-rosenberg-sipping-siptrunk-00.txt)

No wonder there is confusion!

The same draft also describes SIP trunking in more mainstream circles as a service for enterprises that allows connection to the PSTN as a displacement for circuit-based connections, and as a replacement for costly leased lines connecting distributed telephone systems within an enterprise.

So let's cut through the mystery and confusion. SIP trunking, simply put, is a way for organizations to accomplish something that they already do, but for less money, with equal or better quality, and with greater functionality. It is also a way for enterprises that were too small and could not afford leased line services to achieve comparable benefits as the big boys but for much more attractive fees than previously. All of this is now achievable because of the underlying packet-switched technology of the Internet as opposed to circuit-switched architecture from the past. SIP is simply the framework that vendors and service providers have agreed to use to accomplish the completion of telephone calls and much more.

Another challenge is that SIP trunking providers differ from one another, and can roughly be grouped in the following three categories: SIP trunks via dedicated lines, SIP trunks in conjunction with hosted services, and pure SIP trunking providers.

The first group — SIP trunks via dedicated lines — includes all of those service providers that require a T-1, PRI, DSL, or other similar "circuit" for utilization of their services. Given that our definition earlier for SIP trunking was the elimination of dedicated circuits and their associated costs, this group seems to be a hybrid of past and present. The advantage offered by this group is that they can control the quality of the service from the enterprise into their network. When Internet telephony was in its infancy, this was beneficial to those organizations that could afford leased lines. Today, Internet telephony via SIP continues to achieve outstanding quality, bringing into question the value of a leased connection. Additionally, SIP trunk providers requiring a leased line for access are inherently limited in service delivery regions by the availability of such circuits. That is not the case for SIP trunk providers that can use any broadband connection to the enterprise.

The second group provides SIP trunks as an adjunct to the delivery of hosted IP PBX or other comparable services. SIP trunking is secondary. Whereas SIP trunks may be quite beneficial to organizations with legacy telephone systems, this group of providers is oftentimes most interested in displacing the existing system. Furthermore, these service providers may not be able to provide services in widely dispersed geographic areas due to the deployment and scalability of their systems.

The last group — pure SIP trunk providers — has created underlying network architectures that are focused on the delivery of SIP trunking. These organizations do not compete with premises equipment implementations or providers, do not require a dedicated circuit, generally cover a wide range of locations, and are focused on delivery of excellent quality and value.

SIP trunking may not be a great service name but it is, without question, a *great* service with significant benefits for many enterprises worldwide.

Joel Maloff serves as Vice President of Marketing for BandTel (www.bandtel.com), and is responsible for creation of the product and services roadmap, marketing documentation, and communications with customers, prospects, and the industry at large. A frequent speaker at industry conferences, he has authored four books and numerous articles on Internet, business applications for Internet, network security, and international Internet development. He has also served as advisor to former Senator Al Gore and Senator John Kyl on Internet-related issues.

SIP Trunking

Instead of having to deal with gateways from your IP phone system and network to the old circuit-switched PSTN, SIP trunking moves these gateways from your corporate premises to your Internet Telephony Service Provider (ITSP). You can now use your IP PBX to communicate over IP within the enterprise, but also outside the enterprise to people on the PSTN via a SIP trunk over the Internet as provided by your ITSP, thus eliminating not just local PSTN gateways, but also a bundle of physical phone lines (Basic and Primary Rate Interfaces) coming into your premises.

To successfully deploy SIP trunks you need a PBX with a SIP-enabled trunk side, a SIP-capable enterprise edge device understanding SIP and an Internet telephony or SIP trunking service provider.

BandTel is well-known for their SIP trunking solutions for voice communications services. Their solutions are designed to handle high volume telecom users worldwide. These include enterprises of all size, call centers, and Interactive Voice Response (IVR) environments. BandTel ensures that its customers have continuous service via its fully redundant "N-Plus Matrix" VoIP network. BandTel deploys its SIP softswitch technology as N-active switching nodes, so any end-user can receive service from any of the BandTel switching nodes in the BandTel switching matrix, at any given time. If a node in the "N-Plus Matrix" fails, the other surviving nodes in the matrix take over and service continues immediately.

BandTel's Vice President of Marketing, Joel Maloff, says, "We're a pure SIP trunking provider. We don't provide hosted IP PBXs or conferencing services. We strictly provide SIP trunking and we do that through distribution channels, such as VARs, distributors, resellers and so forth. The company has created its own patent-pending architecture built both on SIP standards but also incorporates some 'philosophical components' from the telephony SS7 environment. The idea is that when BandTel is providing SIP trunking, because of the 'N-Plus' distributed architecture, the nodes can be located anywhere and failover can occur amongst them."

"We conducted a perception poll and discovered that the SIP trunking concept was not very well understood in the marketplace by the analyst community, media, or otherwise," says Maloff. "When asked to name SIP trunking providers, people would name Ingate, Avaya or other hardware companies, which is amusing. There are actually a variety of SIP trunking companies out there that also offer a variety of other services such as hosted IP PBX, conferencing and so forth. Doing that would be a problem for us, because our distribution channels are companies such as ShoreTel and Linksys, who offer their own services. If we also offered hosted IP PBX service, we'd be competing with our own distribution channel. We don't do that, and they seem to like the fact that we are a pure provider of SIP trunking."

"There are companies that are fairly well-thought-of in the SIP trunking space, such as Cbeyond, Covad or Bandwidth.com," says Maloff. "They require that their customers have a dedicated line in order to access the SIP trunking service. To us, that's defeating the purpose of SIP trunking, which allows you to amalgamate your data and voice requirements over a single circuit. The need for a another circuit from another provider is a waste and limits the regions of coverage, since they can only provide service where they have the ability to set up those leased lines. BandTel, however, is limited only by your broadband connection, and in fact we do provide DIDs throughout the U.S. and Canada and many international locations, so we're really serving a wide range of customer needs and services. We also have an interoperability program where we test hardware from companies with which we intend to deliver service. We assure that the SIP standards are being adhered to and they function properly, knowing how vague they can be at times. And it all seems to be working very well."

Another SIP trunking provider, Cbeyond, is a voice and broadband Internet provider that serves small businesses exclusively with customized packages and extensive customer support. Their local, long distance and Internet packages, anytime account management and advanced VoIP platform inexpensively deliver to small businesses the same kind of communication experience that big businesses enjoy.

Cbeyond's CTO, Chris Gatch (News - Alert), says, "You know how the simplicity of Ethernet has continued to gain share within the overall networking space. Ethernet started out as a LAN technology and then it just creeped all the way through the enterprise, and then into the Wide Area Network (WAN), and the Metro Area Network (MAN) and access networks of all kinds. SIP's progress has been very similar. It continues to take over more aspects of the service provider network. When we started working with SIP seven or so years ago, it was mainly in the core of our network. We used SIP to connect our softswitches together, and to connect them to our voicemail platform. It was a protocol that we used for session initiation between different infrastructure components in our network. Since that time, SIP has really moved to different aspects of the network. We're big and instrumental in the whole SIP trunking field, and now we have many customers connecting directly to our network via SIP so we are using it in the edge and we are still using it to connect together core infrastructure components such as application servers with each other and trunking gateway controllers to app servers."

"We use SIP in limited peering scenarios," says Gatch. "SIP is being deployed in peering between carrier. We have areas in our network where we're using competing protocols to SIP, such as MGCP, but the reality is that SIP is probably the preferred protocol in almost every aspect of the service provider network, perhaps with the exception of the trunking gateway controllers, the signaling gateways where you're connecting out to the PSTN."

"What's perhaps most meaningful to our business is what's happening with SIP trunking between the enterprise and us, the service provider," says Gatch. "It's very significant connecting a customer natively with a VoIP service provider via IP, because that really does to lay the foundation we've all talked about for a long time, with end-to-end IP feature transparency. When we're connecting customers natively via IP, that becomes real, and we're seeing customers use things such as videophones and high-definition and wideband audio codecs on Polycom phones. On an overall basis, the number of IP-connected customers are small, but those who are using IP and SIP trunking are experiencing the benefits."

Start SIPing Today

SIP is unavoidable and inevitable in today's telecom world. It's even plausible that certain home appliances may one day understand SIP, though I wouldn't go shopping quite yet for a SIP-enabled dishwasher or kitchen sink. IT

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

The following companies were mentioned in this article:

Aculab
www.aculab.com

BandTel
www.bandtel.com

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www.cbeyond.com

Sipera
www.sipera.com

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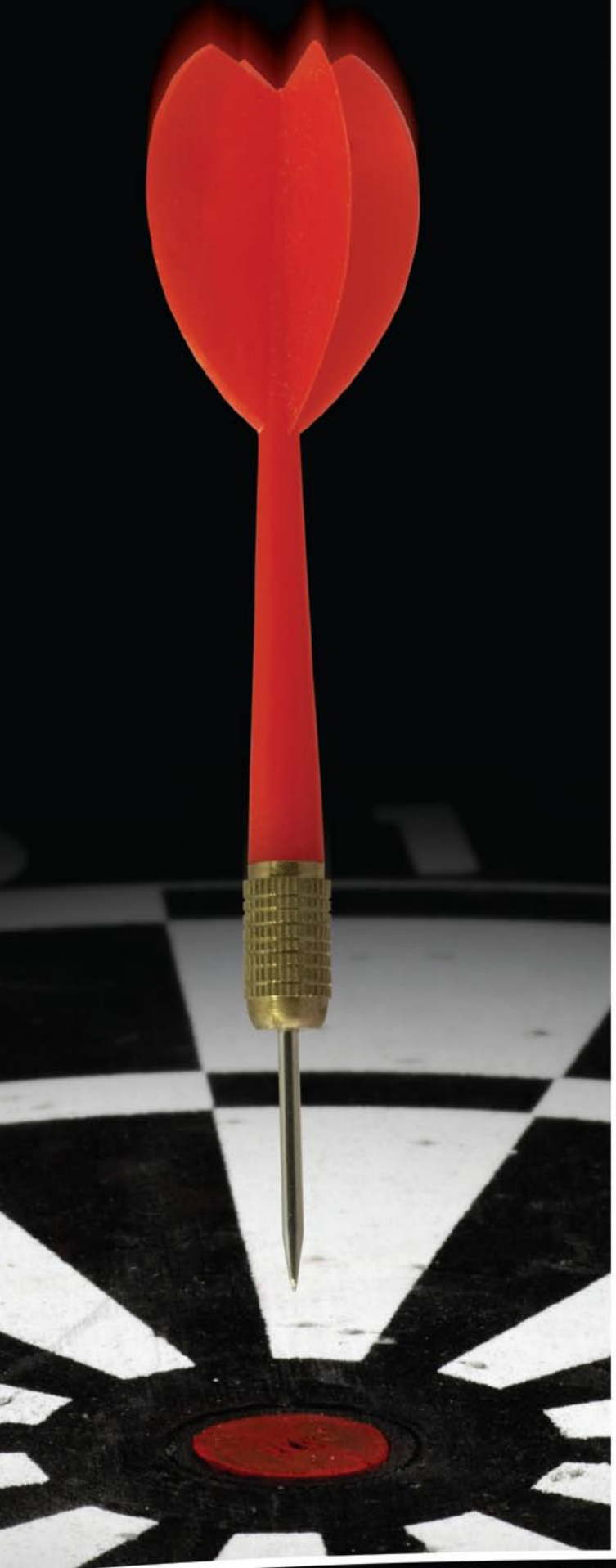

