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INTERNET TELEPHONY®

The IP Communications Authority Since 1998™

Volume 10/Number 10 October 2007

Appliances, Appliances

Pg. 1

10 Tips for Successful Conferencing and Collaboration

Dual-Mode Phones for Enterprise Mobility
Pg. 58

Security for **Triple Play**
Pg. 52

IPTV **is Here!**
Pg. 70

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(rtehrani@tmcnet.com)

EDITORIAL
Group Editorial Director, **Greg Galitzine**
(ggalitzine@tmcnet.com)

Executive Editor, **Richard "Zippy" Grigonis**
(rgrigonis@tmcnet.com)

Associate Editor, **Erik Linask**
(elinask@tmcnet.com)

TMC LABS
Executive Technology Editor/CTO/VP, **Tom Keating**
(tkeating@tmcnet.com)

ART/DESIGN
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Graphic Designer, **Lisa Mellers**

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Western/Southwestern, U.S., APAC
Bob Johnson, *978-337-3828,* (bjohnson@tmcnet.com)

SUBSCRIPTIONS
Circulation Director, **Shirley Russo,** *ext. 157*
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Internet telephony is revolutionizing telecommunications through the convergence of voice, video, fax, and data, creating unprecedented opportunities for resellers, developers, and service providers alike. ***INTERNET* TELEPHONY®** focuses on providing readers with the information necessary to learn about and purchase the equipment, software, and services necessary to take advantage of this technology. ***INTERNET* TELEPHONY®** readers include resellers, developers, MIS/networking departments, telecom departments, datacom departments, telcos/LECs, wireless/PCS providers, ISPs, and cable companies.

By Richard "Zippy" Grigonis

Appliances, Appliances

The increasing wealth of Americans in the 20th century led to a proliferation of household appliances - discrete devices that accomplished some specific, routine housekeeping task, such as cooking, food preservation, or cleaning. Appliances such as toasters and refrigerators were a bit over-designed, with rounded surfaces and distinctive features, at least until 1957, says John Jowers of Jowers Appliances in Clayton, Georgia, a company that will sell you a restored, vintage appliance costing anywhere from $2,500 to $6,000. After 1957, things became more boxy, streamlined and "techno".

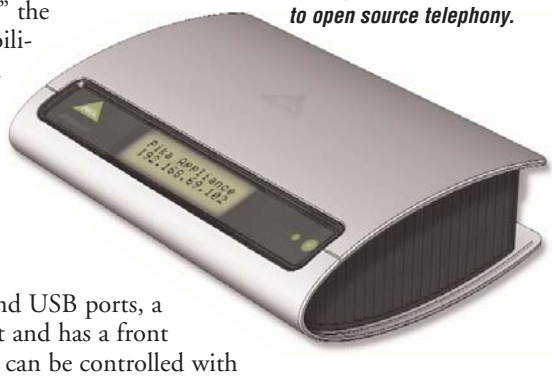
There still seems to be an appliance mentality among many people. That's why, in an effort to capture the small- and medium-sized business (SMB) market, vendors have been developing IT appliances which, like their household brethren, are self-contained systems that can be plugged into an existing IT infrastructure to carry out a single purpose, making them comparable to consumer appliances.

Recently, PIKA Technologies, (news - alert) a vendor of media-processing hardware and software, announced the release of its PIKA Appliance for Asterisk, a smaller-sized and lower-cost alternative to traditional off-the-shelf computers that's purpose-built for the Asterisk open-source communications platform.

The PIKA Appliance provides developers with an out-of-the-box embedded computer that they can use to deploy Asterisk with a large set of traditional and next-gen telephony features, optimized for SMBs. The unit is essentially a "micro" Key Service Unit (KSU), which means it is imbued with many telephony-based features (e.g. power-failure transfer, audio input for music-on-hold, audio output for paging, etc.) not normally found in the "vanilla", off-the-shelf PCs typically used to run Asterisk.

In the VoIP (define - news - alert) environment, the unit accommodates up to a combination of 100 trunks (FXOs) and telephones. Four-port FXS modules (for phones, fax machines, answering machines, etc.) and four-port FXO modules can be used in any combination to a maximum of 8 additional ports for use with either trunks or telephones. Each four-port module also contains a power failure transfer jack (RJ-11).

PIKA's Asterisk appliance brings Key Service Unit features to open source telephony.



Developers can "private label" the appliance, giving them some ability to differentiate themselves in the marketplace. For example, Unlimitel will be introducing the PIKA Appliance for Asterisk to its customers in the SMB market.

The unit also has Ethernet and USB ports, a 2x20 LCD display that's backlit and has a front panel scroll button (the display can be controlled with the API).

In true appliance fashion, there's even an externally removable SD flash memory card, so you don't have to worry about hard drive failures. **IT**

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

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OfficeServ 7100

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What's On TMCNET.com 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 16 million page views per month, translating into more than 1,000,000 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.

Why UC Needs Hyperconnectivity
Let's face it! UC is not simple. It is more complicated than just voice telephony or any one particular form of messaging, because it is really a 'mix and match' of multimodal communication capabilities that individual end users will selectively exploit depending upon their personal needs.
www.tmcnet.com/1185.1

Unifying Advanced Mobile Features for Enterprise Communications Everywhere
Beyond using emerging technology to mobilize existing telephony functions, there are also ways to squeeze out additional productivity by using unified communications capabilities to enable individuals to move seamlessly between voice, instant messaging, presence, etc.
www.tmcnet.com/1186.1

The Missed iPhone Story
One wag observed that more has been written about the iPhone than was written about Hitler's invasion of Poland. Amidst the forests that fell and the barrels of ink expended on Steve Jobs' baby an increasingly far-reaching breakthrough of this far-reaching device has been overlooked. AT&T is provisioning a mobile device that bypasses the AT&T wireless network!
www.tmcnet.com/1187.1

VoiceXML: Is the Dream of Portability a Reality Today?
A few years ago, the IVR industry was revolutionized by an emerging technology standard. Now that VoiceXML has become the defacto application development standard, it's time to check in on whether it has fulfilled that promise and just how portable VoiceXML applications have actually become.
www.tmcnet.com/1188.1

Being Green is Good for the Bottom Line
Encouraged by customers to examine the impact of their operations on the environment (or "carbon footprint") many businesses are finding that going green can actually save money over the long term. Being green has changed from a moral obligation to a smart business practice.
www.tmcnet.com/1189.1

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.

Convergence in Telecommunication
Only about 20 years ago, the telecommunication world was clearly defined. During these days, an incumbent operator delivered a voice service based on a relatively simple technology dedicated for that purpose. A few years later, the introduction of mobile services brought about a major revolution. The back office, and to some extent, the front systems were, as a result, relatively strongly linked to these underlying technologies.
www.tmcnet.com/1190.1

Laying the Groundwork for WiMAX
AT&T is currently transitioning from a technical trial of early WiMAX access technology that involved a handful of customers and pre-standard equipment to one involving more than a dozen customers and standards-compliant equipment. The primary goal of the first technical trial was to test the viability of the emerging wireless network as a potential access service by comparing it with T1 technology in terms of reliability and performance. The early trial indicated that WiMAX is on par with T1 technology in terms of the key network performance metrics: latency, jitter, throughput, and packet loss
www.tmcnet.com/1191.1

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TMCnet's NAT Traversal Channel
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http://www.tmcnet.com/channels/nat-traversal/

TMCnet's Business VoIP Community
While most businesses today are running Windows-based software, most IP PBXs require Linux servers, adding a layer of complexity that is required to gain the tremendous benefits of the latest IP Communications solutions. For the latest news, information, and educational features on Linux PBXs, visit TMCnet's Linux PBX Channel regularly. Sponsored by Pingtel.
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Go to Table of Contents | Go to Ad Index

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By Rich Tehrani

IT EXPO West 2007 Scores Big in L.A.

The most recent Internet Telephony Conference & EXPO (www.itexpo.com) in Los Angeles demonstrated to me (and everyone in attendance) just how strong the IP communications market is. We had a tremendous number of resellers, enterprise customers and service providers at the show, and perhaps most importantly, the energy level at the show was high. I believe that a high energy level directly translates into a great environment for many companies in the IP communications space. (To view a video, which captures some of this energy, visit www.tmcnet.com/1178.1.)

ITEXPO Demographics

Marketers always need to understand who is buying what. There's an old adage "Your best prospects are your existing customers." Of course, finding some new ones isn't a bad idea either, which is why vendors of IP equipment and services - not to mention media and EXPO organizations such as TMC - depend on accurate customer and industry demographics in shaping a strategy for the IP communications marketplace.

In the case of ITEXPO West 2007, the audience for this event consisted of the following:

- Enterprise: 35%
- Reseller: 32%
- Service Provider: 23%
- OEM/Developer: 10%

News and More News

An overwhelming amount of industry news emerged from this recent ITEXPO. In fact, I cannot remember a TMC event with more analysts, members of the press or articles written about news breaking from the show. I captured some of these stories in a recent blog entry (www.tmcnet.com/1179.1).

Additionally, here's a recap of my experience at the conference and the results of a few of my meetings there…

As the show launched, I moderated a session titled "Making Money Selling VoIP" (www.tmcnet.com/1180.1) and the panelists gave some important "takeaway" advice for the reseller community: Become a partner in your customer's success or else. In other words, if you think your value lies in pulling cable at the customer's premises you may be soon looking for a new line of work.

At the show I caught up with Gurmeet Lamba, the VP of Engineering at Clarus Systems, (news - alert) who told me that the company's automated testing tools now handle end-to-end IP telephony management. A new module called Voice Monitor is a sophisticated rules-based alerting and notification engine.

As Lamba pointed out, "There is no complete list of why things happen," referring to why IP communications systems occasionally have snafus. He went on to explain how sometimes problems pop up because a technician improperly provisions a system or at least a few components of a system. For this reason the Clarus Systems solution looks for security problems such as malicious calls, toll fraud, excessively long international calls and unencrypted endpoints among other things.

Lamba described how his company empowers unified communications and, as a side note, he explained how the solutions his company sells are "probe-free".

The New Mitel/Inter-Tel

As you may be aware by now, Mitel recently acquired Inter-Tel and Inter-Tel has become Mitel U.S. under the leadership of CEO Norman Stout. Don Smith will remain the CEO of Mitel. The Mitel 3300 will be the company's midsize platform going forward and the primary SMB solution will be the Inter-Tel 5000.

The high energy level at ITEXPO directly translates into a great environment for many companies in the IP communications space.

Go to Table of Contents | Go to Ad Index

The company is working feverishly to allow interoperability between devices, phone systems and applications, as you might imagine.

Mitel feels they have some of the best customer support and service on the market and they all tell me their SMB solutions excel because the company doesn't look at the SMB space as an unsophisticated market willing to settle for watered-down applications.

In an unexpected twist, the company's spokesman, Simon Gwatkin, told me they even have a case study of how their phones saved a customer a few watts per seat on a large buy, which led to a more rapid ROI.

I also had a very interesting conversation with William "Duffy" Mich, Chairman and CEO of Aperio CI, regarding iPhone's adoption in the enterprise. Duffy knows a great deal about these devices as he recently banned them from his office due to the massive amounts of productivity they zapped from his workers.

He explains that the iPhone is extremely unsecure - especially the instant messages, e-mails and Web sites browsed. Moreover, the iPhone gobbles up business time in various other unproductive ways, making it a big time-waster.

The iPhone sends data when off and bills are generally higher than expected.

Finally, Duffy mentioned the associated costs for which the iPhone has become infamous, such as the massive phone bills involving Europe - there is no unlimited international plan; the device sends data when off and bills are generally higher than expected.

Other issues worth noting are legal/regulatory in nature and could be a potential pitfall if iPhones are paid for by a company. One big problem is this: if the company pays for the device, the company has to be able to track data transmitted by it in a potentially improper manner. Therefore, all IMs and visited Web pages need to be archived.

Other problems with the iPhone include the sheer physical size of the bill, which in some cases has reached hundreds of pages each month because of the detailed way the activities of each phone are logged. Obviously, it would be more sensible to save this data and make it available online - and while we're on this subject, just exactly how much data needs to be stored anyway? Every Web page? Every video? Every GIF?

These are some of the questions that must be answered.

Aperio CI sees an opportunity for service providers to generate revenue by helping companies with their archiving needs as they relate to regulatory compliance. There is also an opportunity to set alerts based on spending and or excessive usage. As you may have surmised, this is the area in which Aperio CI plays and the company is actively helping service providers tackle these issues today.

And speaking of service providers, I had a chance to sit down at the show with Bandwidth.com's CEO Henry Kaestner and learn about their SIP trunking business. The company works with a number of partners from CDW to Fonality and Digium. Kaestner tells me he looks to make it easy to provide wholesale circuits and access lines and has a low 0.6% churn rate.

So what does a voice and data service provider do to grow their business? Expect Bandwidth.com to start offering conferencing, hosted IP communications, e-mail, storage, and CRM services in the future.

If you are a reseller or hardware manufacturer, you may want to look up this interesting company.

From a service provider we go to a company which enables service providers - I spent some time with Greg Welch, the CEO of Global Touch Telecom who tells me that, aside from VoIP-enabling MDU providers DirectTV and Greenfield Communications, they are also powering a new service called "VoIP for Dummies." Details are forthcoming.

Greg told me that their average reseller makes 50-70% gross profit. Contrast this to Broadsoft and Sylantro solutions he says that take a big share of the revenue out of a service provider's pocket.

Thanks again to all of you who continue to make Internet Telephony Conference & EXPO the best-attended show in IP Communications. I look forward to personally welcoming you all at our next event in Miami, January 23-25, 2008. You can register now at itexpo.com. IT

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Achieving Excellence

The editorial staff of INTERNET TELEPHONY® magazine is proud to announce the winners of the 2007 INTERNET TELEPHONY® Excellence Awards. These companies are as varied as there are products that fit under the IP telephony umbrella. In fact the only thing more varied than the vendors serving their customers are the customers themselves. And, as we can see from the following companies, they are increasingly turning to IP Communications solutions to build their businesses. This year's crop of award winners submitted case studies featuring a wide array of end users. For example:

• One of the largest Windows Mobile-based smart-phone OEMs in the world has chosen one winner's technology to be integrated into its tri-band 3G phones, enabling them to offer incredibly fast speeds for Internet and video calling.

• A Norwegian next-gen telco offering voice, data, IPTV, and video services over Fiber-to-the-Home selected the solution of one of this year's winners to enhance their mobile offering and expand their reach further into the mobile domain, as well as reduce churn of subscribers once they were on the network. The addition of quad play helps the carrier to confirm their reputation as a pioneering communications provider by supplying innovative FMC services that integrate VoIP with GSM and WLAN.

• One winner's routing solution allowed their customer - a major Taiwanese telecommunications service provider - to effectively scale their residential and business service offerings to a nationwide customer base while simplifying overall network architecture and operations.