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Peerless VoIP Peering

By: Richard "Zippy" Grigonis

In the long migration to VoIP, network operators and service providers have discovered the need to efficiently and securely (not to mention inexpensively) exchange traffic in a native IP format without having it dive in and out of the PSTN. This is where VoIP Peering comes in, a general term describing service solutions that can connect carriers or, in another form, enterprise and consumer customers.

Stealth Communications is a company that gradually evolved into a preeminent position in the VoIP Peering world. Starting in 1995 as a provider of dedicated Internet access services to the mid-size and large enterprises in New York, it expanded in 1997 into the the financial sector via its "the Financial Medium", a low-latency, Ethernet-based interconnection service directly linking financial institutions with their trading partners. From there it was only a hop, skip and a jump to 2001, when they entered the service provider market with the world's second largest native IPv6 exchange, NY6IX, later renamed the Big Apple Peering Exchange (Big APE) with added IPv4 support. Finally, in 2003, service providers the world over began to clamor to hook up with Stealth's Voice Peering Fabric (VPF), based on a "Route at Layer-2" service model enabling buyers and sellers of minutes and telephony-related services to trade without a broker or counter-party, and route traffic completely within the IP domain, bypassing both the PSTN and the public Internet. VPF is one of the VoIP Peering industry's great success stories, handling about 900 million minutes on a daily basis or over 300 billion minutes annually.

It may seem a bit strange to have LANs of various companies (as well as an increasing number of university campuses) connect at the VPF facilities at 60 Hudson in New York City, 700 South Federal in Chicago or Beijing, China. Calls are routed through the VPF and then to your LAN, IP PBX and/or desktop IP Phone, with no PSTN interworking or unnecessary routing hops around the Internet. Strange or not, it does simplify things and saves money. Of course, in many cases, some transcoding is still necessary at network borders, and some companies have taken devices such as the Dialogic IMG (Integrated Media Gateway) and have developed transcoding services.

Still, VoIP Peering was an immediate hit among the more forward-looking operators. For example, when LatiNode (a wholesale carrier serving the U.S., Central and South America) decided to be one of the first carriers to exchange voice traffic with other operators, its annual traffic rose from 31 million minutes in fiscal year 2001/2002 to 500 million minutes in the period ending June 2004 (fiscal year 2003/2004). Its customer and supplier interconnects also increased from 20 to 120.

In 2005 Eli Katz and some top venture capitalists (Venrock and Accel) founded a major VoIP Peering powerhouse, XConnect (News - Alert), which specializes in "Plug and Peer" VoIP federation-based interconnection services that connect IP-enabled carriers and services providers with rich multimedia end-to-end IP communications services. It operates peering solutions as either a managed service or on a hosted basis. It has headquarters in London with offices and facilities in U.S., Europe and Asia. XConnect deftly handles protocol interoperability, ENUM directory services, and security/policy management. Teamed with its strategic technical partner Kayote Networks (News - Alert) (makers of the hosted VoIP Traffic Manager, or VTM, that allows carriers and wholesalers to route and manage their VoIP traffic), XConnect provides ENUM and peering services to over 400 operators in more than 35 countries, including the Netherlands' first nation-wide VoIP peering solution. It also recently acquired the European carrier ENUM exchange, e164.info and IPeerX.

Katz, now XConnect's CEO, says, "There are some core aspects to the way the industry has evolved over the past six months. First, a new connection paradigm is emerging as the interconnection paradigm across the IP communications space, whether you're looking at it from the point of view of voice-over-broadband operators, or the mobile IMS-based operators, or the fixed-line next-gen network. The connection paradigm that's emerging is converging on the federation model, which we at XConnect have been developing over the past three years. The core components of a federation model consist, first, of some kind of IP connectivity. Then you have the registry function which provides the most efficient routing mechanism possible by being able to route a session, whether it's a voice session or video, or push-to-talk or SMS or whatever new IP feature exists, to identify the correct routing, based upon the number or identifier that has been dialed or called."

"Then there's the signaling function that says, 'Okay, the registry function has enabled me to identify to which service provider or entity I must route this call and possibly even identify the actual egress point in that customer's network.' Now you need to enable the signaling to go from service provider A to service provider B. And we see the role of a federation-based approach to signaling, which is to say that having a signaling hub to enable all of the different flavors of the signaling management to take place, whether that's multi-protocol, or multiple versions or multiple instantiations, all of the underlying protocols dealing with a signaling hub essentially will enable you to have a scalable interconnection."

"The next area we see that gets attention is security," says Katz. "That refers to the additional requirements that are above and beyond your pure network-type of security. This relates to security that is more appropriate at the communication level. It involves things such as Spam over Internet Telephony [SPIT] protection, voice phishing, identity preservation and management, which is crucial when enabling a scalable interconnection. All of that fits into the security layer."

"The top layer is the commercial layer," says Katz. "There's a choice of different commercial models in terms of how as a service provider you want to indicate what you are in comparison with other providers and you can choose to go down the route of, say, an assessment-based commercial approach, which is a classic 'you-pay-me-for-every-minute-that-comes-into-my-network – and I will do the same for you'. There are newer models such as the settlement-free bill-and-keep model, which is a managed, settlement-free-based accounting mechanism set up between providers. Of course as an originator and a terminator of call traffic, you may have different commercial models when dealing with different service providers."

"So all of these functions and models can occur in a federation or hub-type approach to scalable interconnection," says Katz. "The federation approach is driven by the desire to effectively have as close an interconnection as possible between a service provider you deal with as well as all the other service providers called by your customers. Without that capability, you lose the ability to deliver new IP services and you start introducing unnecessary transit elements that have an effect both on the quality of the call or multimedia session as well as its actual cost."

"All of this points to the question of how do we deliver a scalable, multilateral, hub-type approach to 'I-want-to-interconnect 1,000 other service providers but I don't have the capability or infrastructure to support 1,000 different bi-lateral interconnects'," says Katz. "The federation or hub approach that's emerging today is the exciting new paradigm for interconnection amongst all IP communications service providers."

"One additional element in this new paradigm I haven't yet mentioned – the standards bodies," says Katz. "What are they up to regarding the enablement of this federation model? From a global standards perspective, you have the IETF responsible for all Internet protocols such as SIP [Session Initiation Protocol]. The IETF has two fundamental working groups, SPEERMINT and a new one called PEPPERMINT. SPEERMINT has to do with SIP-based peering, and the interconnection between service providers using the federated pipe model approach. PEPPERMINT deals with the private ENUM registry component. PEPPERMINT handles how you provision data into these scalable ENUM registry-type sources and services. You can appreciate how this model is beginning to gain ground by seeing how much development work occurs at the IETF on a ongoing basis."

"In terms of actual instantiations," says Katz, "many things have been happening over the past six months. First, take the GSMA, the association of all GSM wireless operators, one of the largest industry bodies in all of telecom. Over the past year – and much more so in pilot trials over the past few months – they've developed the registry component, the NRS [Number Resolution System] a global registry system to be used by GSM operators for optimized routing through the appropriate service provider across multiple services. That's the pure registry component. That together with the signaling component is what they call the GSMA IPX, or IP Exchange, which is essentially a federation entity supporting a hub-based approach to the signaling and elements of security and elements of the commercial layer as well, as they have defined the commercial structures between service providers. The GSMA approach is what I described previously, the NRS and the IPX. In the past the trials on the NRS are now in the pilot phase. The IPX has already been in trials for a year-and-a-half, and is approaching commercial launch."

"The GSM operators are concerned with how to enable the new services to be delivered on the most efficient routing basis possible," says Katz, "and how we can enable the mass-market to partake of these new services in such a way that we enable transparency, feature-preservation and minimize unnecessary transit elements that disrupt these as well as increase cost."

It is with increasing frequency that organizations need to contract out jobs to third parties. As such, many enter into arrangements where they have temps, sub-contractors and consultants of various types using their facilities on a non-permanent basis. Obviously, these on-site workers — whether they are there for the long or short haul — need network access.

Giant VoIP peering service providers such as Stealth's VPF and XConnect run "federations' of VoIP service providers that agree to exchange traffic under mutual agreed-upon rules. There are other forms of peering, of course. At a lower level, enterprises can set up networks to peer with their partners, suppliers and even customers.

In such cases, as more third-parties (partners, customers, suppliers) gain access to such increasingly vulnerable unified/converged corporate networks, IT departments will be investing in more network access solutions that allow for customized access, such as deciding who has permission to access what, on a group and/or individual basis, and for a set period of time.

One company that's well-known in the Network Access Control (NAC) area is Great Bay Software and its Sponsored Guest Access (SGA) security application that lets IT administrators configure and monitor network security parameters for guest users, contract employees, and devices requiring temporary or specialized access in NAC or 802.1X networks. It's interoperable with major NAC vendor solutions, including those of Cisco, ID Engines, Juniper and Symantec. Authorized company employees can create guest accounts, including the ability to manage time and user permissions. SGA also allows for the implementation of an Acceptable Use Policy. Coupling SGA with Great Bay's Beacon Endpoint Profiler network management solution, NAC Appliance and 802.1X administrators can get reports on guest user network behavior, along with an ongoing contextual inventory of all appliances and ports, including non-Windows and non-NAC/EAP devices. **IT**

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

The following companies were mentioned in this article:

Great Bay Software
www.greatbaysoftware.com

Kayote Networks
www.kayote.com

Stealth Communications
www.stealth.net

Voice Peering Fabric
www.thevpf.com

XConnect
www.xconnect.net

UMA for You and Me?

By: Richard "Zippy" Grigonis

The dream of Unified Communications (UC) and Fixed-Mobile Convergence (FMC) is to be able to seamlessly roam with a mobile communications device from an interior office to the outside cellular world. Until now it was thought that IMS (IP Multimedia Subsystem), the world's upcoming common service architecture for wireless and wireline networks, would provide the underlying foundation for this. However, IMS is subject to some competition by UMA (Unlicensed Mobile Access), a technology pioneered by Kineto Wireless that provides roaming between GSM/GPRS and 802.11 (WiFi), based on the 3GPP Generic Access Network (GAN) standard.

With UMA, GSM/GPRS core network services can be accessed via IP-based broadband connections, thanks to a new network element, the UMA Network Controller, or UNC, and various associated protocols that enable secure transport of GSM/GPRS signaling and user plane traffic over IP. The UNC interfaces into the core network via existing 3GPP-specified A/Gb interfaces. In September 2004, UMA-friendly companies introduced the UMA specifications to the 3GPP for consideration as a formal standard. In April 2005, the UMA specifications were formally incorporated into Release 6, thus making UMA a 3GPP standard for FMC. Within the 3GPP specifications, UMA is referred to as Generic Access to A/Gb interfaces, and contained within TS 43.318.

As for security, the 3GPP UMA standard allows the use of an IPsec tunnel originating in the handset and terminating on the UNC in an operator's core network. The UNC terminates the IPsec tunnel and handles user login and authentication to the mobile core network.

At one time considered a "quick fix" for those carriers either too timid to adopt a full IMS system or else unable to adopt one because of a lack of second source equipment, UMA can work within the IMS environment if need be, and in any case it has continued to make its way through many of the world's telcos (AT&T/Cingular, BT, Cincinnati Bell (News - Alert), Fido, Ono, France Telecom/Orange, O2, Rogers Wireless, Saunalahti, T-Mobile USA, TeliaSonera, etc.) and the technology is supported by many vendors.

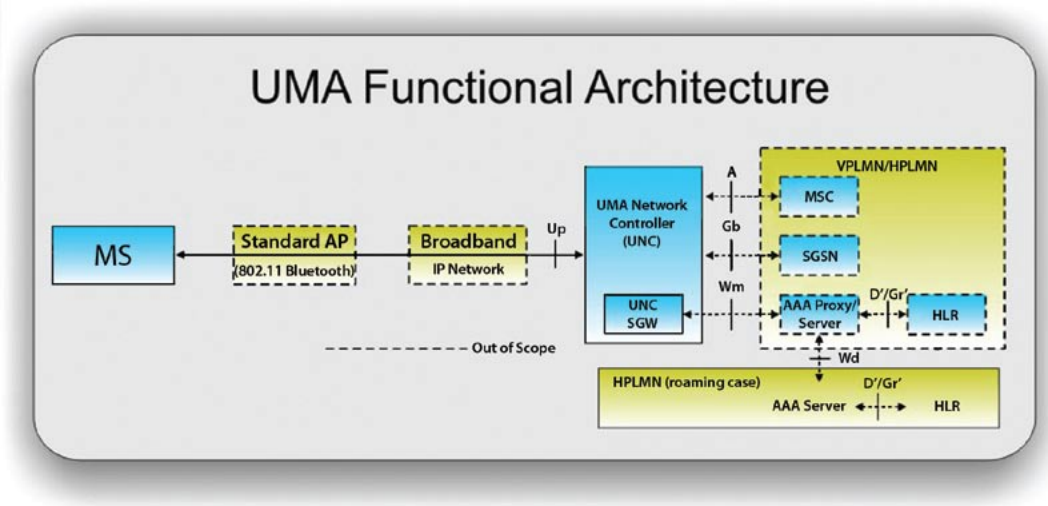
Dual-mode cellular/WiFi handsets are perhaps the most familiar incarnation of UMA technology and service. They're the epitome of devices enabling mobile subscribers to automatically and seamlessly roam and handover between cellular networks and public and private WiFi networks, thus delivering a consistent user experience for voice, data and other services as one transitions between networks.

The list of UMA-enabled dual-mode handsets is a long one, and includes the BenQ e72, Blackberry RIM 8120, Blackberry RIM 8320, HP iPAQ 510, HTC Shadow II, LG KE520, Motorola A910, Motorola Z6w, Nokia 6086, Nokia 6301, Sagem my419, Sagem my429x, Samsung (News - Alert) P180, Samsung P220, Samsung P260, Samsung t339, Samsung t409 and the Samsung T739.

This list's most recent addition is the Research In Motion (RIM) BlackBerry Pearl 8120 smartphone for Canadian customers of Rogers Wireless (News - Alert). It supports Rogers Home Calling Zone, a UMA-based service from Rogers enabling unlimited voice calls over a WiFi Internet connection in the home and cellular service when a subscriber walks outside. Aside from WiFi (802.11 b/g), the phone comes with a 2 megapixel camera with 5x digital zoom, built-in flash and video recording capability, a media player; support for high speed USB 2.0 for transferring of files between a PC and the smartphone; accessible microSD/SDHC expandable memory slot for additional storage; and support for downloading music directly from the Rogers MusicStore.

The BlackBerry (News - Alert) Pearl 8120 also runs Rogers' Do More portal for access to many mobile-enabled business and personal applications; instant messaging option with BlackBerry Messenger, Google Talk and Yahoo! Messenger also support for the increasingly popular Facebook for the BlackBerry Smartphones app.

As for Kineto Wireless, its Fixed-Mobile Convergence solutions include femtocells, dual-mode handsets, terminal adaptors and soft mobiles at home, offices and public wireless LANs. They are a leading supplier of UMA-compliant core network solutions to operators worldwide, and they supply UMA-compliant client software solutions to mobile device manufacturers. Seeing that femtocells (which provide radio coverage for standard 3G handsets within a home or office) are on the verge of becoming a major market, Kineto began to help develop a consensus among the contributing femtocell companies. Kineto announced support for the recent 3GPP agreement Home NodeB (HNB) architecture for femtocell-to-core network connectivity.



The 3GPP itself defines 3G femtocells as a new kind of network element called a "Home NodeB" or HNB. A Node B is the local element of a 3G macro RAN (Radio Access Network), and a femtocell performs Node B functions along with the radio resource management functions of an RNC (Radio Network Controller), though it is

optimized for home use. The 3GPP's WG3 (RAN Working Group 3) is developing a standard interface between a 3G femtocell and the mobile core network. The WG3 has finally formulated a reference architecture leading to a new HNB standard that should be completed around December 2008.

Aside from the HNB (femotocell) the second new network element defined by the 3GPP is the "Home Node B Gateway" (HNB-GW, often called the "femto gateway") that sits in an operator's network and aggregates traffic from many HNBs and sends it into the core service network through the standard Iu-cs and Iu-ps interfaces. Linking the HNB and the HNB-GW is a new interface known as "Iu-h" which defines both a security architecture as well as an efficient and reliable method for transporting Iu-based traffic. Recently it was decided that this Iu-h interface will be based on Iu, not UMA/GAN, SIP (Session Initiation Protocol), or Iu-b. This new Iu-h interface will also be associated with a new protocol (HNBAP) for enabling highly scalable ad-hoc HNB deployment, as well as a new methodology for transporting Iu control signaling over the Internet.

One would think that femtocells would be more of a competitor to UMA, but Kineto's Director of Marketing, Steve Shaw (News - Alert), explained to me that "UMA can also be used for femtocells, providing an inexpensive backhaul conduit to the controller." Kineto has been working with femtocells from their earliest days, having worked with Ubiquisys back in 2006 in the U.K. with tests of their ZoneGate 3G femtocell system working in conjunction with Kineto's UMA controller. (Ubiquisys has received an impressive $40 million from Google, Atlas Venture, T-Mobile Venture Fund, and other investors in support of its plans to be selling femtocells to the public by the end of 2008.) A few months later, in 2007, NEC started bundling Kineto's UMA controller with its own femtocells.

Within recent months there has been a quickening pace to UMA announcements, particularly important ones relating to UMA testing and underlying support technologies. For example, the testing and monitoring solutions giant, Tektronix Communications (News - Alert), recently enhanced its advanced monitoring system, the Unified Assurance solution for mobile networks, to include UMA support. Now networks incorporating UMA can enjoy end-to-end monitoring of voice and data sessions across fixed and mobile networks via this single Tektronix platform. Tektronix' Unified Assurance UMA solution gives service providers an extensive view of voice and data service performance from access to core, including handovers between UMA and GSM/GPRS networks. This Tektronix UMA offering is fully integrated with their existing GeoProbe and Advanced Performance Monitoring (APM (News - Alert)) applications and features. All are part of Tektronix' Unified Assurance suite of apps for management of next-gen converged networks.