• A Vietnamese expatriate wanted to find a way for his displaced countrymen to communicate. In the 1990s he founded a multi-faceted business service provider for the Asian Community including: travel, accounting, calling cards and pin-less numbers. More recently, this entrepreneur also had a vision to connect his business enterprises and expand his services into the VoIP world and connect his U.S. customer base directly with Vietnam and Asia. By taking advantage of the services of one of this year's winners, he was able to build a successful business.

• A leading Canadian Microsoft Gold Certified Partner was outgrowing their Windows-based PBX system for their main office in Toronto. They were experiencing significant growth, adding offices, and increasing telecommunication expenses. While the existing system was adequate for one location, it was no longer an appropriate solution for the growing concern. The company recognized that the success of their business required a new communications infrastructure that used VoIP (Voice over Internet Protocol) and supported SIP (Session Initiation Protocol). They chose an enterprise VoIP platform offering all the advantages of an open standards solution with the reliability of non-stop hardware, 24x7 monitoring and software support.

• A Life Sciences consultancy providing professional services and learning solutions to the pharmaceutical, biotech, and medical devices industries needed a solution to help deliver superior service at reasonable cost, through "nomadic" teams of industry specialists. The platform had to be flexible enough to support a growing, geographically dispersed and regularly relocating professional staff. A hosted VoIP PBX from one of the award winners proved to be the solution.

• The Bedford County, Pennsylvania Government encompasses a number of important public service entities. In 2007, the construction of a new $20M state-of-the-art facility was completed to bring together county department services under one roof. Because the previous phone systems at the various locations were antiquated, Bedford County opted to purchase and install a new 350 station communications system to meet the voice and data requirements for its new facility. They installed a converged solution from one of the award winners to support both digital and IP applications and offer the flexibility for users to grow their telephone system as needs adjust.

• A major medical insurance company turned to an award-winning solutions provider to institute a custom Click-to-Talk solution to improve response times and increase customer satisfaction. The new solution is credited with reducing on-hold times from 50 minutes to about 12 seconds, allowing health care providers to better focus on their vital role in caring for their patients. Because the customer calls enter the queue via the Internet, neither the insurer nor the provider incurs telephone toll charges.

• When a third-party logistics service provider offering services to companies that want to outsource the physical distribution of manufactured products began planning to move its operation to a new 100,000 square-foot warehouse, management was debating whether to invest in moving and reprogramming their existing phone system, which didn't provide the advanced features they needed, or go shopping for a new phone system. The firm decided to go with a phone system from one of the award winners.

• A 60-person information technology consulting firm based in Manhattan has been delivering the promise of technology and business efficiency to small to mid-sized organizations. The company found itself needing to increase internal productivity and customer service levels by tracking support calls. They deployed an on-demand solution from an award-winning company to enable their decision makers and call center supervisors at mid-size businesses make intelligent decisions about staffing and call flow. The firm's average speed-to-answer is now 10 percent faster, even with a 30 percent call volume increase during the same period with no increase in headcount.

Congratulations to the winners of the 2007 INTERNET TELEPHONY® Excellence Awards. These companies all have proven products and services, and most importantly, customers that are willing to speak up and offer themselves as references.

And as we like to remind readers, always check out those customer references. These days - through the efforts of companies such as those gracing our winners' list - that's becoming ever-easier to do. IT

Go to Table of Contents | Go to Ad Index

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Toshiba America Information Systems – Telecommunication Systems Division	www.telecom.toshiba.com	Strata CIX IP Business Communications System
Verint Witness Actionable Solutions	www.verint.com	Impact 360 IP Recording
Vertical Communications	www.vertical.com	Vertical XTS-IP Communications Systems
VoEX	www.voex.com	VoEX SuperRegistry & Peering Solution; VoEX IP Trunking
WebEX	www.webex.com	WebEx Event Center

www.tmcnet.com/1137.1

Telanetix Brings Big Business Converged Communications to SMBs with AccessLine Acquisition

Telanetix (news - alert) is looking to substantially expand its customer base, having reached an agreement to buy hosted VoIP provider AccessLine Communications. (news - alert) Not only does the acquisition help Telanetix grow its customer pool, but it drives that growth efficiently, since the new AccessLine customer base is already working on an IP platform, so there is no education required as to the benefits of moving to IP, nor is there the uncertainly often involved with the migration process. All that is really required is an understanding of the benefits of telepresence and the cost effective platform Telanetix offers.
www.telanetix.com
www.accessline.com

www.tmcnet.com/1140.1

Samsung Launches Two SyncMaster Monitors With VoIP Capability

Signaling a new era in video conferencing and video calls, Sasmung Electronics (news - alert) recently introduced two 22-inch monitors with VoIP functionality. With Samsung's SyncMaster 225UW, users can make VoIP calls conveniently, as it is optimized for Microsoft's Unified Communication solution, or they can chat with traditional messaging systems.

www.samsung.com

www.tmcnet.com/1141.1

Affordable Video Conferencing from Extreme Video Solutions

Extreme Video Solutions (news - alert) offers affordable video conferencing solutions, based on a leasing model rather than direct sale. For about $3,000/month and a minimum 3-month lease, customers get a T1 line and a 61" monitor with unlimited video conferencing, including multipoint conferencing. One of Extreme Video Solutions' customers is Major League Baseball, which has the solution at 90 sites.
www.extremevideo.us

www.tmcnet.com/1142.1

Nortel Completes Interoperability Testing with Mediatrix

Nortel (news - alert) and Mediatrix Telecom (news - alert) have completed joint interoperability tests verifying the compatibility of Mediatrix' VoIP gateway and access device solutions with Nortel's application and communication server solutions. Leveraging this product compatibility mutual Mediatrix and Nortel Networks customers can seamlessly operate both solutions together in any telecommunications network environment.
www.nortel.com
www.mediatrix.com

www.tmcnet.com/1143.1

GL Communications Unveils the BRI Phone Simulator (BPS)

GL Communications (news - alert) has released its new product - the BRI Phone Simulator (BPS). The DCOSS BRI Phone Simulator links to a BRI Network to support up to 128 Digital phones for every DCOSS System. Basically, the BPS transforms the company's DCOSS into a BRI ISDN Terminal Phone Simulator. With the help of a basic DCOSS, E1 PRI ISDN trunks and a BPS external box, the solution can be implemented for the testing of a BRI Network. The DCOSS is linked to the BPS through a PRI ISDN E1 trunk. Utilizing the DCOSS GUI, calls are generated to the BPS.
www.gl.com

www.tmcnet.com/1148.1

Enterasys Enhances NetSight Suite

Network security solutions provider Enterasys Networks (news - alert) has introduced the latest version of its NetSight management software suite for centralized visibility and control of heterogeneous networks. NetSight 3.0 significantly enhances the client/server architecture, adds multiple ease-of-use features, and scales to match the needs of the smallest to the largest enterprise networks.
www.enterasys.com

www.tmcnet.com/1146.1

Pika Releases Appliance for Asterisk for SMBs

Pika Technologies (news - alert) has announced the release of its Pika Appliance for Asterisk, which company officials describe as "a smaller-sized and lower-cost alternative to traditional off-the-shelf computers." The new appliance is purpose built for the Asterisk open source communications platform. This unit provides developers with an out-of-the-box embedded computer, Pika officials say, that allows them to deploy Asterisk optimized for the SMB environment.

www.pikatechnologies.com

www.tmcnet.com/1145.1

Samsung Unveils 'iPhone Killer,' the F700

Samsung Electronics (news - alert) has announced its multimedia touch-screen mobile phone, with which it hopes to win the current market position held by Apple's iPhone. Samsung's Mobile Hybrid, the F700, has a full touch-screen control, but differs from the iPhone in that it offers a QWERTY keypad hidden underneath.

www.samsung.com

www.tmcnet.com/1149.1

Quintum Announces New Rapid Deployment Features for Tenors

Quintum (news - alert) has completed beta testing of two new rapid deployment technologies that will allow its customers to deploy Tenors and configure them automatically, without requiring an on-site visit to the end user location. The Auto-discovery interface allows service providers to identify all Tenors being deployed on customer premises, by their IP Address, serial number, software version, and description.
www.quintum.com

www.tmcnet.com/1150.1

Optimum Lightpath Unveils Broadcast Video Transport over Metro Ethernet

Optimum Lightpath (news - alert) has introduced Broadcast Video Transport (BVT). BVT is the latest entrant into Optimum Lightpath's Metro Ethernet Intelligent Transport Services portfolio. Optimum Lightpath's BVT is expected to fulfill the needs of the media sectors, including production facilities, broadcasters, television stations, content distributors and enterprises with high-resolution broadcast quality video requirements.

www.optimumlightpath.com

www.tmcnet.com/1152.1

Reignmaker Gets Funding For Expansion

VoIP Hosted PBX telephony service provider Reignmaker Communications (news - alert) has announced that it closed on $5.3 million in funding. Reignmaker will utilize the funding to grow its REIGN-FREE VoIP hosted PBX Service.

www.reignmaker.net

www.tmcnet.com/1153.1

Starent Networks Launches Intelligent Traffic Control In-Line Service

Starent Networks (news - alert) has introduced Intelligent Traffic Control as an In-line Service for its ST16 and ST40 multimedia core platforms. ITC interactively allocates network resources based on subscriber, application or business policies. As an In-line Service, ITC leverages other services available in Starent's solutions, such as deep packet inspection and subscriber policy control and enforcement.

www.starentnetworks.com

www.tmcnet.com/1154.1

BT Launches Service to Help Organizations Reduce Energy Consumption

The newly formed Global Services sustainability practice for BT (news - alert) has launched a service to help large corporate and public sector organizations to reduce their energy consumption and carbon footprint. With BT's carbon impact assessment, organizations are able to accurately calculate the amount of CO2 emissions produced as a result of the use of networked IT services.

www.bt.com

www.tmcnet.com/1155.1

Video Clarity Partners with Sarnoff Corp. to Provide Video Quality Analysis Tool

Video Clarity and Sarnoff Corporation will integrate their respective technologies to provide a comprehensive, quantitative video quality analysis tool. The combination of Video Clarity's (news - alert) ClearView testing tool with Sarnoff's (news - alert) Just Noticeable Different (JND) and other artifact detection algorithms allows video experts to play, capture, view and quantitatively measure video sequences.

www.videoclarity.com
www.sarnoff.com

www.tmcnet.com/1156.1

Telchemy Unveils IPTVtroubleshooter.com

Telchemy (news - alert) has launched www.IPTVtroubleshooter.com, a free industry resource on IPvideo quality and performance. The site will offer important information on issues and problems that can affect the quality of IP video services so that service providers and network managers will be able to understand how to configure and provision video services and how to diagnose problems.

www.telchemy.com
www.iptvtroubleshooter.com

www.tmcnet.com/1157.1

US National Telecom Subsidiary Vitelity to Double Capacity

US National Telecom confirmed that its recently acquired subsidiary will be doubling its bandwidth capacity, thanks to a deal with XO Communications.(news - alert) The increased bandwidth will be used by US National Telecom to improve handling of its VoIP traffic and to lower its cost of transport at the same time.

www.usnationaltelecom.com
www.xo.com
www.vitelity.com

www.tmcnet.com/1161.1

Ericsson Announces U335 WCDMA Mobile Platform

Ericsson (news - alert) has announced availability of its U335 WCDMA mobile platform which it says is the first HSPA platform for all segments on the market. The U335, unlike its predecessors, is the first platform enabling HSPA devices to deliver new services such as mobile TV, mobile video blogging and other services demanding both high uplink and downlink data speeds.

www.ericsson.com

www.tmcnet.com/1158.1

Huawei Deploys National Long Distance Backbone Network for VSNL

Huawei Telecommunications (news - alert) India has built a 10,000 km optical transmission National Long Distance backbone network for VSNL, (news - alert) the world's largest provider of wholesale International voice services and a subsidiary of TATA Group. The network spans 100 cities in India..

www.huawei.com
www.vsnl.in

www.tmcnet.com/1159.1

Speakeasy Offering New Polycom Phones, Brings Wireless Calling Plans to its Business VoIP Offering

Voice and data services provider Speakeasy (news - alert) is now offering its business customers two high-quality Polycom SoundPoint desk phones, along with a SoundStation IP Conference phone option. In addition the company has enhanced its VoIP services by adding EasyVoice Office to its Speakeasy Business VoIP.

www.speakeasy.net

www.tmcnet.com/1160.1

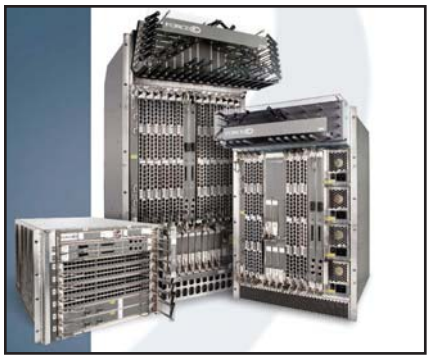
Cedar Point Announces SAFARI C3 for VoIP over WiMAX

Cedar Point Communications (news - alert) has announced the general availability of its SAFARI C³ Multimedia Switching System for voice-over-WiMAX applications. It previously announced an initial WiMAX deployment with Grupo TVCable, the largest cable operator in Ecuador.

www.cedarpoint.com

www.tmcnet.com/1127.1

Force10 Networks and Industria Build Purpose-Built 3G Mobile Network in Iceland



Force10 Networks (news - alert) and Industria (news - alert) will build Nova, Iceland's first purpose-built 3G mobile network, which delivers high value interactive entertainment services. Industria's Digital Living unit reportedly designed and built the network with its Zignal master control software suite and the Force10 TeraScale E-Series family of switch/routers.
www.force10networks.com
www.industria.com

www.tmcnet.com/1128.1

Cisco to Ship 802.11n Wireless

Cisco Systems (quote - news - alert) is joining an increasingly crowded field jumping into the emerging 802.11n wireless market with its first 802.11n-based Ethernet access point, the Aironet 1250. The new offering, according to Cisco, will provide higher speeds and greater reliability for a wide range of enterprise-ready wireless devices.
www.cisco.com

www.tmcnet.com/1129.1

Colibria Introduces Fully Managed Windows Live Messenger Solution

Colibria (news - alert) introduced a new, fully managed Windows Live Messenger solution. Taking the entire SMS market to a new level, the all new client-server solution will offer an end-to-end MIM solution that delivers enhanced features and a compelling new service to subscribers.
www.colibria.com

www.tmcnet.com/1130.1

Ericsson Introduces 'Green' Base Station Site Concept

Ericsson (news - alert) has unveiled an innovative radio base station site concept - Ericsson Tower Tube - that is environmentally friendly, and more cost-efficient to adopt and run that other alternatives. The 5m-diameter, 40m-high flexible concrete tower encapsulates all radio base station equipment, including the antennas.
www.ericsson.com

www.tmcnet.com/1131.1

fring Provides Auto-Roaming Support Between WiFi and Cellular Networks

fring (news - alert) is now supporting auto-roaming between any WiFi and traditional cellular networks. fring auto-roaming makes full use of the dual-mode power of WiFi/3G devices, which ensures the highest quality and lowest cost available for each call.
www.fring.com

www.tmcnet.com/1132.1
www.tmcnet.com/1133.1

Nokia Acquires Enpocket, Launched Dual Mode Handset

Nokia (quote - news - alert) has announced its decision to acquire Enpocket, (news - alert) which specializes in mobile advertising, providing technology and services that allow brands to plan, create, execute, measure and optimize mobile advertising campaigns around the world. Nokia also its new 6301 handset, using UMA technology to allow users to switch from mobile networks to WiFi.