In the same vein, Kineto Wireless is collaborating with Agilent Technologies (News - Alert) 3G and 2G UMA/GAN handset test-

ing. They're working on expanding Agilent's 8960 "real world" UMA/GAN test capabilities to provide a comprehensive, non-scripting test solution for mobile operators, handset vendors and platform developers in the UMA/GAN market. The collaboration's first phase is intended to result in a robust 3G/2G UMA/GAN development and engineering validation tool that Kineto will showcase at its UMA Labs in Milpitas, California.

And in the back office, service providers deploying any kind of FMC service face more complicated challenges in terms of ensuring that subscribers from different networks are easily authenticated and authorized for access, and avoiding duplicate subscriber databases which increase costs and network complexity, and reducing revenue leakage and churn stemming from an inability to manage subscriber session records for billing.

Familiar devices such as a Home Location Register (HLR) were originally designed to handle authentication for voice services only, so, for today's next-gen providers, Bridgewater Systems has announced that its AAA Service Controller now supports 3GPP compliant FMC deployments based on UMA as well as Voice Call Continuity (VCC) and Wireless LAN (WLAN) architectures. Bridgewater's FMC solution allows GSM/UMTS (News - Alert) and fixed-service providers worldwide to be able to dynamically support subscribers, regardless of whatever access network they choose, and provide a seamless subscriber service experience, operational efficiencies, and a migration path to support high bandwidth, wireless, Long-Term Evolution (LTE) technology and converged IMS core networks.

UMA for You and Me?

Other supporters of UMA include Alcatel, Ericsson, Motorola, Nokia, Nortel Networks, Siemens and Sony Ericsson (News - Alert). Like it or not, UMA will continue to be a player, both in business and in the home, for many years to come. IT

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

The following companies were mentioned in this article:

Agilent Technologies
www.agilent.com

Bridgewater Systems
www.bridgewatersystems.com

Kineto Wireless
www.kineto.com

NEC
www.nec.com

Research in Motion
www.rim.com

Rogers Wireless
www.rogers.com

Tektronix
www.tektronix.com

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Broadband Alternatives

By: Richard "Zippy" Grigonis

The word "broadband" for business was until recently synonymous with fixed-line, unchannelized T-1s, Primary Rate Interfaces and DSL. At home, one had the choice of either "cable" or ADSL. Now, however, there are many broadband alternatives, including Metro or "Carrier" Ethernet and nascent Broadband over Powerline (BPL) technologies.

Not so many years ago, we would in these pages be extolling the wonders of ATM (Asynchronous Transport Mode), a technology that was surely destined to run everywhere from the WAN to the LAN. But, as things turned out, the present and future appear to belong to Ethernet, in particular so-called Carrier Ethernet, the high bandwidth Ethernet for Metro Area Networks (MAN). It is more commonly known as Metro Ethernet, since the core is still dominated by MPLS, not Ethernet (at least, not yet). "Carrier" denotes a carrier-class service, taking the positive characteristics of Ethernet and strengthening them so that they are suitable for long-range, high traffic volume usage. It's basically the same plug-and-play Ethernet and physical Ethernet interface you've dealt with for decades. The Metro Ethernet Forum (MEF) is the pertinent standards organization, having a Carrier Ethernet Certification Program to accelerate the delivery of industry standard products and services to the end user.

Extreme Networks is one of the major players that designs, builds, and installs Ethernet infrastructure solutions for enterprises and service providers. Converged networks built with their equipment support voice, video and data, over a wired and wireless infrastructure. Extreme Networks recently announced the availability of its complete Provider Backbone Bridging — Traffic Engineering (PBB-TE) solution that spans the edge of the network through the metro core. (The PBB-TE technique can transport Carrier Ethernet services, thus natively extending Ethernet across a provider's network rather than employing other technologies such as SONET/SDH or MPLS.) Extreme Networks' solution is comprised of new software and hardware, as well as a strategic relationship with their control plane partner, Soapstone Networks.

Even more recently, as we were going to press, Extreme Networks performed a live demo of the kind of network utilization improvements you can achieve with their new PBT-to-MPLS interworking capability. Aside from the service interworking capabilities of their BlackDiamond® 12000 series carrier Ethernet switches, the demo showcased automated service creation using Soapstone's PNC control plane and highlighted the fast-failover capabilities of the PBT solution.

Matisse Networks has also entered the fray, re-engineering the last-mile optical world to make it Ethernet-friendly. Their EtherBurst technology, claimed to be the world's first Packet WDM System, is designed specifically for scaling metro and campus networks. Their system consists of the SX-1000 Ethernet Service Node (these nodes serve as both a local Ethernet switch and the on-ramp to the packet WDM photonic layer), the PX-1000 Photonic Node (these nodes are deployed in a metro ring, and provide a fully automated optical layer, enabling incremental scaling) and the MatisseView Management System, which provides unified access to integrated optical and packet service management software.

Broadband Over Powerline

BPL — Broadband over power lines, also known as "power-line Internet" or "powerband", is a form of PLC, or Power Line Communication, also known as power line carrier, mains communication, PLT (Power Line Telecom), or PLN (Power Line Networking). It provides Internet access (and IPTV (News - Alert)) via ordinary power lines by connecting a BPL modem-like device into any outlet of a suitably-equipped building and overlaying over the existing power cables electromagnetic waves having undergone OFDM (Orthogonal Frequency-Division Multiplex, a modulation technique wherein blocks of symbols are sent in parallel by employing a large number of orthogonal sub-carriers).

In theory, any location not served by conventional cable or xDSL is nevertheless almost certainly connected to a power grid, along with the electronic devices intended to be connected to the Internet.

Electrical power in the form of alternating current travels over long high voltage transmission lines, is distributed over medium voltage lines, and then the voltage is "stepped down" further locally for use inside buildings. Power line systems have been developed to transmit high bandwidth Internet data over and through each of these systems. Systems have been tested up to 200 Mbps by Consolidated Edison, Duke Energy (and Cinergy), FirstEnergy, National Grid, and Austin Municipal. BPL's adherents claim that it is more secure and robust than wireless technology. Less expansive BPL-based signaling has been used for "Smart Grids" used by electricity utilities for grid management applications such as advanced remote metering, outage management, preventive maintenance, asset management and optimization and load management and control. Indeed, there are some experts who believe that the future growth BPL is directly tied to Smart Grid development. A successful Smart Grid combines two-way high-speed communications, advanced sensing technology, 24/7 monitoring and enterprise analysis software and related services to provide location-specific, real-time actionable data to all of a utility's departments.

One section of the U.S. Government's Energy Independence and Security Act of 2007 specifically promotes Smart Grid development and it requires both the federal and state governments and regulators to take specific actions to support the implementation of a Smart Grid. According to the U.S. Department of Energy and the Electric Power Research Institute, by 2025, the use of a Smart Grid on a portion of the U.S. electric transmission and distribution system could reduce electricity consumption by 5 percent to 10 percent, save consumers more than $50 billion over the next 20 years via a reduction in power outages, and reduce carbon dioxide emissions by up to 25 percent.

BPL can in theory easily support Smart Grid applications, since it has certain advantages over competing wireless systems (e.g., it can monitor and control sensors and switches in both overhead and underground environments). Oncor Electric Delivery Company has the world's largest Smart Grid (serving 1.8 million homes and businesses) in Dallas, Texas, and Xcel Energy (a U.S. electric and natural gas company, serving customers in eight states with over three million electric customers) is building its Smart Grid City project in Boulder, Colorado, all constructed with equipment from CURRENT Technologies. The CURRENT Smart Grid™ solution is used by utilities worldwide. For example, CURRENT is working on a European Union-sponsored project led by Iberdrola, the world's fourth largest electric utility, to use Smart Grid technology for EU electric utilities.

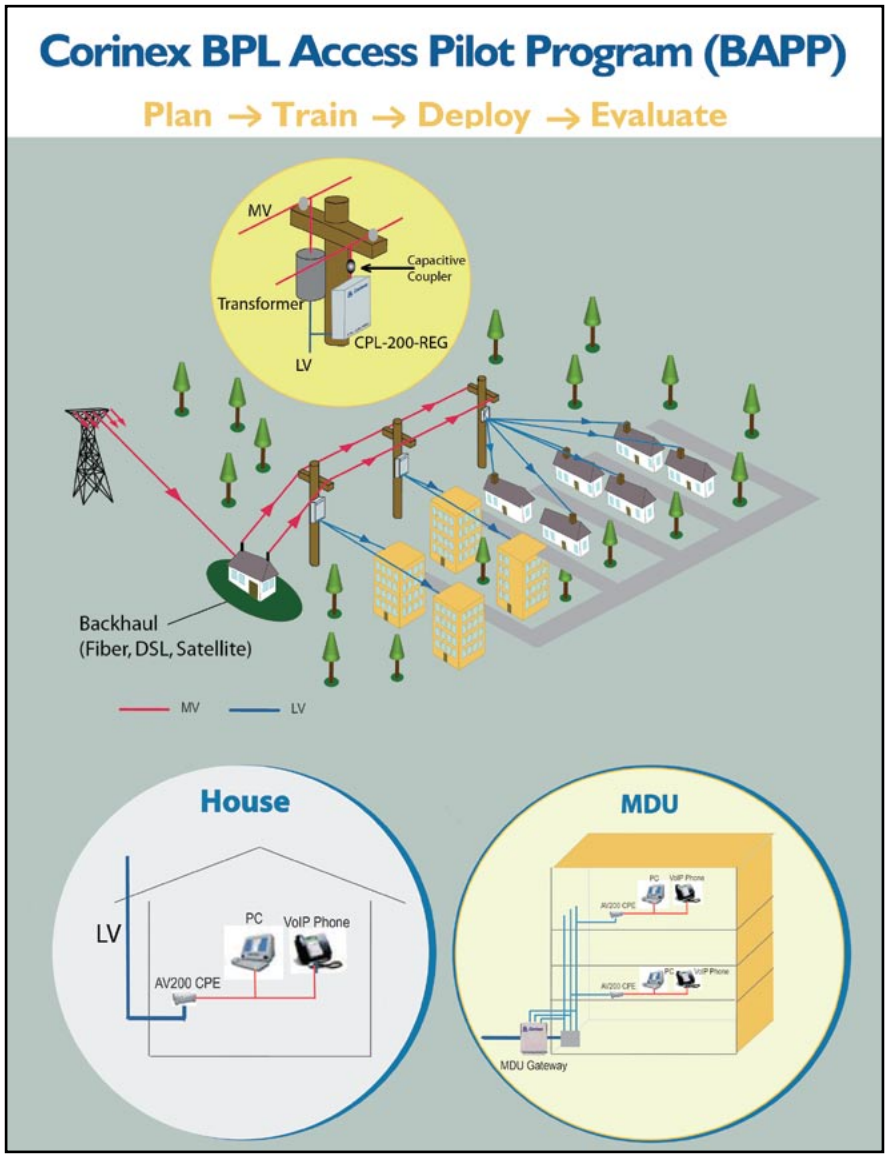
CURRENT Technologies can also provide high bandwidth Internet-based services over the same network as its Smart Grid services via its IP-based CURRENT Broadband® technology. Data, voice and video services can be delivered to residential and business users both directly and through wholesale channels. Utilities can also provide information to customers about their electric usage and allow customers to manage thermostats and other devices. CURRENT can also provide Quality of Service (QoS) solutions and you can remotely troubleshoot the network. Additional computers and other devices can be added to the network simply by plugging in another modem, eliminating the complexity of a home network or routers.