www.nokia.com
www.enpocket.com

www.tmcnet.com/1135.1

Digicel Finds a Strategic Partner for WiMAX in Alvarion

Caribbean mobile operator, Digicel Group, (news - alert) has selected Alvarion (news - alert) as its strategic partner for WiMAX in the Cayman Islands. Alvarion's IEEE.802.16e 4Motion Mobile WiMAX solution will help Digicel advance its first commercial WiMAX launch.
www.digicelgroup.com
www.alvarion.com

www.tmcnet.com/1136.1

AT&T Intros Wi-Fi Handset: The BlackBerry 8820

(news - alert)

The new quad-band Blackberry 8820 (available from AT&T) offers the ability to utilize WiFi in their homes and offices as well as tap into WiFi locations and hotspots around the globe, in addition to connecting to AT&T's nationwide wireless EDGE network.
www.rim.com

www.tmcnet.com/1139.1

Vertical Integrates Product Lines with Wave IP 2500

Vertical Communications (news - alert) introduces the Wave IP 2500 Business Communications System, a new IP-based communications platform for SMBs as well as larger distributed organizations. Wave IP is the second of two new products from Vertical and represents the integration of product lines following the merger of four well-respected telephony vendors over the past three years - Artisoft, Vertical Networks, Comdial and Vodavi.
www.vertical.com

SIP NEWS

www.tmcnet.com/1165.1

SIPphone Announces Release of Gizmo for Mobile VoIP Service

SIPphone (news - alert) announced the release of Gizmo for Mobile, free software that allows anyone to instant IM with any Gizmo Project, AIM, MSN, Yahoo, or Gtalk user, or use VoIP to place low cost international calls. It can be used via a mobile browser and installed directly onto a mobile phone.
www.sipphone.com

www.tmcnet.com/1166.1

IVR Technologies Releases Talking SIP 3.3

IVR Technologies (news - alert) released version 3.3 of Talking SIP, a media, application, and real-time billing solution based on SIP, which is designed to help service providers boost their revenues. The new version features more precise and robust controls. The solution now includes service applications and media/billing/registration/Class 5 features in an integrated package.
www.ivr.com

IP CONTACT CENTER NEWS

www.tmcnet.com/1167.1

Verizon Intros New Video Call Center Link for the Hearing Impaired

Verizon (news - alert) has launched a new video call center that utilizes videophones and sign language, making it possible for deaf and hard of hearing customers to communicate with representatives for orders, service changes, and to answer questions.
www.verizon.com

www.tmcnet.com/1168.1

RightNow Releases CRM Version 8.2

RightNow Technologies (news - alert) has introduced RightNow 8.2, an "enterprise-class, on demand CRM" product that maintains a single "conversation" with a consumer. RightNow 8.2 introduces new enhancements across primary customer interaction channels, including feedback channel bolstered with emotion detection.
www.rightnow.com

www.tmcnet.com/1169.1

Scribe Unveils Scribe Adapter 4.5 for Sage SalesLogix 7.2

Scribe Software (news - alert) has released the Scribe Adapter 4.5 for SalesLogix 7.2. The new release offers powerful and flexible data integration and migration without having to write a single line of code. Integration with other mission critical applications eliminates duplicate data entry and provides access to essential customer data.
www.scribesoft.com

DEVELOPER NEWS

www.tmcnet.com/1164.1

NXP Introduces Single-Chip Multimedia Solution for Entry-Level Cell Phone Markets

NXP (news - alert) Semiconductors has introduced its Nexperia PNX4903 GSM/GPRS-optimized multimedia solution for the ultra low-cost segment of the mobile handset market. The PNX4903 delivers complete system-level operation in a single monolithic IC, and provides a high level of integration and performance. The company points out that it is the most cost-effective solution available for multimedia-enabled ULC handsets. NXP's solution allows handset OEMs/ODMs to deliver new levels of rich, multimedia content to entry-level cell phone users in a reliable, cost- and power-efficient package.
www.nxp.com

www.tmcnet.com/1163.1

UNH-IOL Unveils 10 Gig Data Center Test Bed

The UNH-IOL (news - alert) has developed a multi-vendor top-down 10 GbE test bed. Offering multi-vendor compatibility for emerging technologies and applications used in commercial data centers, the test bed is expected to support testing and demonstration of high-level business and other 10GbE-capable applications.
www.iol.unh.edu

www.tmcnet.com/1162.1

Elma's New AMC Load Board for Testing MicroTCA Systems

Elma Electronic (news - alert) has released a new Advanced Mezzanine Card (AMC) Load Board designed for testing the cooling and power of MicroTCA systems. The

AMC Load Board is compliant to the MicroTCA and AMC specifications.
www.elma.com

CHANNEL NEWS

www.tmcnet.com/1170.1

DragonWave Signs Strategic Agreement with NextWave

Under a multi-year strategic network solutions agreement, NextWave (news - alert) will adopt DragonWave's AirPair and Horizon products as its preferred wireless backhaul solution and will partner with DragonWave (news - alert) to supply service providers worldwide with fully integrated, end-to-end, mobile broadband and transport network solutions.
www.dragonwaveinc.com
www.nextwave.com

www.tmcnet.com/1171.1

Wipro and SAP Enhance Partnership to Accelerate Growth

Wipro Limited (news - alert) and SAP AG (news - alert) have decided to expand their existing collaboration. The aim is to enhance development and implement best-in-class solutions, especially around enterprise SOA. Under the agreement, Wipro will become an SAP global services partner and will set up a solutions lab in Bangalore.
www.wipro.com
www.sap.com

www.tmcnet.com/1172.1

Ezwim Unveils Total Telecom Management 8.3

Ezwim (news - alert) has announced the launch of Total Telecom Management 8.3 (TTM 8.3). Utilizing the enhanced services provided by the offering, telecom managers gain visibility into rising telecom expenditures. The company points out that visibility is important to reduce cost and make forward-thinking decisions on telecom infrastructure build-outs like VOIP. The latest release reflects the fact that enterprises continue to face increased telecom spending levels of over eight percent per year, due to an increase in roaming, mobile data, and private usage.

TTM 8.3 introduces three key enhancements that provide enhanced business intelligence, subscription advice and VOIP business cases on demand. The service automatically generates VOIP business cases based on actual telecom usage. This in-depth analysis of phone usage between offices and between fixed lines and mobiles offers a sound basis for strategic decision making to engage in VOIP or to introduce FMC. In addition to the existing reports on usage and cost TTM 8.3 now also offers a powerful flexible report generator allowing customers to access custom made reports used in support of procurement or ad-hoc reporting. TTM 8.3 has the unique ability to offer subscription advise to ensure organizations are using the right operator price plan so telecom spend remains optimized throughout the contract period.
www.ezwim.com

www.tmcnet.com/1173.1

Avotus Launches Avotus Capital Solutions

Avotus Corporation (news - alert) announced it has launched what it says is the industry's first flexible financing model, enabling companies to defer the start-up cost of rolling out a TEM or other BPO or IT Services solutions, including all start-up, professional, and managed services, and solution costs. As part of this innovative solution, Avotus provides qualified customers with a flexible payment plan that is synchronized with the project launch and mapped to the timing of realizing expected savings and process improvements. This allows companies to defer upfront payments until the solution is up and running without incurring high front end costs or making double payments during a transition from a previous vendor to Avotus.
www.avotus.com

www.tmcnet.com/1174.1

Optelcon's Telecom Cost Management Solutions Offered by Candid Business Solutions

Telecom cost management provider Optelcon (news - alert) announced that its solutions are now being offered by communications company Candid Business Solutions. Candid added Optelcon's solutions to its portfolio as a way to boost the long-term effectiveness of its revenue streams and achieve a competitive edge in the telecom expense management (TEM) market. The solutions from Optelcon enable Candid to provide a variety of new services, including VoIP, call accounting, mobile expense optimization/management, and invoice processing. These services are designed to reduce client telecom expenditures and help them automate key business processes.

Using Optelcon's solutions, Candid is able to create a centralized, multi-country database of client telecom information-including data on different invoices, contracts, vendors, locations and rates.. This business intelligence can then be used to help clients make solid, educated business decisions.
www.optelcon.com

www.tmcnet.com/1175.1

CA To Resell Asentinel Telecom Expense Management Software

CA announced an agreement with Asentinel (news - alert) that will enable customers to incorporate management of voice and data communications assets and budgets into their overall IT Governance strategies. Under the agreement, CA will resell Asentinel 5.0, a comprehensive TEM software application that the companies have integrated with CA's asset portfolio management and security management software - enabling organizations to manage their entire IT asset base, including telecommunications assets, from a single point of control.
www.asentinel.com
www.ca.com

www.tmcnet.com/1176.1

Vercuity Acquires Leading Wireless Expense Management Provider, iWave Wireless

Vercuity (news - alert) announced the acquisition of iWave Wireless, the New York-based provider of wireless expense management services and solutions. iWave's mobile management expertise will complement Vercuity's professional and managed services capabilities, all delivered via Vercuity's new technology platform announced in June. This application uniquely integrates wireless and wireline TEM on a single platform.

With the acquisition, Vercuity also gains executive-level industry expertise from iWave's officers now joining Vercuity's management team. Former iWave managing partners Frank Madonna and Robert McGuire will assume the new positions of president and executive vice president, respectively, for Vercuity's newly formed Wireless Services organization.
www.vercuity.com
www.calliwave.com

www.tmcnet.com/1177.1

Movero Technology Launches Maestro

Movero Technology (news - alert) announced the launch of Maestro, an advanced platform that gives IT professionals control and management of corporate smartphones and other mobile technologies. With features such as a centralized approval process and self-service tools, Maestro increases visibility and productivity for busy IT professionals while efficiently providing the highest quality of service to their company's mobile employees.

Maestro provides IT departments with a comprehensive solution for managing the increasing demands and complexity of mobile solutions. It features a carrier-integrated platform for all mobile management functions, including procurement, change of service requests, device replacements, approval and management processes. Maestro gives IT professionals the necessary tools to manage mobility, reduce support bottlenecks, increase visibility, and enforce security. Valuable IT resources can stay focused on core competencies that deliver the highest business returns.
www.moverotech.com

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COMMUNICATIONS

U.S. Wireless Broadband to be Extremely Competitive

By Brough Turner

Today, US wireless Internet access is limited and expensive. It's available nationally from mobile operators AT&T, Verizon and Sprint, and locally in some cities from wireless ISPs like Clearwire (targeting consumers) and Towerstream (for business T1 replacement). But mobile operators still focus on voice services and walled garden data services, while Clearwire is in a limited set of cities and Towerstream benefits from the high cost of ILEC T1s.

Luckily, all this is about to change. By early 2009, the U.S. market for wireless broadband Internet access will be extremely competitive, for several reasons.

First, in the 2006 AWS auctions, T-Mobile USA spent $4.2 billion on spectrum, giving them a national footprint. They then committed $2.7 billion for a 3G UMTS network, currently scheduled to be complete by the end of 2008.

Second, Sprint, which already runs a 3G EVDO Rev A network, is spending US$3 billion to build a WiMAX network on 2.5 GHz spectrum acquired when they bought Nextel. Some have questioned whether Sprint can afford to complete this second national network, but their partnerships with cable companies and, more recently with Clearwire, suggest there are enough interested parties to ensure this build out is completed.

Thus by early 2009, the U.S. will have four national mobile networks:

- AT&T Mobility (formerly Cingular) using W-CDMA with HSDPA and eventually HSUPA
- T-Mobile USA deploying W-CDMA with HSDPA and then HSUPA
- Verizon using CDMA 2000 EVDO Rev A and later Rev B
- Sprint using CDMA 2000 EVDO Rev A and later Rev B (and partnered with four major cable companies)

In addition, WiMAX should be available in all major markets with the balance of a national footprint built out during 2009 and 2010; i.e.:

- Sprint XOHM (pronounced zoam) using WiMAX at 2.5 GHz in partnership with Clearwire

Four competitors is a magic number. One operator is a monopoly. Two or three operators typically form a stable oligopoly. There's competition and evolution, but it's controlled - no one goes bankrupt, no one takes over. However, markets with four or more viable competitors go wild, to the benefit of consumers. We've seen this effect in the evolution of mobile voice services in many countries around the world. Markets with four or more viable competitors experience hyper competition.

By early 2009, the U.S. will have at least four national brands and five national wireless broadband networks. In addition, many areas have 2nd tier mobile operators (like US Cellular, Leap Wireless or MetroPCS). And of course, both individual and networked WiFi hotspots continue to proliferate. Expect hyper competition leading to low cost, flat-rate data bundles.

Certainly wireless market evolution will outpace that of fixed broadband access, which remains hostage to a duopoly - actually two monopolies (cable & ILEC) operating under different legal and regulatory schemes, that are just beginning to compete.

Is wireless broadband access fast enough? Well nothing is 'fast enough,' but users should get more than 1 Mbps downstream and 100-300 Kbps upstream, with additional speed increases every 18 months or so. That's small compared to the speed of fiber today, but when DSL and cable Internet services first achieved these speeds, VoIP companies (like Vonage and Skype) sprang up and new applications (like peer-to-peer file sharing) swept the Internet.

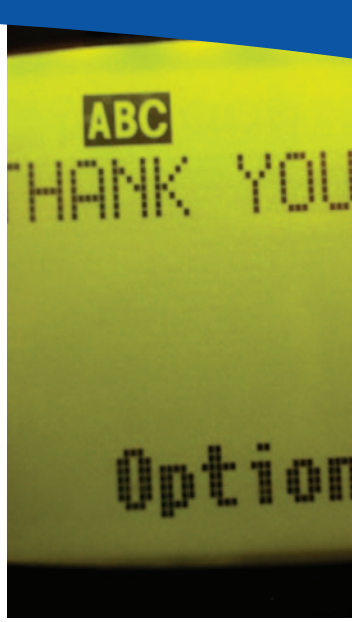
So 2009 should bring low cost flat-rate wireless broadband access to the U.S. and that in turn will foster a new round of 3rd party applications that leverage affordable mobile broadband Internet access.

Will hyper competition continue? Yes, barring major legal or regulatory screw ups (which at this point seem unlikely). Wireless technology continues to evolve at a great rate. And at least one more player is likely to enter the U.S. wireless market after the upcoming 700 MHz spectrum auctions scheduled for early 2008. In these auctions, 22 MHz of spectrum comes with license conditions for 'open applications' and 'open access,' i.e., the winning bidder may not block or slow wireless access or competitors' web content, and customers may connect any wireless device to the network including handset devices from other carriers and dual- and multi-mode devices. These provisions are part of a new model that Google and various public interest groups supported. Assuming this auction goes as expected, at least one additional national network should enter the fray during 2010-2012.