CURRENT Broadband users can send data up to 10 times faster than typical DSL or cable modem services, making it suitable for interactive games, high-bandwidth, web-based applications and the transmission of heavy volumes of digital content to the Internet, such as graphics, videos or music.

Another company, Corinex Communications, offers their AnyWire Connectivity technology, often used to leverage use of existing electrical distribution lines, twisted pair copper wires, and coaxial infrastructures, to deliver data, voice, video and broadband applications at up to 200 Mbps.

Corinex has simplified the design and architecture of Access BPL networks by utilizing the frequency division domain exclusively. They operate in a flat layer 2 architecture (Ethernet level) so that BPL deployments using their technology are kept simple and scalable and achieve better line utilization than ixed topologies. Corinex's Access BPL technology supports Quality of Service (QoS) for VoIP, 3DES security, VLAN tagging, remote management, and programmable frequency notching to comply with any regulations and ensure amateur radio bands are not disturbed.

The Corinex BPL Regenerator (repeater across transformers) was designed with 200 Mbps technology and operates at real world speeds of up to 85 Mbps. Each Regenerator supports up to 32 users on the low voltage side, with the medium voltage backbone supporting up to 2,048 simultaneous users. The units come complete with a Corinex BPL motherboard, one low voltage BPL module, two medium voltage BPL modules, a hardened weatherproof enclosure, RF cables, power cables, power connector, grounding plate/lug, and coaxial connectors. The Regenerators are fully assembled and tested and the enclosure has a removable lid to accommodate easy installation and connections to low and medium voltage lines during deployment. Their couplers do not require a utility to bring the power down for installation.



Founded in 1999, MainNet provides BPL/PLC systems and solutions, enabling intelligent broadband access and Smart Grid applications over any electrical network. Their customizable end-to-end broadband access solutions are controlled by a web-based network management system. MainNet uses dynamic smart repeaters that are designed to create a "noise-free" environment capable of delivering clear voice, data and video services over long distances. Their "secret sauce" involves not simply relying on OFDM modulation, even though OFDM modulation detects changes within the powerline and maintains network communication, even during power spikes or other powerline disruptions. MainNet says this has proved to be insufficient for maintaining a broadband network delivering high-speed data that is subject to frequent changes, both in terms of the number of users and the bandwidth consumption. MainNet instead enhances the technology to support not only the physical layer, but also layer 2 and the application layer (layer 7). It's PLUS solution is a combination of algorithms and mechanisms adapted from wireless and wireline technology, involving a combination of three additional communication methods:

1. CSMA/CA (News - Alert) (Carrier Sense Multiple Access/Collision Avoidance), designed for data transmission where reliable collision detection isn't possible — such as in powerline communications. Performance improvement is achieved by reducing the probability of collision and retry.

CSMA/CA improves line performance and data throughput, but it can increase data latency, so MainNet has also implemented special QoS mechanisms to enhance performance of such jitter-sensitive applications as voice and video.

2. Smart Repetition. Dynamic repeaters are installed sporadically over the network, obviating the need for complex network planning or costly maintenance. MainNet's Smart Repetition mechanism that allows each unit to choose the best route to achieve the best performance.

3. Access Hopping. Changes in wire conditions and bandwidth fluctuations are countered by MainNet's patented Access Hopping (AH) mechanism that uses a network cell topology reminiscent of those employed in cellular phone networks, where each mobile phone automatically migrates between base stations. This AH mechanism enables dynamic routing of up to 1,000 connected users in a single cluster, while maintaining high-frequency bandwidth. Each cluster of customer premises units (NtPLUS) is connected to a single concentrating unit (CuPLUS). In the event of a noisy electrical grid or an overloaded network, the AH mechanism allows any PLUS unit to automatically "hop" between CuPLUS units, thus avoiding speed loss and maximizing bandwidth sharing efficiency.

However, there are still some major questions over what BPL can do under large-scale, real-world conditions. Powerlines are notoriously "noisy", which can reduce the effective bandwidth. Another concern is that BPL signals traveling over unshielded power lines will radiate away and cause interference and problems with ham radio enthusiasts. This has generally been discounted — except by ham radio operators, who have sued the U.S. Government. Moreover, BPL has no availability during blackouts and disasters when it's most needed. Serveral years ago, the city of Burbank, California, looked at both WiFi and BPL municipal systems and decided to go with WiFi.

BPL has had a faster adoption rate in Europe than in the U.S. because of a quirk in the design of their respective power networks. BPL signals do not easily pass through transformers, owing to the high-frequency filtering effects of their high inductance, so signal repeaters must be collocated and attached to the transformers. Now, in Europe, a single step-down transformer serves 10 to 100 homes at a time. In the U.S., however, many smaller, less expensive transformers hang on poles, serving only an average of five homes per transformer. American power networks thus need far more BPL repeaters (at greater expense) than European systems. However, BPL could still be used as a backhaul for WiFi mesh or WiMAX wireless networks.

For example, Amperion offers Amperion PowerWiFi™, a complete hybrid BPL and WiFi end-to-end network solution. Standard WiFi is used to distribute broadband services into a customer's home or business, which is said to be less costly per home or business passed than BPL-only solutions. With WiFi as the customer's access point, the MV (Medium Voltage) to LV (Low Voltage) transition, and the associated cost of the MV/LV gateway equipment, is eliminated. There is no need for dedicated CPE installations at the customer premise either. Adding customers after the initial PowerWiFi network deployment requires no additional capital equipment and can even be done remotely. That's in stark contrast to many BPL-only solutions which demand installation of a MV/LV gateway unit at every transformer with every new cluster of homes served. Amperion's technology essentially creates WiFi hotspots that cover cell areas of 700 feet around every pole. While BPL is used as the last mile access backbone, PowerWiFi units can be deployed beyond the MV grid to increase the total coverage area in any direction. The WiFi capability also enables wireless hops (using secure WDS) across separate electric grid segments.

One interesting aspect of Amperion PowerWiFi is that it utilizes WiFi as a failover mechanism to ensure data delivery in cases of temporary interference on the MV line. The switchover between powerline and wireless hops is seamless and completely transparent to the user.

E-Line

Another fascinating transmission technique for BPL over single uninsulated wires involves microwave frequencies transmitted via a surface wave propagation mechanism called E-Line. In an E-Line system, "launching horns" couple to and from a radially-symmetric planar wave propagating in the space around a single conductor, yielding low attenuation, high bandwidth, high propagation velocity and confining nearly all of the propagated energy quite close to the conductor surface. Such systems can potentially run at symmetric and full duplex bandwidths exceeding 1 Gbps in each direction. Multiple WiFi channels with simultaneous analog television in the 2.4 and 5.3 GHz unlicensed bands have been demonstrated operating over a single medium voltage line. Since E-Line technology can operate anywhere in the 100 MHz to 10 GHz region, it avoids shared spectrum interference issues while offering flexibility for modulation and protocols of a microwave system. Thus, uninsulated single or multi-strand overhead power conductors can now support very low attenuation propagation over the entire frequency range from below 200 MHz to above 10 GHz while employing a launch device of only 15-20 cm in diameter. It's performance characteristics are second only to optical fiber.

Corridor Systems has used this E-Line technology to offer low-cost solutions for high-performance transport across many miles of overhead powerlines for information-carrying RF signals, be they cellular antenna signals, WiFi, encoded Ethernet, or TDM (T1, T3, etc). Mobile carriers can use this as part of a strategic migration path from 2G/3G to include other fixed-wireless services.

Next month we'll take a look at the even more bewildering world of Wireless Broadband Alternatives… IT

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

The following companies were mentioned in this article:

Amperion
www.amperion.com

Corinex Communications
www.corinex.com

Corridor Systems
www.corridor.biz

Current Technologies
www.currenttechnologies.com

Extreme Networks
www.extremenetworks.com

MainNet Communications
www.mainnet-plc.com

Matisse Networks
www.matissenetworks.com

Soapstone Networks
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TMC Labs Innovation Awards – Part I

By: Tom Keating

Innovation is defined as the introduction of a new idea into the marketplace in the form of a new product or service, or an improvement in organization or process. TMC Labs has been testing, examining, and reviewing products since 1994 and the favorite part of our job is seeing new products and technologies. It has been truly remarkable to witness the evolution from proprietary PBXs with CTI links to PC-PBXs, then from PC-PBXs to IP-PBXs, and finally to unified communications platforms. As such, one of the most exciting parts of the year is to review the most innovative and unique products and services in IP communications for the TMC Labs Innovation Awards. While others have tried to copy the premise of these awards recognizing the true innovators in IP communications, only the TMC Labs Innovation Awards goes back 9 years. Further, TMC Labs takes great pride in the stringent selection process for this award which typically only grants a couple dozen recipients as winners. 2008 was no exception with only 24 winners for this prestigious award.