So wireless broadband access speeds will continue to lag fiber access speeds, but in the U.S., wireless broadband is where the action and excitement will be. IT

Brough Turner is Senior VP of Technology, CTO and Co-Founder of NMS Communications. (news - alert) For more information, please visit the company online at www.nmscommunications.com.

Go to Table of Contents | Go to Ad Index



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Enterprise FMC

By Michael Stanford

Enterprises have private voice networks and private data networks. Cell phones don't currently fit into this model, because the voice connection is directly to the service provider rather than through the PBX. In this way the growing use of cell phones in enterprises is like an epidemic of employees signing up for DSL Internet service in their cubicles rather than using the corporate LAN. And it's quite an epidemic. According to Tango Networks, 28% of employees use their mobile phone as their primary business phone. Partly as a result of this, enterprises typically spend a third of their IT budget on mobility. These numbers are growing.

Internal calls made through the PBX are effectively free. Each one that migrates to a cell phone instead costs money. But employees find mobile phones and Blackberries so useful that it is futile to resist their advance.

The expense drain caused by the growing use of cell phones for internal calls may become the clinching motivation for enterprises to deploy FMC (Fixed-Mobile Convergence). Things like seamless roaming between cellular and WiFi networks are not so important compared with getting these calls back onto the private voice network. This requires a dual-mode (cellular plus WiFi) phone.

Not all of the products claiming enterprise FMC have dual-mode phone support, and not all of the FMC solutions with dual-mode phone support offer unbilled WiFi calls.

Naturally the type of FMC that appeals to the Mobile Network Operators (MNOs) is the type that allows them to bill for every call.

Naturally the type of FMC that appeals to the Mobile Network Operators (MNOs) is the type that allows them to bill for every call. The type that appeals to enterprises is the type that lets them manage the device and all its traffic while it is on their premises, so internal calls become free again.

Once an enterprise has made the decision to go to a dual-mode phone solution, a second huge benefit accrues: the IT department now controls the traffic, clients and servers, so it can implement solutions exactly the way it wants them, and it can tweak them to the company's needs. For example, internal calls can use wideband codecs, improving the audio experience. Other FMC benefits, like a single phone number for fixed and mobile, a single voice mailbox, PBX features on cellular calls and the ability to move calls between the desk phone and the cell phone can be achieved without dual-mode phones. But for most enterprises these are secondary benefits compared to cost reduction.

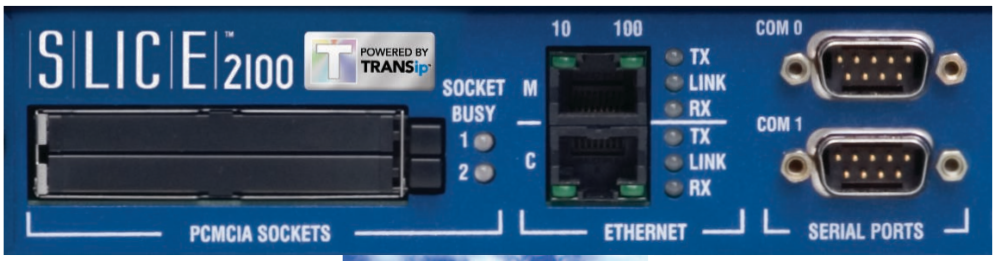
The market is in its infancy, and the technical challenges to VoIP over WiFi remain significant. Fortunately, the challenges associated with making on-network calls are the ones that are best understood. Enterprise VoWLAN has been available for several years; it is no longer rocket science to achieve adequate signal coverage and QoS in a building. Next year's crop of WiFi chips for handsets will slash their power consumption; as 802.11n rolls out, the coverage and QoS will improve further, as will the density of handsets per access point. But even currently available dual-mode phones give a good experience. Nokia has put a lot of work into its eSeries phones to make them enterprise friendly, and it has worked with PBX vendors like Cisco and Alcatel-Lucent to make these phones work seamlessly in the enterprise voice network.

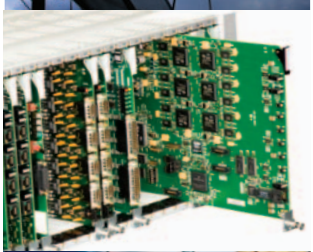
The challenges associated with making WiFi calls from hot-spots and other locations off the enterprise network, and the challenges associated with handing off calls in progress between cellular and private networks are still sufficiently difficult so that startups can differentiate on their ability to solve them.

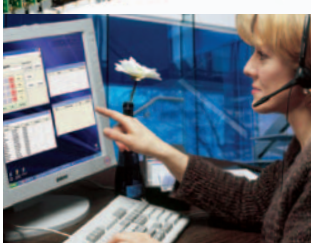
The good news is that functional solutions exist right now to move a significant chunk of that 28% and growing number of business calls made with cell phones from billed minutes to free minutes. IT

Michael Stanford has been an entrepreneur and strategist in Voice-over-IP for over a decade. His strengths are technical depth, business analytic skills and the ability to communicate clearly. In his current consulting practice, Michael specializes in VoIP wireless networks, both WiFi and WiMAX. Internet Telephony Magazine recognized him as one of "The Top 100 Voices of IP Communications" and VoIP News named him one of "The 50 Most Influential People in VoIP".

Go to Table of Contents | Go to Ad Index







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The Next Generation Wireless LAN and the Unwired Enterprise

By Tony Rybczynski and Kyle Klassen

Hyperconnectivity is a mega-trend - a phenomenon through which everyone and everything that can benefit from being connected to the network will be connected. The implications of Hyperconnectivity go beyond the challenges of hyperconnected users (being addressed through rich media Unified Communications systems) to an explosion in network-connected devices - for example, in the realms of energy and property management, asset and location tracking, telemetry and enhanced security systems.

Hyperconnectivity, with 10 to 100 times more endpoints, will rely heavily on wireless network access - not the variety typical of today's 802.11 a/b/g deployments - but true wireless broadband, pervasive, always-on, always-available wireless as provided through 802.11n. 802.11n will enable an impressive variety of mobile and even stationary devices to be economically connected, as the underlying cost per unit of wireless bandwidth continues to drop. In fact Forrester predicts that the emerging IEEE 802.11n standard is likely to drive a 3-5 year, large-scale "forklift" upgrade cycle beginning in 2008.

So what makes IEEE 802.11n so critical to the hyperconnected world? In one word: scalability.

802.11n is in the Air

How scalable is 802.11n?

802.11n represents a significant leap forward for WiFi in terms of capacity, performance, coverage and reliability. Real world data rates well over 100Mbps are possible, over 20 times faster than 802.11b, five times faster than 11a and 11g (the most recent standard ratified in 2003). In addition, the range of these systems will be roughly twice what is possible today at a given rate. Saying this differently, the rate at the edge of a coverage area could be over 10Mbps, compared to 1Mbps for legacy WiFi systems. 802.11n brings a range of technology innovations: most significantly, MIMO, spatial multiplexing and increased channel bandwidth.

MIMO (Multiple Input Multiple Output), also used in WiMAX, utilizes multiple transmit and receive antennas, each with their own radio components to achieve antenna and spatial diversity. The receiver can use from 2 to 4 antennas to coherently resolve information received across multiple paths (e.g. direct line-of-sight signals and those reflected for example, by walls and pillars in the building). Previous WiFi systems employ SISO (Single Input Single Output) technology and saw these multipath signals as interference which had a negative impact on performance.

Spatial multiplexing relies on MIMO and allows each of these discrete signal paths to carry unique packet streams in parallel. The receiver then re-assembles the packets from each path into a single cohesive stream resulting in greater data transfer rates. The greater the number of spatial streams, the greater the potential data rate - 802.11n specifies up to 4 spatial streams which is possible when both the transmitter and receiver support 4-antenna MIMO (referred to as 4x4). Antenna diversity and spatial multiplexing combine together to enable higher effective rates and longer distances, than SISO systems used by today's WiFi systems.

Increased channel bandwidth of 40 MHz is twice that of today's 802.11a/b/g. While this doubling of channel bandwidth is optional, the benefits are obvious.

IEEE 802.11n also includes some other technology innovations. Beamforming allows the transmitting station to replicate and phase the delivery of a single stream from each of its multiple antennas, such that the combined signal amplitude is optimized at the receiving station - essentially synthesizing a stronger signal which can then support a higher data rate. Payload aggregation increases efficiency by allowing more data to be handled in a single packet, thereby minimizing overhead and MAC coordination cycles.

Existing standards such as 802.11i for security and 802.11e for multimedia traffic management apply equally to 802.11n systems. Backward compatibility with existing IEEE802.11a/b/g is supported, although careful spectrum planning is highly recommended to avoid a significant performance penalty.

What's happening on the standards front? Draft 2.0 was released in March 2007 along with over 3,000 comments, which will need to be handled in the next revision. The general consensus is that the Draft 3 spec will be completed in the first half of 2008 on a path to formal standardization in 2009. IEEE 802.11n is at least a year away from true interoperable solutions.

The Unwired Enterprise

In many ways, 802.11n will be the first enterprise wireless standard, which truly lives up to its billing as a 'local area network' technology, with LAN-like performance. 802.11n can meet the connectivity needs of the hyperconnected enterprise, with mobile user access to rich media applications, and at the same time handling an explosion of connected devices. With 802.11n, many enterprises building out new facilities will choose this wireless technology as an alternative to wired desktops and deploy all-wireless office environments. Consider that some customers have gone all wireless even with today's 802.11a/b/g technology. Consider that Nortel recently announced a WiFi desktop video phone. With next-generation 802.11n wireless, the network architecture will evolve to be a truly integrated network in which the wireless functions are an organic extension of the LAN infrastructure - leveraging business optimized intelligence and common network and security management to deliver a simplified network and lower TCO.

So by all means continue to deploy traditional WiFi where it makes sense, but factor the plan to forklift to IEEE802.11n when the business need arises. IT

Tony Rybczynski is Director of Strategic Enterprise Technologies in Nortel, and has over 35 years experience in the application of packet network technology. He writes a quarterly 'Inside Networking' column in Internet Telephony magazine. Kyle Klassen is Director of Enterprise Wireless Solutions in Nortel, and has over 12 years experience in the design and commercial introduction of emerging technologies.

Go to Table of Contents | Go to Ad Index

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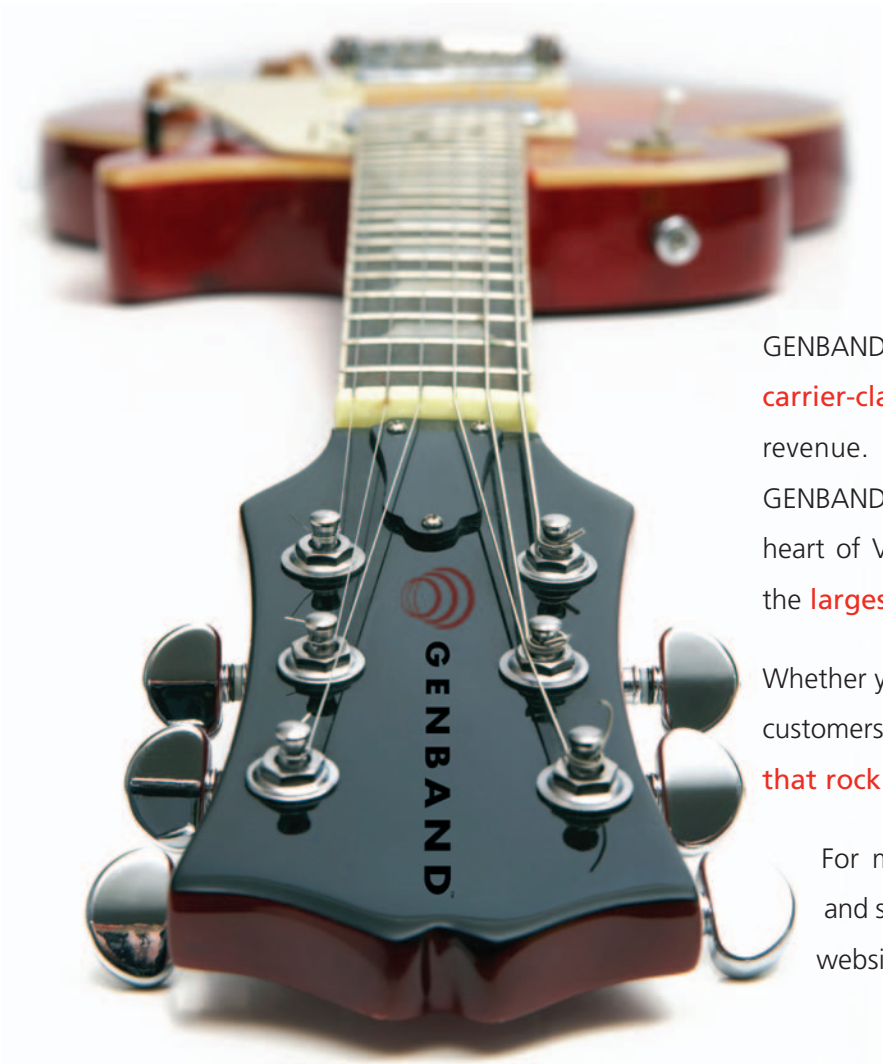

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DRIVING THE NETWORK EVOLUTION

Made in China

By Hunter Newby

China's growth has everyone in the world paying attention. The Yuan versus the Dollar; their annual economic growth verses the rest of the world, piracy, human rights, the World Trade Organization and the upcoming Beijing Olympics. China is a big place and it plays a role in just about everything these days, but when it comes to product manufacturing it seems that if the item is plastic and related to technology it comes from China. Just pick up any 10 items in front of you now. If they have a "Made in" label on them the chances are the majority came from China. I am sitting in a hotel room and the TV remote, my VAIO laptop and Blackberry power adapters, the hotel Cat5 cable and my Blackberry battery were all made in China, but my Starbucks cup was made in the USA. Something tells me that China is probably not interested in our cups.

Of course there are legitimate reasons for this including economies of scale which China clearly has in manufacturing, but what about VoIP? In a recent report from ReportLinker it was noted that China surpassed 100 Billion minutes of VoIP traffic back in September 2006 with a year-over-year growth rate of 11.8%. From the report, "business users view VoIP as an opportunity for combination of voice and data applications rather than lowering their phone costs". This is interesting. Given how the Chinese are able to use technology and mass produce it and its benefits, what will be the impact of all of this VoIP traffic on VoIP peering?

The real question is, what will the impact of China's VoIP and VoIP peering growth be on the rest of the world?

The truth is that it is really not a question of if VoIP peering will happen in China, it already does with many carriers and service providers interconnecting directly using IP and SIP for efficiency, cost savings and application integration. The real question is what will the impact of China's VoIP and VoIP peering growth be on the rest of the world? It is clear that what they produce plays a role in all of our lives every day. The big U.S. wholesalers buy from China because it is cheaper and more efficient - even to import from halfway around the world. So, as carriers and specifically businesses adopt VoIP in China and then move to peered network connections, will that architecture and philosophy be exported to the U.S. and other places around the world?