This year marked several strong contenders in these specific areas: mobile, testing tools, video, and unified communications. In the unified communications space we had winners from Iwatsu, Mitel (News - Alert), Siemens, and Toshiba. We had some interesting HD (high-definition) video offerings from LifeSize and Polycom.

TMC Labs is proud to announce our 24 picks for this year's TMC Labs Innovation Awards, which will be published in two parts in order to accommodate our in-depth write-ups for the winners. The complete winners list will be published in both issues, however we will write the detailed write-ups in alphabetical order beginning with Adtran this month and ending with Polycom. Next month, we start with Radware and end with Zed-3 (News - Alert).

Adtran, Inc.

NetVanta 1335 Multiservice Access Router
www.adtran.com

The NetVanta 1335 Multiservice Access Router is a unique platform that combines multiple networking devices onto a single compact platform. The NetVanta 1335 is the first product to integrate a modular IP access router with a 802.11a/b/g wireless access point, a 24-port Layer 3 Power over Ethernet (PoE) 802.3af switch, firewall, VPN appliance, a DSU/CSU, and a SIP ALG (Application-level gateway). The uber-comprehensive NetVanta 1335 features VQM (voice quality monitoring), QoS, NAT, and advanced firewall functionality. Some of the wireless security features include the ability to disable SSID broadcasts, 802.1x Authentication, and WPA/WPA2 for protected key exchange. In addition to serving as a wireless access point, the NetVanta 1335 acts as a WiFi controller for up to eight NetVanta 150 WAPs

It also sports Gigabit SFP/1000Base-T Ethernet uplink port(s) for stacking capability allowing you to stack up to 16 switches using a single IP address to manage and up to 8.8 Gbps switching capacity that is non-blocking. Importantly, it includes both a "techie" CLI (command line interface) that networking experts are familiar with, as well as a web interface for techies and non-techies alike. Another unique feature is Voice Quality Monitoring, a graphical interface that allows network administrators to graphically monitor the voice traffic on their networks. Voice traffic can be identified via graphs and charts down to the individual call level.

Another innovative feature is that it has the ability to diagnose 10/100/1000Base-T twisted-pair Ethernet cables. This Cable Diagnostics feature can determine the length of the cable, if the Ethernet cable has an Open or a Short (based on pair), and can even detect the location of the Open or Short within a meter.

Most importantly, by unifying all of these network elements onto a single platform, you simplify administration and reduce the TCO making this an optimal solution for the SMB market. Additionally, it's a single vendor-solution and a single point of contact for service and support. ADTRAN told TMC Labs, "ADTRAN's NetVanta products address the needs of the SMB and SME in a unique way. These products are specifically designed for this market. Hence, they are not larger more expensive products that have been scaled down to address this market. They have the features and functionality needed to address SMB/SME applications. Again, there may be platforms with more functionality on the market, but is that functionality really needed and can the SMB/SMEs afford to pay for something they are not using?"

AudioCodes

Mediant 1000 MSBG
www.audiocodes.com

The Mediant 1000 MSBG (Multi-Service Business Gateway) is truly an innovative product — targeting SIP Service Providers and large distributed enterprises that use SIP to interconnect their services or remote sites. AudioCodes Mediant 1000 MSBG is a unique, all-in-one and modular multiservice access solution for Enterprises and Service Providers offering managed services such as IP-Centrex or SIP trunking. The Mediant 1000 MSBG is based on AudioCodes' Media Gateway technology, combined with enterprise class Session Border controller, data & voice security, data routing, LAN Switching and WAN access.

The key innovation for the Mediant 1000 MSBG is the combination of a full-featured and widely interoperable media gateway, data router, enterprise-class Session Border Controller and application platform in one compact device. Additionally, customers can start with TDM trunking, and then add SIP trunking while keeping the TDM trunking as a survivable back-up or local access point for E911.

The optional Open Solutions Network (OSN) application server allows Windows or Linux-based applications to operate within the Mediant 1000. Essentially, you can install Asterisk, Microsoft OCS, or other IP communications apps right on the device. In fact, the Mediant 1000 is compatible with several SIP software applications, including Microsoft OCS and Exchange, Broadsoft, Sylantro, Avaya, Nortel, 3com, Genesys, and Interactive Intelligence (News - Alert). Adtran claims that the Mediant 1000 MSBG is the first MSBG with a truly modular architecture and to include an option for a completely open partner application server. This allows customers to install on-premise software within the OSN server for on-site IP-PBX functionality, messaging or survivability features, etc.

AudioCodes told TMC Labs, "For the service provider, combining these devices into one package solves a real challenge they are facing with controlling the point of demarcation, plus it eliminates a lot of separate devices and simplifies the installation process." They added, "Another very unique aspect of the product is the migration path — allowing customers to start with a standard Mediant 1000 media gateway, then using modules and software options, add the functions needed within the same chassis." Lastly, the latest version, 5.4 Release also added IP-to-IP mediation (for IP transcoding) and the new Enhanced G.711 (EG.711) from Global IP Sound.

Challenger mobile

Mobile Business Challenger MBC AB
www.challengermobile.com

Mobile Business Challenger MBC AB, a company based in Sweden, offers a unique mobile VoIP solution called 'Challenger mobile' targeting mobile operators (MNO and MVNO) and related service providers (ISP, WISP), as well as retailers. From an end-user perspective Challenger mobile could be compared with Skype, Fring, or Truphone (News - Alert), but they are end-user services and do not offer operators a white label platform. "Challenger mobile develops and markets its white label Mobile VoIP platform that empowers mobile operators, wireless ISPs, and other service providers to deliver their own branded Mobile VoIP services to subscribers, with a rapid time-to-market and low barriers to entry," stated a Challenger mobile spokesperson.

Challenger's white label platform allows subscribers to place calls from their mobile phones over the Internet, using a WiFi, GPRS or 3G connection. In addition to core Internet telephony capabilities, Challenger supports remote mobile handset configuration, call detail record (CDR) support, call termination, and flexible CRM & billing system integration.

Adtran, Inc.	NetVanta 1335 Multiservice Access Router	www.adtran.com
Audiocodes	Mediant 1000 MSBG	www.audiocodes.com
Mobile Business Challenger MBC AB	Challenger mobile	www.challengermobile.com
Citrix Online	Citrix GoToMeeting 4.0	www.gotomeeting.com
Digium	Digium Switchvox SMB 3.5	www.switchvox.com
EMC Corporation	EMC Smarts VoIP Performance Manager	www.emc.com
Iwatsu Voice Networks	Iwatsu Enterprise Suite 1.0	www.iwatsu.com
Junction Networks	onSIP Hosted PBX	www.junctionnetworks.com
LifeSize Communications	LifeSize Express with Focus	www.lifesize.com
Mitel	Mitel Communications Suite	www.mitel.com
Phybridge	UniPhyer	www.phybridge.com
Polycom	Polycom HDX 4000 v2.0	www.polycom.com
Radware	SIP Director v2.0	www.radware.com
Redback Networks	SmartEdge 1200	www.redback.com
Salesforce.com	Salesforce Call Center and Salesforce Customer Portal	www.salesforce.com
Siemens Enterprise Communications	HiPath Wireless 802.11n	www.enterprise-communications.siemens.com
Siemens Enterprise Communications	OpenScape Unified Communications Server	www.enterprise-communications.siemens.com
Soapstone Networks	Soapstone Networks PNC	www.soapstonenetworks.com
Sylantro	Synergy Web Attendant Console	www.sylantro.com
Toshiba America Information Systems	Strata CIX1200 IP Business Communication System	www.toshiba.com
Verizon Business	Burstable Enterprise Shared Trunks (BEST) for IP Trunking	www.verizonbusiness.com
Vertical Communications, Inc.	Vertical SBX IP 320	www.vertical.com
VoiceObjects, Inc.	VoiceObjects 7.2	www.voiceobjects.com
Zed-3	S8 Modular Gateway	www.zed-3.com

Chart 1. Full Winners List

Challenger mobile explained, "Our platform allows operators to configure their end-users' phone with a "virtual SIM card" (just like you need a SIM card to make GSM calls) that enables their end-users to make mobile VoIP calls. In order to offer mobile VoIP, operators or service providers need to integrate the end-users handset into a VoIP network. We help them do this, by configuring the mobile device as a standard SIP client, which then uses the operator's data network to send and receive SIP-based VoIP data packets. SIP-based mobile VoIP can utilize any IP-capable broadband wireless network connection such WiFi or 3G."

They also pointed out the power of mobile VoIP to break into new markets — "When operators make a decision to launch mVoIP, time will be essential in defending their market from VoIP and mVoIP erosion. Also, if an operator wants to go in to a new geographical market, Challenger's mVoIP platform can be used as a tool to break in to a market without having a GSM or 3G license. The mVoIP customers can, in a second stage, be converted to GSM/3G customers."

The process is very straight-forward for users. The user registers for the service, then receives an SMS (text message) that helps configure and provision the handset. Once the phone is provisioned, the user can either make free mobile VoIP calls to other SIP-based phones, or make calls to any other international/long distance number at low rates.

Lastly, they told us they are developing a SIP client for downloading into mobiles that don't have a native SIP client, to enable a large number of mobile handset models to be able to use Mobile VoIP service. The client will also include integration with their call-back service, enabling low cost rates for international calls without a WiFi connection. The SIP client should be available by the time you read this.

Citrix Online

Citrix GoToMeeting 4.0
www.gotomeeting.com

GoToMeeting enables SMBs to have a cost-effective managed online meeting service that makes communication with employees, partners, customers, and prospects easier and more efficient. GoToMeeting users can collaborate on documents, deliver presentations, perform product demonstrations, and securely share confidential information from anywhere. Its screen-sharing technology allows presenters to share PowerPoint slides, financial spreadsheets or any other PC application with all participants in real-time. Users meet with others online to share, discuss and edit any document. Attendees do not need their own account to join a session and they do not need to pre-install any software.