There are natural cycles to everything and in the case of China there is no real set precedent for this growth. There is no incumbent carrier that is really set up to lose in that situation because so much of the growth is out to people, businesses and places that never had this type of network coverage before. This is quite different than in the U.S. where we have incumbents and their vested interests to contend with. Although many of the major U.S. carriers are already utilizing VoIP peering techniques, their implementations have been mostly internal, but that is changing. As the Chinese carriers bring their traffic and interconnection methods to the U.S. we shall see how that influences others.

The ultimate dramatic shift may come on the business network side of VoIP peering. As Chinese businesses that operate IP wide area networks begin to see the possibilities of peering they should have no barriers, or misinformation presented to them stating that it can't be done for one reason or another. On the contrary, they will most likely adopt and replicate rather quickly and marginalize all of those that do not follow the same model. This pattern will most likely begin to unfold in the next year or two and it could easily be exported to the Wal-Mart's of the world that already do so much business with the Chinese. VoIP peering is a very logical conclusion for companies that already transact billions of dollars of goods and services. It can be assumed that they call each other frequently and would gain from having data applications integrated in to the voice call so that more information could be shared in the same session. There is also the added security aspect of peering IP applications off of the public Internet.

China is the rising tide at the moment and all boats in the water rise with the tide. It is logical to assume that the long-term benefits of VoIP peering will outweigh the short-term setbacks (if any) and, or any necessary related investments of resources. One thing is certain though, no one can stop the tide. IT

Hunter Newby is chief strategy officer for telx. (news - alert) For more information, please visit the company online at www.telx.com.

Go to Table of Contents | Go to Ad Index

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By Jeanne Leckie

Three Planning Tips to Deploy Business Process Change Using Unified Communications

If you have been following the rapid changes in the communications industry from M&A activities, new Unified Communications solutions, VoIP, Open source, Hosted vs. Premise solutions, Security, Business Continuity and Real-time Business Communication … then, you may be overwhelmed about how to execute a communications purchase and deployment.

Recently I explored how to help customers' better frame three crucial planning considerations to select a UC solution. First, let's start with the definition of UC provided by UCstrategies.com – "communications integrated to improve business processes."

It is Critical to Define the business context for the decision.

Which best describes a macro business reason for your decision:

Level 1) Survival: Current business processes are not addressing competitive threats in areas such as customer satisfaction, sales responsiveness, customer loyalty, retention or a shareholder expectation.

Level 2) Competitiveness: Actions that will significantly differentiate the ability to provide market advantages that result in advances of products and services, market strategy, delivery, and technology which streamlines processes and provides or extends our market reach.

Level 3) Leap Ahead: Planning a leap forward may be of higher-risk, but can provide a significant shift in the nature of the business or the organization or create a whole new thrust for the business. Drivers may be merging trends like GREEN or globalization; or alternatively through mergers, new business model innovations, pay for service, or micro payments.

Focus your leadership's energy and resources on the desired context for improving your business processes across your organization.

The second planning activity is to define what crucial business goals and measurements will define the initiative.

Step 1) Gather the leadership team and in a few short phrases or sentences, list the measurements required to meet market demands and then, specify the key business process shifts required to achieve the goals. Step 2) Prioritize the list by profitability and difficulty. Step 3) Add a timeline. Sounds easy as 1-2-3. Not really, taking ownership of the business challenges and breaking barriers requires discipline, accountability and the hard work required to effectively execute. Step 4) Compile the list and have the leadership team deploy it to the next layer of associates. Changing business processes requires efforts beyond silos, so assign constituents to work across boundaries. Step 5) Communicate the defined measurements to all the associates and obtain their input to gather additional information on what shifts/changes are required. The result is a two-fold company directive to the communication project team (CPT): 1) Crucial Business Processes Shifts Inventory and 2) Measurements and Priorities for Implementing a Solution. Using your new business plan, start the business process optimization planning.

It's difficult to put all the planning needs into a short story. Your (CPT) may work with a consultant to accelerate the communication planning process, speeding up the process of assessing barriers and roadblocks, while maximizing and staging action for getting the financial and non-financial business results. The role of the CPT and consultant is to help you sift through solutions, identify barriers, find solutions, provide return on investments analysis, evaluate the total cost of ownership options and ensure that you meet your expectations and results on-time. www.encomm.org is a resource for learning more.

Conduct an internal communication assessment. As we discussed, the purpose of the project is to achieve measured business benefits and profitability.

Evaluate the gaps between your current communication solution and the needed business process changes. Engage industry experts to help you evaluate the plan by business unit and by financial and non-financial benefits. Step through each of the following areas to start:

a) Business Applications: Evaluate communications solutions to achieve crucial business process changes verses the current deployment. How can mobility, video, customer service tools, collaboration, instant messaging, rich presence solutions, faxing and interoperability with existing databases help shift business processes to improve the speed and quality of your operations, reduce cost, increase retention, drive direct or indirect revenue, provide a strategic benefit or productivity enhancements? Ask your advisors to quantify results and be sure to ask how applications may work in differing environments.

b) Infrastructure: What level of interoperability is required to leverage current investment in infrastructure? Is hosted or premise-based required or both? Do we meet compliance requirements and is the environment secure? Can SIP-based strategies be deployed to meet new crucial business process changes and is VoIP deployed or required?

c) Network Connectivity/ Business continuity/Disaster recovery: does current network deployment include: PSTN, VoIP, Frame or ATM and is there a better way with MPLS or SIP Trunking? What is the interstate and intrastate usage? How do we integrate the LAN/WAN today? Determine your bandwidth needs. Even SMBs can deploy Business Continuity/Disaster Recovery plans with VoIP.

Making a purchase decision can be intense, but remember there are resources to help you make a good decision without getting discouraged or missing a business opportunity or goal. Remember the adage, "nothing ventured, nothing gained." IT

Jeanne Leckie is Managing Director of The Leckie Group, Inc., a business consulting firm located in Scottsdale, Arizona. Contact her at jeanne@leckiegroup.com

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Continuity Planning 101: A Continuing Educational Series

By Rich Tehrani & Max Schroeder

The New Disaster Planning Communications Forum Channel

The September Disaster Planning Communication Forum (DPCF) column reviewed some of the new initiatives of the DPCF. A key part of the initiative was to roll out additional services including a DPCF Channel on the TMC web site. You can select the following link to go directly to the DPCF location: www.tmcnet.com/1090.1.

The DPCF Channel is segmented into topics relevant to business continuity and disaster planning. One segment is titled 2006/2007 "Disaster Preparedness Communications Forum (DPCF) Column Links" and provides the titles and web links to previous columns. For example, if you are located in an area affected by tornadoes or hurricanes and the critical season is at hand, you could be in need of some last minute advice. If so, you need to review the column "Secure Last Minute Disaster Planning Options, Security-Contact Centers" at www.tmcnet.com/1091.1. That particular column shows how VoIP, FoIP, and converged IP technologies are great solutions for everyday business and perfect for backup operations. Each of the solutions covered in the column meet the requirements of in-house, remote, or mobile employees and are quickly and easily deployed. Some are hosted solutions that can be combined with Software-as-a-Service (SaaS) options with secure and managed operations that do not require a large IT staff. (Note that the term SaaS is the commonly used term to replace older terms link On-Demand and Application Service Provider [ASP]).

Another segment, "Government and Government Recommended Sites", provides advice and links to disaster and business planning sites plus other government resources including: Federal Government, State Government, Local Government, Tribal Governments, Federal Employees, State and Local Employees.

This segment also includes information on sites recommended as a resource by government agencies. For example, the Disaster Preparedness and Emergency Response Association (DERA) http://www.disasters.org/dera/dera.htm, is a membership organization founded in 1962 as a nonprofit association linking professionals, volunteers and organizations active in all phases of disaster preparedness and emergency management. DERA is a worldwide association and membership information is available at
http://www.disasters.org/dera/member.htm

A third segment, "Resources Available for Educational Institutions" provides data on organizations with specialized advice educators and school administrators. Looking back at recent school tragedies, you may want to review the services of Omnilert, LLC (http://www.omnilert.com) which offers delivery of messages to mobile phones (SMS), email, web pages, RSS, and other communications services for schools, governments, corporations plus sports and special events.

The TMC News Alert segment of the DCPF channel will maintain a running list of news covering DPCF topics posted on TMC Alerts. A good example for resellers is one posted on August 11, 2007 (www.tmcnet.com/1092.1) and covers how "Two resellers have joined forces to grab a larger slice of the booming disaster recovery market."

Of course, if you want these alerts delivered to you automatically for DPCF topics you can log on to www.tmcnet.com and activate daily news alerts by selecting the red "Channels" option at the upper left-hand corner of the TMC home page (www.tmcnet.com) and select "Channels Home". A box containing the following will be displayed: "Featured Channels. Are you interested in receiving customized RSS feeds especially tailored for your needs? Check out TMCnet's new and improved News Alerts service."

Just select News Alerts and follow the instructions.

The DPCF has always operated as an open forum welcoming all contributors. We want to strongly encourage all of our readers interested in business continuity and disaster planning to actively contribute information that can be posted on the DPCF Channel. If you are a reseller or consultant that can supply white papers, planning guides or case studies, please forward them to us ASAP. This is also an opportunity to have information on your services and experience posted at a location where "business continuity" prospects go for advice. To learn more about how your organization can contribute to this project, please send an email to Rich or Max at the addresses listed below. IT

Max Schroeder is a board member of the ECA, media relations committee chairman, and liaison to TMC. He is also the Senior Vice President of FaxCore, Inc. (news - alert)

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

If your organization has an interest in participating in the TMC/ECA Disaster Preparedness Communications Forum, please contact maxschroeder@tmcnet.com or rtehrani@tmcnet.com .

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Voice over IP Telecommunications

Storage Architecture Options in ATCA Designs

By Jeff Hudgins

The latest advancements in Internet Small Computer System Interface (iSCSI) hold some exciting advantages over the Direct Attached Storage (DAS), Network-attached Storage (NAS), and Storage Area Networks (SAN) in the large datacenter environments. iSCSI is designed to transport large blocks of I/O over an IP network instead of files from a file system. While it's clear that Ethernet has won the ATCA backplane bus war, it appears that a new battle is emerging over the best storage architecture for ATCA.

ATCA is ideally suited for IP Multi-media Subsystem (IMS) applications and as such, provides an ideal front to explore the storage architecture battle. The IMS network elements, such as media gateways and the media resource function, must access large amounts of storage to evaluate subscriber profiles, feed media streams to client devices, or process audio streams for voice analysis and recognition. iSCSI provides a very cost effective and scalable interface between the network elements and media / data. A dedicated external storage solution such as a Fiber Channel (FC) SAN can also provide high-speed access to media with arguably the best reliability and security.

As we explore iSCSI solutions in the ATCA architecture, some key concerns surface around security, reliability, and throughput. By embedding iSCSI software into hardware devices such as an ASIC on a mezzanine card, the concerns begin to disappear and what emerges is a very cost-effective and scalable storage solution. One company that is taking an early lead in this approach is Astute Networks and their new Caspian 10Gb iSCSI ATCA storage blade.

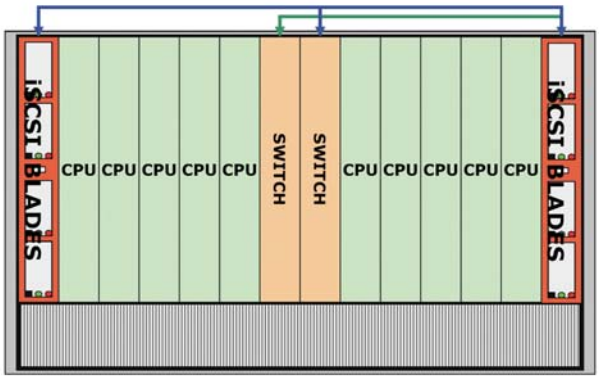
The Caspian blade provides a Dual-Redundant 10Gb iSCSI (ATCA Option 9) using an Athens 10Gb iSCSI ASIC and a Single Fabric with no cabling or storage fabric to manage. To get more insight regarding this design approach, I spoke with Fazil Osman, Astute Network CTO and presented some questions about the new Caspian blade.

Q: What makes your iSCSI ATCA blade better than what has been attempted by other manufacturers?

A: The requirement for an iSCSI ATCA blade is for it to be shared by all the CPUs in a chassis. This means that the performance has to be in the same range as an external array. We have seen two companies attempt to make an iSCSI blade. One manufacturer had a low performance 1G blade that was not good for sharing and another added a 10G connection but did not solve the performance problem. They use a very low-end processor to do the iSCSI termination. In Caspian, we use our own 10G iSCSI termination engine called Athens that can do iSCSI termination at > 8Gbps. This allows us to support a bulk throughput of 300-400 MBps. Because of the low power dissipation of Athens, we can put a RAID 5 engine where the others only support mirroring.

Q: Have you obtained any benchmark data on throughput per processor?

A: Most CPUs we have tested against have 1G support and they can support the full bandwidth of that 1G link. Most customers have told us that they are not looking for 10G bandwidth from a single CPU.



Our feeling is that you will need an iSCSI accelerator to support that bandwidth from a single CPU.

Q: Will iSCSI meet the reliability demands of ATCA in the Telecom space?

A: iSCSI is as reliable as FC as a protocol. The limitation of iSCSI has been performance on the target side, and iSCSI accelerators such as Athens solve that problem. Our Caspian board is dual-homed to support any failures. Additionally, iSCSI utilizes the ATCA backplane to connect servers with the storage array, eliminating the reliability and logistical issues associated with using the FC cables that are required with external arrays. The end result is a solution with equivalent protocol reliability and superior physical reliability than FC.

As an example, the IMS application ATCA platform illustrated in Figure 1 shows each iSCSI RAID blade connected to both switches. The data is mirrored to the blade at the application level and each blade runs RAID 5 (750GB of protected storage with 150GB drives and 2-drive RTM on each). This provides two levels of data protection in the system (effectively RAID 50).

Final Score

The latest approach by Astute Networks is "on target" as an iSCSI architecture. The inherent fear of latency and security risks are clearly mitigated with this embedded design. The remaining question will be the speed of market acceptance and pricing to compel designers to move away from the more traditional storage architectures in ATCA. IT

Jeff Hudgins is VP of Engineering at Alliance Systems. (news - alert) For more information, visit the company online at www.alliancesystems.com.

Go to Table of Contents | Go to Ad Index

By Darrell Epps

Mind Your "P's" and "Cues" When Securing Your Converged Network

Volumes have been written about securing converged networks. There is a dizzying array of "reference security architectures", "best practice solutions" and "industry leading products" out there in the market. At times it feels like the choices are overwhelming and the challenge of operating and maintaining a secure converged network in the face of all of the existing and emerging threats is virtually impossible.

So how do you filter through all the information and recommendations to determine what makes the most sense for your network environment? If these choices and the associated challenges seem overwhelming to you as well, my rule of thumb is to "mind your P's and Cues".

Policy

Policy is (or at least should be) the foundation for everything else. It is the cornerstone for those attempting to operate a properly secured, converged network as well as those contemplating migration to such an environment. Unless they are implemented and operated in accordance with a comprehensive, well-written, regularly maintained and updated, vigorously enforced security policy, all of the best security products, tools, and solutions available on the market today mean nothing.

Because network failures and outages in a converged network have the potential to cripple voice and data communications at the same time, it is imperative that your security policy address this risk with sound disaster recovery guidelines. Likewise, the security policy should address all known or anticipated threats, and lay out guidelines for addressing all known vulnerabilities.

Examples of some of the more common topics a security policy should address (by no means an exhaustive list) include:

- Operating system and application software patching policies
- Anti-virus software use and update policies
- Acceptable network use and access policies
- Password use and maintenance policies
- Physical access policies

Much has been written about what a security policy should contain, and many organizations engage outside consultants to help them with this step. The key is to make certain that 1) you have a policy and 2) you treat it as a living document to be updated as the needs of your business change and the inherent threats and vulnerabilities change and evolve. A static policy is worthless in the face of a changing business environment and changing threats and vulnerabilities.

Prudence

Once you have the security policy in place, you must exercise prudence (sound business judgment) in deploying or managing and operating your converged network environment. Most businesses don't operate very well or for very long without reliable dial tone or when their key applications are down. Because voice and data services run on the same network infrastructure in a converged environment, the business impact of outages is potentially huge and can result in devastating loss of business and/or severe damage to your company's reputation.

Thus, if you are planning to migrate to a converged environment, prudence dictates not only a network vulnerability assessment prior to migration, to identify existing threats and vulnerabilities so these can be addressed, but a post-implementation assessment as well, to identify any unanticipated vulnerabilities or newly introduced threats.

If you are already operating a converged environment, prudence dictates performing a vulnerability assessment on a regular basis so that your network can continue to adapt and respond to the rapidly changing threat and vulnerability landscape. Similarly, if business changes and demands dictate significant changes to your converged network environment, it would be prudent to re-assess network vulnerability to ensure that any new risk is suitably addressed.

Persistence

You must be persistent in enforcing your security policy rigorously and in keeping it up to date. And you must be persistent in testing your converged network environment to ensure that you know of and have a plan to address all current threats and vulnerabilities. Threats and vulnerabilities evolve and business priorities change over time. So must your security policy! This is the only way for all the effort spent creating the policy to pay off and of course the only way to truly mitigate risk.

Don't Forget the "Cues"

Watch for cues that it may be time to review and update the security policy or perform another vulnerability assessment. These cues include news coverage of a new worm, virus or other threat, major changes in business plans or business direction, or large scale changes to the converged network environment.

Prudence dictates that persistence in maintaining and enforcing your security policy is the correct course of action. Keeping current requires watching for the cues that it is time to review or reassess that policy. By minding the "P's" and "Cues", you maximize the probability that your converged network will behave appropriately in support of your business needs and objectives. IT

Darrell L. Epps, Director of Network Wolutions for Forsythe Solutions Group, has more than 20 of experience in networking and IT and numerous manufacturer certifications. His broad experience, which includes network and IP infrastructure project management, implementation engineering and operations support, has provided him with a thorough understanding of project lifecycle issues at every phase of execution.

By William Wilhelm and Timothy Bransford

Meaningful Change in the World of the Mobile Internet May be Closer than You Think

On July 31st the FCC adopted a set of rules for the 700 MHz spectrum it will auction in early 2008 that requires the winning bidder of a sizeable chunk of capacity to open up its network to third party applications and devices. This is a dramatic "about face" for the FCC that should be applauded. Historically, the FCC has imposed few conditions on mobile carriers after they build out their networks. By requiring one of the big winners of the upcoming 700 MHz auction to implement a network with a number of open access principles, the FCC is taking a proactive step towards spurring innovation amongst the staid national mobile carriers. In fact, the FCC's open access requirements in the 700 MHz band could end up being the catalyst for some of the most dramatic innovations in mobile telephony since the transition from analog to digital transmission in the mid-1990s.

Regardless of what mobile carrier you currently use, the experience is likely very similar. You get a bucket of minutes to draw from every month. Perhaps your unused minutes spill over into the next month. You can probably use your handset to text or IM. Maybe you can run a watered down Internet browser, and if you purchased a handset in the last two years, you almost certainly have a camera. Although there might be a few minor variations, for the most part what I've just described is the norm at every national and regional mobile carrier.

How can there be such an incredible lack of diversity with five national competitors slugging it out for your business? The answer is simple, mobile carriers have very little oversight regarding how they manage their networks, and, as long as none of the major national carriers breaks from the pack, little incentive to change. The current situation is largely a result of the spectrum auction process, which historically imposes very few conditions on winning bidders once they complete their network build-out. Mobile carriers ultimately not only control the physical infrastructure and transmission scheme, they also strictly self-regulate and police the types of end-user devices and applications allowed on their networks. Mobile device manufacturers are for the most part prohibited (or at a minimum strongly discouraged) from selling devices directly to the end-user. The picture is even more grim for application providers, who usually struggle just to get an audience with the mobile carriers. To the extent a carrier is interested in an application, it will routinely require the application to be watered down to avoid overlap and competition with its own proprietary software.

The pending 700 MHz auction (which involves 60 MHz that will be surrendered by the broadcasters at the conclusion of the DTV transition in February 2009) looked like it would be more of the same. The incumbent mobile carriers were the favorites to win most of the spectrum, and they were expected to use it primarily to bolster their existing networks. Google had other ideas. On July 9th Google filed a letter asking the FCC to effectively change its philosophy regarding auctioned spectrum and incorporate open access principles into the pending rules for the 700 MHz band. Much to the surprise of the established mobile industry, the FCC stepped up to the plate and adopted several of Google's suggestions.

Google did not get everything it wanted, but the FCC did commit to applying open access requirements to a 22 MHz block ("C Block") of the 60 MHz of spectrum set for auction. Specifically, the winning bidder of the C Block spectrum will have two significant obligations.

First, the underlying carrier cannot restrict end users from downloading and using applications of their own choosing. The FCC has clarified that this means mobile carriers cannot impose tougher standards on third party applications than they impose on their own software. It also means that the carriers cannot disable an application's features or functionality. Nor can the carrier prohibit an application merely because of its bandwidth requirements. This effectively puts the end user in complete control of the software and applications on his or her handset. If the browser that came with your handset stinks, download a new one. If you are unhappy with your international rates, you can run a proprietary VoIP platform over your handset. Bottom line - the underlying carrier cannot penalize or prohibit you from running the applications you choose.

Second, while the underlying carrier can still establish certification standards and processes for the purpose of managing its network, it cannot otherwise exclude devices from operating on the network. In other words, the carrier cannot disable handset features or functionalities unless its restrictions are reasonably related to network management, network protection, or regulatory compliance. Moreover, the carrier cannot require the manufacturer to "lock" handsets to prevent them from operating on a competitor's network. For example, if a manufacturer wants to equip a handset with a WiFi feature capable of routing calls over a base station at home when the end user is in range, the underlying carrier cannot disable this feature or prohibit the manufacturer from marketing the phone if it otherwise complied with the carrier's reasonable certification requirements. Again, the intent is to drive innovation and give the end user more control.

Naturally there are limitations. An application or device cannot disrupt the carrier's network. Needless to say, watch out for applications that are bandwidth intensive, the underlying carrier still has the ability to charge you for throughput. Moreover, whatever kind of handset you purchase, it still needs to comport with the transmission scheme ultimately adopted in the C Block. The FCC will not require the carrier that wins the C Block to accommodate GSM devices if the underlying network is based on CDMA technology.

Nevertheless, the FCC's decision to require open access for applications and devices in the C Block is nothing short of a sea change. If innovative services in the C Block take hold, you better believe that the other mobile carriers will feel pressure to loosen their own network restrictions on third party applications and hardware.

On a final note, this development also reemphasizes how important it is to stay in front of the FCC - even if you aren't directly regulated by the FCC. This is something that technology innovators are increasingly realizing. The fact is that the FCC wants to promote innovation and responds favorably to effective advocacy that helps further this goal. If no one stands up and asks for change, however, the FCC is obviously far less likely to change policies and practices that may have been in place for decades. IT

William B. Wilhelm is a partner and Timothy L. Bransford is an associate at the global law firm of Bingham McCutchen LLP. For more information, please visit the firm online at www.bingham.com. The preceding represents the views of the authors only and does not necessarily represent the views of Bingham McCutchen LLP or its clients.

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Carlo Gavazzi's New Releases

By Richard "Zippy" Grigonis

The U.S.-based company with an Italian name, Carlo Gavazzi Computing Solutions (news - alert) (www.gavazzi-computing.com) recently debuted their 716 Series of rugged, conduction-cooled, ATR (Air Transport Rack) enclosures. Such rugged COTS (Commercial Off-the-Shelf) enclosures enable the safe deployment of electronic and computing hardware in hostile environments. (If you want to set up a specialized broadband network for roller coaster riders or cell phone base stations for penguins in Antarctica, this is the stuff to use.) Not surprisingly, the military favors ATRs as much or even more than commercial and industrial customers.

The 716 Series of ATRs can be configured to custom form factor requirements and is also available in standard ARINC sizes ranging from ½ ATR Short to 1-1/2 ATR Long. Offered in 3U and 6U form factors, the 716 Series supports bus structures and platforms in the CompactPCI, VME, VME64x, VXS and VPX and architectures.

The 716 sports configurable conducting walls, enabling the unit to be customized for various thermal scenarios. These conducting walls can be precision-machined into a pattern that optimizes the surface area for maximum heat transfer. Though designed as a straight conduction-cooled chassis, the 716 Series can also be configured as an air-over conduction-cooled ATR. This air-over conduction cooling method keeps the channeled air outside of the ATR, allowing the cards inside to remain in a sealed environment and thus protected from the elements.

Thanks to its innovative power supply configuration, the 650 Series is said to cost half that of comparable products.

For more conventional developers working in communications, Carlo Gavazzi has launched the 650 Series MicroTCA chassis for applications involving VoIP nodes, modular telco line units, WiFi and WiMAX radio boxes, Ethernet hubs, and fiber-to-the-curb optical network units.

Carlo Gavazzi's 650 Series MicroTCA chassis for communications applications.

Thanks to its innovative power supply configuration, the 650 Series is said to cost half that of comparable products.

The 650 Series comes in a 2U-high, 19-inch rack mount configuration. It has a single 6HP-wide MicroTCA Carrier Hub and a 12-node backplane. The backplane supports a range of customizable configurations for full- and half-height Advanced Mezzanine Card (AMC) slots.

Designed to include a low-cost power supply, the 650 Series offers a single fixed, rear-mount MicroTCA power controller. The forced evacuation and pressurization cooling design manages temperature with eight fans for up to 40 watts per AMC slot.

The 650 Series MicroTCA chassis is available beginning at US$2,500.

Carlo Gavazzi Computing Solutions consists of three divisions: Electronic Packaging, Fabric and Connectivity, and Channel Access. It's a sister company of Carlo Gavazzi Automation Components and a wholly-owned subsidiary of Carlo Gavazzi AG, a publicly-traded, global electronics group. IT

Go to Table of Contents | Go to Ad Index

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O2: Willing to Learn

There are few areas within the overall communications market that are more competitive that the wireless space and, with more handsets per capita that any other market, along with at least seven operators and a number of MVNOs, the UK market is the most competitive of all.

The increasingly intense competition, on one hand, bodes well for the subscriber, since it has meant the price of minutes has steadily declined, nearly to the point of commoditization. Operators, thus, are forced to find alternate means of competing for business, either completely new entrants to the wireless market or those dropping their services from other carriers.

The irony, of course, is that wireless operators are unified in their position that their greatest problem is churn - yet, they are equally unified in their concentration of new subscribers, rather than existing ones. So, the game is such that each operator gives away as much as it possibly can to attract new customers, while existing subscribers are effectively hung out to dry.

"You can never do enough to ensure data integrity."

UK mobile operator O2 realized the futility of this approach, decided it had to be willing to learn new ways of approaching the dilemma, and set out to address the perception that new subscribers are treated better the existing ones - and it's not secret that perception is usually founded in reality.

So, in taking the road less traveled, O2 made the gamble that, with all the customer data it has available, it would be able to cut its competitors off from its defectors. Not only did O2 offer better plans to its existing customers, plans that are on par with what new customers receive, but it also added various "freebies," offered to subscribers based on their services and usage. In truth, many of these freebies, or "treats," were already available to subscribers, but they were not visible to the customer, rendering them ineffective, if not useless.

Did the gamble pay off?

Well, around the turn of the century, the price difference for minutes was negligible between the four major mobile operators in the UK, but O2 was well at the bottom in churn rate, which meant it was losing more business than its competition. Over the next 18 months, however, O2 moved swiftly to second place, and that growth has continued since. So the short answer is yes, O2 played a winning hand.

According to O2's Mark Pollard, a renewed emphasis on personalization and the individual subscriber was a key driver of O2's success from 2002 onward. In particular, O2 sought to provide enhanced online self-service capabilities to both its consumer and business customers. It made a number of changes to the way it would handle its subscribers, including its Next Best program, which was designed to analyze customer data to determine if there might be a better plan - either lower or higher - or other add-ons that would be useful or beneficial. The idea was that the data had always been available, but had traditionally been used at either and of the contract cycle, not during the course of the term.

This plan was put into effect not only with live agents, but online also, for, as Pollard explained, O2 felt that, if offered the opportunity to do so in a simple and effective manner, customers would be much happier helping themselves through an online portal, rather than having to deal with an agent.

In addition to simply projecting what the best calling plan would be for each subscriber, the idea was to also identify, again based on usage data and preferences, a short list of additional services that would be of interest to the subscriber. Rather than offering a complete list of services, where subscribers would have to identify for themselves what they like, the theory was that a user-specific list would make customers more likely to add services they would actually use. Customers like being offered things they need.

At the end of the day, however, O2 says that, whether they actually add services or not, customers are happier simply knowing O2 has paid attention. And happy customers don't switch carriers. Notably, even when they modify their plans, O2 does not hold their customers hostage by requiring a new service term contract - unlike other mobile operators.

More than calling plans

In addition to offering better service to its subscribers, O2 also was looking to extend its brand and to engage its customers outside the mobile space. The O2, a multipurpose venue in London, has helped accomplish that. The venue hosts a variety of events, from concerts to sporting events to exhibits and other entertain-

Go to Table of Contents | Go to Ad Index

By Erik K. Linask

ment. Importantly, the connection with O2's mobile business is not simply brand awareness, but it provides O2 the opportunity to extend exclusive information and access to its subscribers - again based collected data and user preferences.

On an opt-in basis, O2 collects various data from its subscribers, and is able to make offers that match customers with targeted events and information - more personalization.

As Pollard explained, the entire customer initiative is "about turning customers into fans." He acknowledged that, while it would be easy to deny, the fact is that everyone makes mistakes, but, "fans stay with you even after a bad experience."