The latest innovation with the launch of GoToMeeting 4.0, is the introduction of VoIP to go along with their PSTN capabilities. VoIP opens the door to inexpensive multi-national meetings as well as the convenience factor of not having to dial a conference bridge phone number. One nice feature is that an organizer can see who is talking and even selectively mute an attendee. Importantly, there will be no anticipated increase in the price for web conferencing with VoIP, while some competing providers charge for VoIP. GoToMeeting is built using patented bandwidth-adaptive compression technology, ensuring fast performance and real-time screen updates along with true 24-bit color representation. Powerful features include sharing of keyboard/mouse, drawing tools, and desktop recording & playback, Mac support, and Office integration.

Digium

Digium Switchvox SMB 3.5
www.switchvox.com

Switchvox is a comprehensive IP-PBX based on Asterisk with some unique features perfectly suited for the SMB market with a very attractive price-point. The latest version of the software, Switchvox 3.5 integrates with key CRM applications such as Salesforce.com (News - Alert) and SugarCRM through Switchvox' SMB's Switchboard interface. One "innovative feather" in Digium's cap is that Switchvox is the first product to incorporate sales and customer service "mashups" directly into an IP PBX system. This certainly improves the ways companies interact with customers, potential leads and outside parties. Customers can easily create custom mashups that leverage other Web applications, including Web 2.0 tools such as Google Maps.

According to Digium, "Its ease of use, ability to be customized to support each customer's business processes and workflow, and support for mashups make Switchvox 3.5 the ideal choice for any SMB phone system." They continued, "The ability to integrate Web 2.0 tools through mash-

ups is a key element that had been missing in the SMB telephony industry and allows SMBs to take full advantage of communications technologies available to them in one simple package."

Switchvox is very easy to setup and manage even for non-technically staff, which results in lower TCO. Switchvox's Switchboard is Web-based, so it runs on any OS (Windows Mac or Linux) and is easily updated across the whole system at once. Newly added or improved features include autoprovisioning of phones, multi-level administration with security levels, and batch direct inward dial (DID) mapping which allows administrators to quickly map all of the company's extensions to direct dial numbers rather than keying them into the IP PBX one at a time. Similarly, you can perform batch caller ID configuration which lets you specify per extension outbound caller ID for all extensions with one simple setting. Finally, Switchvox is backed by Digium, the company that founded the popular open source Asterisk movement and includes their excellent technical support staff.

EMC Corporation (News - Alert)

EMC Smarts VoIP Performance Manager
www.emc.com

EMC Smarts VoIP Performance Manager delivers performance data and reporting to help ensure high call quality and reliability. Using VoIP Performance Manager, you can manage, monitor, and diagnose VoIP services with its built-in intelligent alerting, deep diagnostics, and extensive reporting.

VoIP Performance Manager currently supports Avaya Communications Manager 3, Cisco Unified Communications Manager 5, Cisco Unified CallManager 4, and Cisco CallManager 3.EMC Smarts VoIP Performance Manager simplifies the task of managing large IP telephony deployments by providing you with one view across Avaya and Cisco technology. According to EMC, "VoIP Performance Manager saves global enterprises and large MSPs time and money by eliminating the need to purchase and maintain multiple tools, reducing the time and expense involved in training staff to use a variety of solutions, and enabling delivery and measurement of common service levels across multiple technology platforms."

VoIP Performance Manager delivers real-time information about phone extensions, phone calls, voice quality, availability of the telephone service, and interconnections to telecommunications providers. Importantly, the solution reduces the total cost of ownership (TCO) by giving you the performance data you need to optimize equipment overhead, bandwidth, and trunk capacity, perform capacity planning and avoid making unnecessary new purchases.

Monitors, measures, and manages the availability and performance of your VoIP services and systems as well as the network services supporting them through integration with EMC Smarts VoIP Manager and EMC Smarts VoIP Performance Reporter. VoIP Performance Manager alerts you if a route pattern has degraded or failed, and lets you drill down to determine which trunks or gateways have caused the problem. Additionally, it lets you map any of its thousands of metrics to your service-level agreements (SLAs). With these performance metrics VoIP Performance Manager can alert you to potential or current SLA breaches.

Iwatsu Voice Networks

Iwatsu Enterprise Suite 1.0
www.iwatsu.com

Iwatsu has embraced SIP in a big way and not for the reason you'd expect. Previously, the Iwatsu Enterprise Suite used analog cards as the interface between the voice processing server and the UC (unified communications) server. The major revision over the last 12 months involved completely removing the analog interface and using a pure IP connection; in this case, SIP. Iwatsu Voice Networks designed a SIP connection to provide an access path for assets within the Iwatsu Enterprise Suite. By using SIP it decreased hardware costs by eliminating analog hardware in the Iwatsu Enterprise Suite resulting in approximately 25% cost savings to the customer.

The target market for the Iwatsu Enterprise Suite (ES) 1.0 ranges from 20-400 users, which is a wider range than most phone systems. It can hit both the low-end (20) and the medium-sized business

(400) using the same product. Usually, when phone systems scale you need a different product, often one that is more expensive per port or extension. The Iwatsu ES is unique in that it uses a SIP interface and therefore system expansion is a simple matter of additional software licenses. Other systems, for example, can reach physical capacity as the business grows, necessitating additional hardware. SIP removes this limitation.

The Iwatsu Enterprise Suite consists of a full featured UC (unified communications) server and the voice processing server. The full featured UC server is the Iwatsu Enterprise TOL, and the voice processing server is the Iwatsu Enterprise-CS. Together, they make the Iwatsu Enterprise Suite. It's unified communications capabilities include speech recognition to route calls appropriately, the ability to send and receive faxes from email, voicemail-to-email with full synchronization, and it includes tailored presence management.

Iwatsu proudly claims, "Other manufactures can begin to approach these features, but they do so piecemeal: each application requires a separate server. Needless to say, this can be expensive and an integration nightmare. The Iwatsu Enterprise-Suite combines all aforementioned features and adds the ability to manage all UC applications using a mobile phone. So for review: one platform, complete UC using SIP as the communication path."

Iwatsu Enterprise Suite will now support GoogleTM Apps. This will allow small businesses that do not require an on-premise Microsoft Exchange environment can use Gmail — a fully-feature email component of Google apps—to deliver UC features. The Iwatsu Enterprise Suite uses IMAP to integrate with Gmail with full synchronization. Additionally, you can get innovative click to dial functionality from Google contacts, Gmail, Google Talk or Google Docs. This integration also enables message lighting on phones when using Gmail. Future versions of Google integration will allow for full featured presence capability, including using Google Calendar integration to provide user access to their daily agenda over the phone via text-to-speech technology. Iwatsu told TMC Labs this could not be possible without using SIP.

Junction Networks (News - Alert)

onSIP Hosted PBX
www.junctionnetworks.com

Junction Networks targets the SMB market with an advanced IP phone system without the large costs associated with one. Its hosted onSIP Hosted PBX solution enables workers at various locations, including teleworkers to simply use their IP phones and features over broadband Internet connections as if they all were physically attached to an on-premises PBX. Junction Networks offers traditional PBX enhanced functions that is available on an à la carte basis allowing customers pay only for what they need, not a fixed collection of functions. Junction Networks cuts SMB telecom costs further by charging nothing for intra-company, extension-to-extension calls or calls to SIP phones anywhere.

Importantly, Junction Network's onSIP hosted PBX offering combines basic SIP calling and PSTN gateway services with a comprehensive bundle of advanced PBX features, for one discounted price per customer, not per line or user. This is unique since many competitors do charge per line or user. While typical hosted PBX services charge $29, $39 or $49 per month per extension, onSIP is not priced by number of lines, but by usage of enhanced features and off-net calling.

The customer premise need only have any SIP-compliant phone or softphone for all phone functions to operate, and a web browser to be able to access the onSIP administrative interface. From the web tool you can make changes to call routing, pick up voice mail as email, and set up or remove new extensions and features. The hosted location holds the onSIP platform, built by Junction Networks using open-source software components, including the use of Open Source SIP servers for routing and Asterisk for enhanced services.

Customers can set the hosted PBX service up in minutes, add or drop lines or features themselves, and rely on Junction Networks to handle its customer support directly. Another unique feature is that it allows several IP phones at multiple locations to ring simultaneously at one number, so end users can place or pick up calls from home, office, or any other location.

In February on 2008, the onSIP service added the Inbound Bridge, an accessory service that ties in third-party providers of international and domestic DID numbers. Inbound Bridge saves money for onSIP customers by allowing them to find the best per-minute price for inbound VoIP calling minutes in their chosen geographic regions.

LifeSize Communications (News - Alert)

LifeSize Express with Focus
www.lifesize.com

Videoconferencing is becoming more and more popular, especially as a fuel and travel costs continue to rise. But simply using a desktop webcam for a professional business meeting won't suffice. Step in the new LifeSize Express with the new LifeSize Focus integrated HD camera and microphone array claims to be the world's first high definition video communication system with a retail price below $5000. The system delivers an immersive, high definition telepresence experience over existing broadband networks. LifeSize Focus features a high definition video camera that delivers full HD 1280x720 video (720p) at 30 frames per second. Its high-end camera provides outstanding image quality in a wide range of light conditions. It also features an integrated two-microphone array with beam-forming technology for superb sound quality. By eliminating external microphone pods and integrating the microphone array in the camera housing, LifeSize Focus saves space on conference room tables which is often at a premium.

LifeSize has several innovative firsts, including being the first company to deliver a high definition video conferencing system, LifeSize Room, in 2005. They were also the first to bring the price of high definition below $10,000, with LifeSize Team, in 2007. LifeSize Express with Focus is very compact — about the size of a wireless router and it provides HD video at 1MBps. It is fully interoperable and standards-compliant with H.264 HD and H.263 Standard Definition video conferencing systems. The device can be connected directly to any HD monitor and in addition to H.264 compliant HD video it also features wideband audio.