He added that, "Managing the customer experience has its difficulties, but we're clear where we want to be, and the CRM piece is critical to that."

Behind the Curtain

Certainly, the theory is sound, but in order to make it work, O2 needed to have the technology to back it up. For O2, the key partner in that respect has been Aperio CI. Too often, businesses have data sets and programs that should work in concert with one another, but because they rely on different sources, or run or different platforms, there is inconsistency, effectively creating information void, making it virtually impossible to achieve an enhanced customer experience.

"With Aperio CI's products, we are able to compare an entire product set across the various sets of underlying data, ensuring consistency across not only data output, but also information, planning, and service offers," said Pollard.

With Aperio CI's solutions, O2 is able to achieve consistency across all of its data - and, therefore, consistency across all of its customer focused activities - which leads to consistency of experience for the customer.

Furthermore, while often, the introduction of new technology comes with a steep learning curve, and agents often have a hard time grasping the new tools available. But, because Aperio CI has been able to consolidate as many as 17 screens of data into a single one, the agent training process has actually been one of simplification, according to Andy Day, CRM director at O2.

Of course, no technology is perfect -

even the android Data from Star Trek had its flaws - and the complex algorithms that project the Next Best scenarios can sometimes make a recommendation that simply makes little sense. Knowing this, and understanding that being able to identify those instances would be a crucial part of a positive customer experience, O2 has authorized its agents to make independent decisions and recommendations. The agent-to-customer conversation is 100% scripted, as it is with other organizations.

Aperio CI

The philosophy, the agents, and the applications are all integral pieces to a successful campaign, but, without reliable underlying data driving programs and customer service functions, the rest is somewhat useless. For its part, Aperio CI receives data from more than 100 sources and processes 21.5 data files per minute, seven days a week, assuring the integrity of the consolidated information, then turns it around to O2 for use in its various applications and services.

The driving philosophy of Aperio CO CEO Duffy Mitch is that, "you can never do enough to ensure data integrity," which is why Aperio CI puts more effort into verifying the accuracy of the data than any other part of its operation. It's also why Mitch confidently stands behind the data he delivers. The key, he says, is to keep the process as automated as possible - and for O2, the whole cycle from data sourcing to campaign fulfillment to customer responses to a order fulfillment is automated.

Day confirmed, "That's one of the reasons you want to work with someone like Aperio - you gain an understanding of what good data looks like."

Back in 2005, it took some six months for Aperio CI to deliver a database that would consolidate previously disparate systems and databases and campaigns supporting different parts of O2. But, with the new platform now in place, O2 is able to run 80-100 different campaigns each months with increased effectiveness. The Aperio systems also allows O2 to perform much more campaign analysis than previously because of the amount of data that is available and, more importantly, useable.

Bill Manager

In addition to changing the way it approaches service offerings for customers, O2 has also significantly upgraded its online billing portal, which allows users to gain new insight into their service usage online.

Aperio's Bill Manager is predicated on the same predicated on the same underlying principles as O2's customer service portal - that the underlying data must be consistent. As such, it has been designed with an easy-to-understand dashboard that displays the same data to everyone. In fact, the portal has been designed such that, if a customer is on the phone with an agent, the agent can log onto the user account alongside the customer, so they are, quite literally, looking at the same information - in effect, Bill Manager has been developed as a collaboration tool.

The Web-based tool allows customers - and this is particularly useful for business customers - to view their monthly usage in various configurations, from the business to the individual user. This allows not only better assessments of mobile usage across business lines, but also allows individual users to identify personal calls in cases where they may need to pay for them.

Standard reports are generated each month, prompting an auto-generated email to be sent to the customer for notification, and coincide with invoice delivery. Customers can, naturally, create custom reports as well, and all reports are available in Excel format - because Excel is a ubiquitous format, and allows for data manipulation and sorting to meet various needs.

One of the unique features of Bill Manager - it also relates back to consolidating data into a single database - is the ability to combine pre- and post-paid plans. O2 says this capability on its own has generated considerable new business. Ultimately, this is a tool that can combine wireless, fixed-line, and mobile data all in a single interface, again simplifying the customer experience.

The Lesson

When O2 set out to win back market share it had lost, it had a plan, which turned out be founded on sound theory - superior existing customer service. By creating happy customers, O2 reduces its churn rate, and a natural by-product is word-of-mouth advertising.

O2's head of CRM Mark Imrie explained, "We knew that in order to be successful against the competition, we had to get the customer service thing right."

With a solid plan and a committed technology partner in Aperio CI, it appears to have done just that. By focusing on the individual customer, and offering them treats, like free messages or free calls to certain locations, and by providing useful self-service portals, and by making accurate, useful billing available online, O2 has taken the data it has always had available, and built the UK's best mobile franchise.

And as far as the future, the idea is to continue to keep its customers happy, because a happy customer is a happy customer. Not that O2 has followed in anyone else's footsteps in overtaking the UK market, but Day insists that not a consideration as far as customer service is concerned: "We'll never outsource our call center operation. Customer facing staff should always know what they're talking about."

What has truly differentiated O2 from the competition, and resulted in new technology being adopted, new approaches being taken, and, ultimately, new business being won, is O2 willingness to learn and adapt. O2 saw that its approach was not working, but instead of sacrificing its customers, it took a hard look at what was missing, and found it. IT

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Featuring:

Fonality's Chris Lyman

Rich Tehrani's Executive Suite is a monthly feature in which leading executives in the VoIP and IP Communications industry discuss their company's latest developments with TMC president Rich Tehrani, as well as providing analysis on industry news and trends.

Chris Lyman
CEO, Fonality

The open source market has been steadily gaining momentum as users and VARs alike begin to understand the value that general access to code presents, both in terms of costs and new and innovative applications that can be built in-house or by third-party developers.

In addition to fostering development and cooperation - coopetition, perhaps - open source products, by nature, are designed to work with any number of hardware and software solutions without requiring significant work. In doing so, they also allow customers to choose their own vendors of phones and other peripherals, unlike proprietary platforms, which require the use of certain products in order to ensure reliability.

Despite never having interviewed a janitor for his Executive Suite, Rich recently sat down with to talk about open source with Fonality (news - alert) CEO/janitor Chris Lyman. Chris offered his candid thoughts on the industry as a whole and on what Fonality is doing, along with an explanation of why he refers to himself as CEO and janitor.

RT: Chris, please, share with us a little bit about that title of yours.

CL: You know, that's a title that I've had at my last two start-ups. Each of them has been over a hundred employees, so it's not as if we didn't have a janitor, but I guess I just realize that people seem to think the bigger your company gets, the more powerful you get and the more everybody serves you.

What I've actually realized is, as the company grows, you start to serve the company more, and your role shifts to solving really hard problems and cleaning up messes. So, there are many days when I come in with the title of CEO, but what I'm really doing is cleaning messes, and those messes go all the way from architecture messes to personnel messes to, who knows what - when no one flushes the toilet in the bathroom, I'm going to do it. So, I do feel like a janitor, and I remind myself that no job is too small, and no mess is too dirty for me to clean up. It keeps me humble.

RT: What does that attitude do for you and your corporate culture?

CL: It reminds everyone, with every email I send that says "CEO and janitor," that I have an open door, and that I'm not afraid of messes and I'll get my hands dirty. Maybe a better title would be janitorial supervisor, because I don't necessarily clean all the messes up with my own hands, but I'm not afraid to look at a mess and clean it up and talk about it. As I said, it fosters humility.

Every company has a tag line, right? Fonality's is, "communicate openly". It's a double entendre, of course, because we're an open source-based communication company, but we also try to be really honest and direct, and have open door policies with each other.

RT: Why did you start Fonality?

CL: It's one of those things where you never know why you're starting a company at the time, but you look back later and it becomes clear, and you're are able to tell an interesting story about how you got there.

My last company was a web hosting company - I think it was the seventh largest web hosting company in the U.S. - a data company with about 800 servers in an 8,000 square-foot facility, which I sold to a publicly-held telephone company.

The mixture of my data background and the telephone company sort of segued me into IP telephony. That's why I ended up choosing Fonality, whose focus is providing affordable, easy-to-use PBXs for small businesses. Small business has always been my focus, even back when I had a hosting company. I was selling $20 and $50 per month hosting; I wasn't Exodus selling $5,000 per month hosting.

So, my whole career, from my very first start-up, which was as a computer consultant servicing small businesses, has been focused on providing small businesses technology solutions, and that's what Fonality's about, affordable software PBX's for the small business market.

RT: What pains do you eliminate for your customers?

CL: Honestly, there's a price problem with phone systems, which impacts smaller businesses most. The leaders out there - Avaya, Nortel, Cisco - are pillaging small businesses in terms of cost, and small businesses are held hostage by forty and fifty thousand dollar price tags for basic phone systems. It's a rip-off, and we're there to solve the price algorithm.

Now, to do that, we also have to solve the ease-of-use algorithm. Phone systems are so incredibly hard to install and maintain, and what would end up happening is that the Avayas and

Go to Table of Contents | Go to Ad Index

Ciscos end up charging $5,000 to put in a phone system, and $150 per hour for maintenance, moves/adds/changes, and so on. To change the price continuum, sure, we have to make it cheaper overall, but we have to make the maintenance cost go down as well, and that's an ease of use problem. So, we're both attacking price and ease of use at the same time - and ask TiVo, that's not easy to do.

RT: Could you tell me a little bit about your newest product, Trixbox Pro, and how it fits in with your product line?

CL: Trixbox Pro is a really cool project. Let me explain why it's different from what we've been doing with PBXtra, which has been an affordable, easy to use PBX, that's really sold as an appliance with the software included. With PBXtra, you get a UPS box at your door one morning, and it reads, "What can Brown do for you?" You open the door, and there are actually two boxes - one with our server with installed software, and the other with your phones, all preconfigured. That's PBXtra, and it's been a great direct product.

However, it has not been well received by the data VAR community, until now. The education cycle in telephony is over, and the data VARs understand they can now monetize IP telephony, so they've come to us and said, "Yo, Fonality, we're smart enough to build servers; we're smart enough to buy IP phones from VoIP Supply and configure them ourselves. Give us the software; let us monetize the hardware; let us have hardware on the rack so that, when a customer's phone goes down, we can we can drop it off without having to order it from you."

So, with Trixbox PRO, we abstracted the software from the hardware. Think of PBXtra like Macintosh. It works great because the software has been wedded to the hardware. What we had to do was take a Microsoft Windows approach. Microsoft had to abstract software from hardware so that it could run on anybody's hardware, and that's exponentially harder to do. It's very unsexy work, but it has to be done to open yourself up to all different types of set phones, servers, and interface cards.

So, Trixbox Pro is a software-only PBX. It's got a couple of really cool advantages over PBXtra and really the whole industry. We developed a base version for offices with fewer than 20 users, and we made it free. Call me dot-com crazy, but we're gambling that if we get in hundreds of thousands of businesses for free, as they grow up and become bigger businesses, they'll buy the enhanced versions of Trixbox Pro, and I think it's working. We launched about a week ago and we have about 2,000 downloads a day. If there are ten users on the end of each installation, that might be as many as 20,000 new users per day.

RT: In terms of your other launch, trixNet, can you give us an update on what that is and how it's done?

CL: trixNet is very cool; it's basically a free calling service for businesses worldwide that allows calling between users - the key is that it is done with their existing phone numbers. To that, most people's reaction is, "Huh? How can my AT&T business call your French Telecom business for free?"

Basically, what we've done is create a directory service that is part of Trixbox Pro - even the free edition, effectively making all Trixbox users trixnet members. When two members place calls between one another, Trixbox Pro performs a quick check with trixNet to see if the number is part of trixnet. If it is, it makes that call free point-to-point, bypassing both carriers, yet still using both carriers' phone numbers.

RT: It's almost the way email might work?

CL: It's the way email might work, but it's front-ended by regular phone numbers, so email typically tends to work with really funky SIP URI's, kind of like long email addresses - these hybrid hard to remember items. What we wanted to do was make trixNet not change user behavior. So, I'm on an IP or an analog or a softphone, and I want to dial your number just the way I always have, and that call needs to be free.

RT: How do you feel that the open source world has changed the telecom market?

CL: So open source questions for me are always a little scary, because open source zealots are usually listening and ready to sort of slay me on their blogs if I say anything wrong, and I always do. I'm actually not a big believer that open source innovates. I'm a big believer that open source replicates and integrates, which, I guess, creates a little innovation on its own, but let me explain.

Open source typically replicates the closed source software model, and does it for free or very cheaply. So, you can look at most open source projects: My ASCII replicates closed source databases; Asterisk replicates Cisco and Avaya's closed source software. But what happens in this process of replicating is they use open exchange standards and what happens with those standards is enforced integration. So, as they're creating this project and are using these standard protocols, like SIP, different other open source or even closed source projects using those same standards start to snap into place, and you start to get unified communications on the back end. So, open source, in the process of replicating, creates integration, which makes information flow seamlessly through different software applications, and which does start to create some innovation. But, the short answer is what open source does is cost.

Open source gets you a similar solution for less, but as a by-product of doing it in an open source way, it creates integration. So, when a key director, who puts an open source product in, will naturally have a better rate with other software products he's using and create both compound in savings and compound in knowledge sharing. I think anytime you increase knowledge sharing and decrease cost, you've done a good thing for the world. IT

You can read more of what Chris had to say online at www.tmcnet.com or listen to the podcast in its entirety at www.tmcnet.com/1124.

Outsourcing in the Service Creation Environment

As Voice-over Internet Protocol (VoIP) technology becomes more and more a *fait accompli* with the future of voice communications, service providers of all types - cable companies, MSOs, ISPs, MVNOs - are either at the discussion, planning or testing phase of new VoIP service offerings. Cable companies, because of their existing subscriber base and their managed bandwidth to the end user, find themselves in an enviable position. In many cases, these companies have performed trials or invested hard cost in a VoIP system that has not delivered a return on investment.

In this article, we will assess the details a service provider must consider prior to a VoIP (define - news - alert) deployment, assist service providers as they attempt to make sense of the available options and, ultimately, help service providers construct a roadmap to get their VoIP plans from the drawing board to launch and revenue generation.

One drawback to extensive planning is it lends itself to the desire for control, complexity and stability. When you think about how your company will sell and support VoIP and the opportunities for growth in this exciting market, you start to dissect why business models have and have not worked, and to come up with a concise list of how and why yours *will* work.

These are needs that will change over time. Reseller programs, of which there are many, ("VoIP reseller" nets 187,000 hits on Google) - including several notables such as RNK, Delta 3 and BroadVoice - are generally well-positioned to hasten speed-to-market and reduce complexity while providing a service provider with limited control, limited input and, most importantly, limited ownership of their customer base.

Enter the concept of outsourcing and the "Service Creation Environment". Simply put, this term refers to a solution which allows a service provider to engineer, integrate and deploy the services they want to market across the best available (stable, tested and scaleable) systems that perform billing, unified messaging, call routing, and a variety of applications such as hosted PBX, Centrex, conferencing, video, and new services as they emerge. The goal for the service provider is to fully outsource as much of the complexity as possible without losing control and flexibility.