Mitel

Mitel Communications Suite
www.mitel.com

The Mitel Communications Suite, a pre-integrated unified communications solution, allows Mitel's flagship 3300 IP Communications Platform (ICP) software and other related applications to be integrated as a single seamless communications solution for business, resident on a standard Sun X4150 SunFire server.

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Features include support of up to 5,000 users per server and SIP Application Integration for unified messaging, conferencing, and Microsoft Office Communications Server 2007. In addition, you can use a single software stream for deployments from 10 users up to 65,000 users in a clustered configuration. The platform has HTML and XML support for business process integration at the desktop telephone and SIP Trunking capabilities. It can be deployed on the customer premise or offered as a hosted service. If hosted, the Mitel Communications Suite is remotely located providing connectivity and service over an IP-based MPLS or broadband connection.

Mitel told TMC Labs, "The tight integration of call control and communications applications into a single package offered on a commercial server for the medium business market, we believe, is an industry first. Mitel is the first voice partner for Sun Microsystems. This is the first IP voice solution offering from Sun which is 'Powered by Mitel' branded."

The Mitel Communications Suite delivers simplified system installation and management, business process improvement, and a reduction in operating costs by consolidating low-power consumption telephony and server hardware platforms for IT and unified communications applications. Mitel will add its Mitel Applications Suite solutions base to the same high performance Sun Fire X4150 server that carries the rich features of the Mitel call control. This will allow customers to consolidate applications such as Mitel NuPoint Messenger IP, Mitel Live Business Gateway, Mitel Teleworker Solution, Mitel Mobile Extension, and Mitel Audio and Web Conferencing all on a single server.

This solution also provides SIP / CSTA gateway connectivity for Microsoft's Office Communications Server 2007 and allows for the extension of Microsoft presence capability to a host of Mitel applications including NuPoint Messenger IP, Mobile Extension, Customer Interaction Solutions, operator console, and more.

Phybridge (News - Alert)

UniPhyer
www.phybridge.com

The Phybridge UniPhyer is a Layer 2 Ethernet appliance that enables unique voice and data network convergence with Power over Ethernet (PoE) and guaranteed Quality of Service (QoS). It actually leverages your existing phone cable network and your existing data cable network to create what Phybridge calls a "Parallel Voice Network (PVN)" to deploy IP telephony with no network downtime. Essentially, the appliance leverages your existing copper phone wiring (RJ11) to run the voice IP packets over, thus separating the VoIP packets from the data packets that run over traditional RJ45 network cables. This results in two separate networks — one for voice and one for data, which will result in better quality of service (QoS) since even a heavy load on the LAN won't affect the separate VoIP network. They claim the appliance is quick and easy to install, offering centralized PoE, and a dedicated voice path to each desktop. The UniPhyer is IP PBX and phone agnostic and deployment is very fast.

Here's how the process works, you simply:

- Disconnect the existing TDM PBX.
- Install the chosen IP-PBX on the LAN.
- Connect the Phybridge UniPhyer to the TDM amphenol connectors.
- Attach the UniPhyer to the LAN through one of the UniPhyer's Gb. Ethernet connections.
- Attach the UniPhyer PhyAdaptor to the RJ11 telephone jack at the user's desk.
- Attach the IP telephone of choice to the RJ45 jack on the UniPhyer PhyAdaptor.

Phybridge has invented and filed a patent regarding carrying both PoE and signaling over two wires. As a result business can leverage their existing legacy telephony infrastructure to deploy IP telephony. Phybridge told TMC Labs, "The current methods require a leap of faith in the pre-deployment phase — issues can include cabling, Quality of Service (QoS) and constant monitoring of the network. Phybridge is the first to address these issues and offer hardware appliances that solve deployment challenges and enable unified communications and converged networks, all at a fraction of the cost."

Polycom

Polycom HDX 4000 v2.0
www.polycom.com

The Polycom HDX 4000 is an integrated desktop visual communications system offering UltimateHD — comprehensive HD video, HD audio and simultaneous HD multimedia content collaboration. The HDX 4000 allows users to talk face to face and share virtually any type of PC content in high definition, simultaneously. The HDX 4000 works seamlessly with Polycom telepresence solutions, as well as standards-based HD, SD and other video conferencing systems from Polycom and other manufacturers with its support for H.320, H.323, and SIP.

What's unique about the HDX 4000 is that it is designed as a complete video collaboration solution, meaning you don't need a separate display and it can be easily moved as needed. The Polycom HDX 4000 solutions are designed to fit on an executive desktop as a personal system, at a small table, or in a small conference room to support up to four people on camera. HDX 4000 systems contain all necessary components including an integrated 20-inch 16:9 display that can double as a PC monitor (up to 1680 x 1200 resolution); a built-in HD camera with pan-tilt-zoom capability; integrated dual HDX microphones that are immune to GSM interference (mobile phones, PDAs), high-fidelity speakers and subwoofers; a powerful, standards-based HDX video conferencing codec; and a stand with an integrated keypad that allows users to dial or answer video calls just like a telephone. It also features HD voice (22kHz stereo audio) and simultaneous HD multimedia content sharing capabilities (dual HD streams for video and content; content shared in native resolution).

The HDX 4000 features Polycom Lost Packet Recovery (LPR) technology, a forward error concealment technology that improves the quality of video communications over IP networks that may experience packet loss. This technology also helps make HD video collaboration more viable over sub-optimal network environments that may experience packet loss or network congestion when communicating with corporate offices. Polycom LPR technology delivers outstanding video, voice, content quality with up to 10% packet loss.

Perhaps the most innovative feature is that it can deliver 'People On Content', or chroma key technology (a.k.a. green screen), that allows people to become part of their content during a call. This enables users to do that with any type of content running behind them (video, static images, CAD drawings, animation, etc.). IT

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By Greg Galitzine

FreedomVOICE Serves Small Business with Advanced Technology

For over thirteen years Encinitas, CA-based FreedomVOICE Systems has served the small business market with a variety of telecommunications services. I recently had the opportunity to speak with company officials.

"FreedomVOICE Systems is a provider of virtual office systems," said a company representative. "Instead of using old-fashioned hardware, we put telephone services up on the Internet. We get a lot more flexibility, scalability and convenience for the average user."

Among the more popular services offered by FreedomVOICE are 800 Numbers. Combined with a sophisticated voicemail system, even a home-based business can appear to the outside world to be a much larger enterprise. Online voice mail and faxing are also customer's favorites.

"For people who are working out of their homes or are keeping odd hours — which is almost everybody these days —it's great that you can check your voicemail and view faxes wherever there's Internet connectivity," explained a FreedomVOICE official. "You can also use our systems to capture call numbers, so you can follow up on leads or contact someone whose call you missed. In addition, we provide a pay-as-you-go, reservation-less teleconferencing service."

"We serve business needs by making advance technology user friendly," said a company representative. "Even the technologically adverse can use WebLINK, our patented Web interface, to manage their virtual office systems. We make it easy for them to add or remove services, so business people pay only for what they use."

While affordable virtual office systems have been a boon to home-based enterprises, FreedomVOICE has its eye on the small business market, estimated to be 25 million. The firm is "finding that small businesses are replacing their phone systems every two to three years." Hosted PBX systems are simpler and cheaper to replace than traditional hardware. Also, they don't need technicians to add or remove extensions. As many as four million potential customers are looking for a hosted PBX service every year.

To meet this need, FreedomVOICE has recently introduced FreedomIQ Hosted VoIP PBX Service. The simplicity of the system has pleasantly surprised customers and installers of old-fashioned PBXs.

"Telephones — that's basically it," FreedomVOICE officials said. "We run everything through the web and the computer and that's a huge advantage. You don't need to have a closet full of hardware. With us it's just the WebLINK Internet control panel and the telephone."

While FreedomVOICE was able to draw on its extensive experience with virtual office systems to ensure that FreedomIQ had the flexibility that today's entrepreneurs demand, it also needed to deal with the critical issue of VoIP sound quality.

"We're providing a business quality VoIP service with a sound that you can absolutely rely on," the spokesperson said. "We support analog phones with an ATA, but the system works much better with SIP phones. We work with Polycom, and have been very pleased to use their phones for our VoIP services."

Businesses with satellite offices or employees who work from home have been especially interested in FreedomIQ. It integrates employees at all locations into a unified system, so it appears to be one office to someone calling in.

"Managers of remote offices like our call recording feature," the company officials added. "They use it to monitor the quality of customer service or technical support or their employees. They can also measure the productivity of off-site workers by generating reports on missed calls, calls answered and the phone numbers of who they have been talking to."

While FreedomIQ Hosted VoIP PBX Service is the company's most recent offering, it won't be its last.

"The needs of businesses are constantly evolving," declared a spokesman for FreedomVOICE. "We'll be sure to meet them with the latest technology."

Going Green

One of the hottest trends in tech these days has to do with "going green." The move is definitely on when it comes to reducing an employee's need to commute or travel for business through applications such as conferencing and the ability — and corporate buy-in — to let increasing numbers of employees work from home.

FreedomVOICE Systems sees their customers increasingly taking advantage of their FreedomIQ solution to play their part in the green movement.

According to FreedomVOICE Systems company officials, "Taking advantage of hosted PBX systems, such as our FreedomIQ offering is one way that businesses are able to "go green." Businesses are increasingly willing to let their employees work from home, so they do not contribute to pollution by driving back and forth to the office, and not having to supply so much air conditioning at work, etc... One of the ways that Freedom IQ is helping businesses go green is by enabling employees to work remotely."

A recent white paper from FreedomVOICE entitled Growing A Small Business — The Benefits of Hosted PBX & Telecommuting discusses the many benefits of deploying a virtual office solution, including the green benefits such a solution delivers.

To receive a copy of the whitepaper please visit FreedomVOICE sponsored VoIP Phone System community on TMCnet at http://voip-phone-systems.tmcnet.com. IT

– Greg Galitzine (News - Alert) is Editorial Director for TMC.

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