More traditionally defined by Atul Varshneya in a March 2004 article entitled, "Service Creation in Next-Generation Networks" - "What Is Service Creation? Creating service logic means implementing the flow of network protocol interactions, data modifications and control-flow decisions to deliver the intended features to the end-user."

I. Components of a VoIP Deployment

Selecting Core technology

Once you have determined your strategy for marketing, selling and providing support to your current and future customers you need to create, integrate, deploy and manage the services.

Many outsourced solution providers have opted to use a 'best of breed' approach, aggregating various components of hardware and software, which have been tested for stability and scaleability and are generally used in the larger deployment.

Understanding the predictability of the components that will ultimately run your phone service offering is crucial. As such, it is important to note the following risk/reward matrix for selecting open source (reward: free, large developer community; risk: poor documentation, not scale tested), homegrown (reward: leverage-able; risk: no support organization, costly to maintain) or one-stop shopping (reward: single source for resolution; risk: costly, slower upgrades, less focused development organization).

Making it work

There are six key areas of consideration when creating your service: (i) Identifying the correct mix of in-source and out-source people on your team; (ii) choosing a solid IP network for originating and terminating calls; (iii) creating understandable provisioning for each service; (iv) accurately billing; (v) monitoring quality, profitability and fraud; and (vi) web integration.

As in most businesses, your most important asset is the people who work on your systems. As I will discuss below, this component is without question one of the largest hidden benefits of outsourcing your service creation. Following is a list of the various skill sets you will need on your VoIP deployment and support team:

- Voice routing quality of service
- LAN qualification and troubleshooting
- System integration/management
- Billing management
- Online portal management
- Sysadmin - general system administration
- SIP Phone/IAD/CPE testing and troubleshooting
- Mid-level knowledge of configuration on all call processing systems
- Vendor support contracts:
  - bug relief
  - deep knowledge of systems
- Remote Hands

Go to Table of Contents | Go to Ad Index

By Micah Singer

Selecting the correct network for the interaction between the customer's phone and the core VoIP infrastructure is fraught with peril. The short version is that if your customer base can tolerate outages, then the public "best effort" Internet will suffice and actually works remarkably well most of the time. If not, then some form of a managed network is needed. This ability to guarantee quality of service is of the utmost importance to enterprise customers who represent the larger economic opportunity. Cable companies, LECs, ISPs and CLECs are in a favorable position to leverage this last mile relationship.

Inherently, VoIP adopters are Web-savvy and expect online provisioning, support and access to a lot of controls for self-management. You need to think carefully through all of the actors in your VoIP offering - end users, company telecom managers, agents, resellers, customer service representatives and management - and make sure you select account provisioning and management tools that are easy to configure for all layers and types of access and flexible to the addition of future service offerings. If you intend to integrate VoIP infrastructure with legacy systems you'll need a flexible middleware application and, generally, professional services work followed by QA testing and deployment support.

With its Cortex® system, this is precisely what VoIP Logic (news - alert) (www.voiplogic.com), my company, provides.

As your business grows, it requires more and more monitoring, accounting, quality of service, and fraud reporting. Smart reporting should provide a selection of report output format, such as .csv, .xml, .rtf and .xls.

Billing a new service offering can be quite easy if you have a robust legacy billing system that can support new plan types, input sources and account structures. However, there are myriad issues around taxation, commission management, payment processing integration and how you choose to present the invoice - online, via email with a link, via email with an attachment or via snail mail. It is at this point in the development process to think about how you will integrate double and triple plays into a single billing experience - effectively addressing the future and future-proofing.

Finally, and in some ways a combination of many of the other items, is Web integration. Your most frequent touch point to your customer is the Web - from self-management of phone features, voicemail, auto-attendants, new corporate phone users to managing billing and payment - the web is the method of choice for ease of use and for lowest operating cost to the service provider. Generally, the only calls you should take are fault reporting or special requests. In addition, your own workforce can easily be spread, outsourced or remote.

II. How to Make Good Choices

Many of the decisions you will be required to make are based on common sense and a few are based on the specifics of how you intend to use VoIP technology.

I strongly believe that if you intend to outsource all or part of the components required, you must find a neutral supplier with experience and the right mix of the outsourced services and solutions that you require or plan to grow to require. "Right" includes right for your

budget as well as your service plans.

In addition, you should assign the right people to the right roles internally and make sure these pairing synchs with your outsourced provider.

A particularly cumbersome issue is LAN qualification of your existing and potential customers. The LAN and Layer 3 prioritization in general can require a fairly technical skill set to troubleshoot but as it will be the single largest engineering issue it is good to in-source. Other than that a mid-level understanding of the technology and how to operate it is generally sufficient if you are working with a strong outsource "service creation environment" provider.

Lastly, focus your dollars on the web integration component and innovative ways of using the technology. There are more and more "me, too" offering on the market and the ones that tend to survive are the ones that have thought more closely about the return on investment and how to increase average revenue per user rather than how to make the same thing cheaper. The ones that tend to get rewarded are the offerings that are most innovative with the technology like Skype and Grand Central more recently.

III. How to Start

Generally, the first step is to construct a roadmap of the tasks you must accomplish to get from drawing board to launch. You should expect a reseller to launch you in three to five days once you have provided all relevant information; an outsourced provider in one to three months once you have designated your configurations and have been sufficiently trained, and if you purchase, deploy and integrate all relevant systems in-house from six months to eighteen months depending on available resources.

It is essential that your roadmap cover all events - expected and unexpected - to happen during the interval from spending approval until launch.

Often, all-in-one providers such as Nortel and Lucent, will assign professional services project management that will assist with road-mapping as this vendor will own all components of your project. While thorough, this is not an economically feasible choice for many carriers. The sort of company that can assist in 'best of breed' deployments are outsource "service creation" providers and systems integrators.

It pays to tap into their deeper technical resources and knowledge.

In any case, find a solution provider or providers that treat you like a partner. Whether you are buying and building, reselling, or outsourcing service creation, you must trust and be able to rely on your vendors to meet the expectations you set in common. you're good people- just remind me never to go up against you. IT

Micah Singer is CEO of VoIP Logic. (news - alert) For more information, visit the company online at www.VoIPLogic.com. You can reach him at micah@voiplogic.com.

Class 5 Deployment Guide

Provisioning
- What are the accounts types across all systems:
  - Service lists, voicemail, auto attendant, billing
- Provisioning Wizard
- How much automation is required for provisioning
- Language of end user
- Dialing plan
- Routing plan
- Third party systems
  - Integration with website; CPE provisioning server; merchant account; accounting package; 911 emergency; CRM systems; DID provisioning; DID porting; Circuit or IP address ordering; Billing system

Network

IP Bandwidth
- Media path- network diagram for all potential media paths.
- Best Efforts or Managed (i.e. MPLS, T-1)
- LAN qualification
- PSTN Origination/Termination

Provisioning Service Provider
- Type of Customers
- Sales Organization Structure

Reporting requirements
- Financial / business reports
- Network engineering reports

Web-portal
- How many layers will be needed:
  - end user
  - company admin
  - reseller / distributor
  - end user
  - Service provider management
- Use cases for each
  - Level of control of resellers, agents
  - Level of reporting, information: call records, process credit cards
- Look and feel modifications
- URL/DNS mapping
- SSL certification

Figure 1

Go to Table of Contents | Go to Ad Index

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Alan Percy
Director of Business Development

Erik Linask
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Delivering Communications-Enabled Business Processes

Enterprises and service providers alike are entering a new era of communications-enabled business processes (CEBP). By integrating business applications with real-time communications, CEBP streamlines many business activities and helps companies serve their customers more responsively. By allowing applications to adapt more readily to changing business requirements, CEBP also makes organizations more agile and dynamic.

The movement to CEBP is enabled by two major trends: the growing popularity of service-oriented architecture (SOA) for business applications and the widespread adoption of SIP-based real-time communications, including voice, video, presence and more. But an additional enabler is needed to make CEBP a secure, cost-effective reality: SOA-compliant, policy-based, real-time session management.

Making session management an integral part of the application infrastructure gives business applications dynamic, fine-grained control over real-time communications. Basing session management on the SOA model minimizes the time and cost required to implement CEBP. And building in stringent policy enforcement ensures that all real-time activities comply with security, regulatory and business policies.

Leveraging SOA in CEBP

Most of today's business applications, whether built for the public Internet or for enterprise intranets, rely on a Web-like model-centrally hosted applications interacting with distributed user devices via HTTP (Hypertext Transfer Protocol). Moreover, most of these applications are based on a layered SOA (Figure 1).

At the top of the architecture, enterprise applications embody business processes like CRM (customer relationship management), conferencing and IVR (interactive voice response). Service provider applications include services like gaming, prepaid VoIP (voice-over-IP), ringback tones and push-to-talk.

In a parallel layer, application servers from BEA, IBM, Microsoft, Oracle, the open source community and others provide shared application logic components that enable the assembly of applications from existing building blocks. Application servers also provide a virtualization capability that shields applications from detailed knowledge of application server components and shields component functions like database access and network access from detailed knowledge of each other. Applications use standard Web Services protocols like SOAP (Simple Object Access Protocol) and WSDL (Web Services Description Language) to invoke server-layer modules.

At the bottom layer of the architecture, network equipment provides IP-based switching, routing, etc. for both real-time and non-real-time communication. Applications can talk directly to the network equipment layer using SIP (Session Initiation Protocol) or invoke network services indirectly via the application server layer.

Compared to previous, more monolithic models, this layered, modular architecture makes it much easier for developers to build and maintain business applications. Since applications can share lower-layer services and functions, SOA avoids the application "silos" that waste resources and block communication among applications. By making it easy for developers to reuse existing software components, the architecture dramatically reduces the time and cost required to create new applications. Moreover, as business requirements evolve, SOA modu-

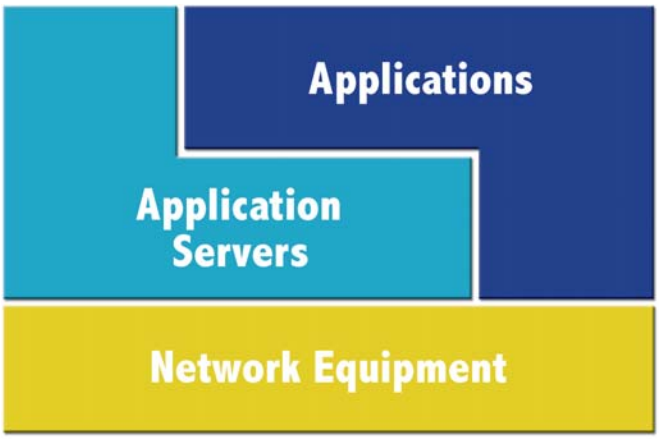

Figure 1. Most of today's business applications are based on a layered service-oriented architecture.

Go to Table of Contents | Go to Ad Index

By Kenneth Kuenzel, Founder

larity makes it simpler for developers to adapt existing applications and incorporate new services.

Due to its efficiency, flexibility and ease of use, this Web Services architecture has been adopted widely and is well understood by developers throughout the Global 2000. If the same model could be extended to include real-time applications, the benefits would be enormous. Developers could avoid creating separate real-time communications stacks that would multiply cost and complexity and slow or prevent CEBP rollout. Companies could leverage existing software functionality and developers' existing skill sets to save time, reduce cost and risk and move rapidly to the benefits of CEBP.

Policy-based Session Management: The Missing Link

To extend the benefits of SOA and Web Services to real-time applications and to facilitate the implementation of CEBP, another layer is needed between the application and application server layers and the network equipment layer (Figure 2). This session management layer combines session border control with application-level security, session routing and session management to create a single point of policy enforcement for real-time applications and services.

The session management layer gives application developers a level of dynamic, fine-grained, policy-based control over real-time communications that cannot be implemented at the network equipment layer. Application developers can specify, for example, that certain VoIP calls should follow least-cost routes while others are routed to maximize quality. Acting as a policy gateway, the session management layer also assures compliance with security, regulatory and business policies. To satisfy Sarbanes-Oxley, for example, the session management layer could log all inter-enterprise instant messages. To control costs, it could block international phone calls by unauthorized users.

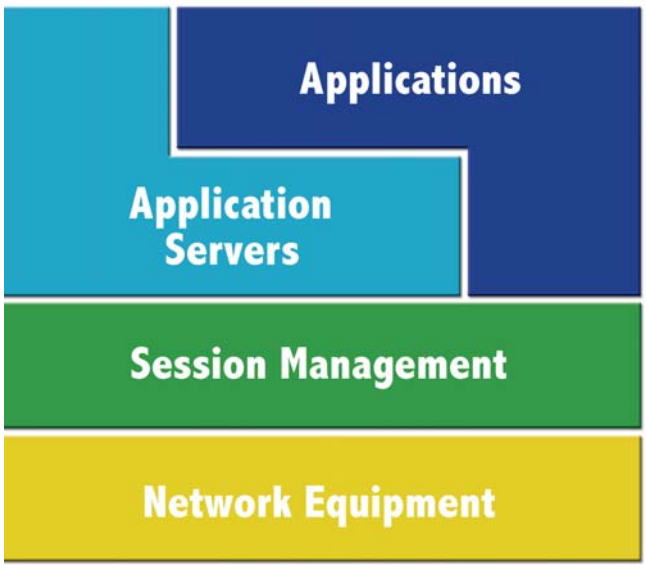

Figure 2. A session management layer must be added to today's application architecture to facilitate CEBP.

Clearly, real-time session management can add value to business applications. And clearly, real-time session management is essential to successful CEBP. But if software developers must learn new protocols or master a complicated interface to use session management tools, the flexibility and development ease of the SOA model

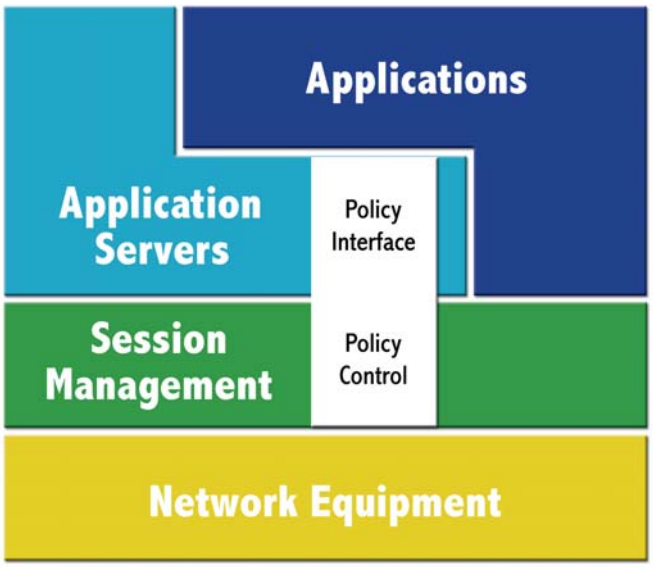

Figure 3. Session management controls must be available to applications via server-layer Web Services interfaces.

will be lost or compromised and the move to CEBP will be slowed or stopped. To deliver fully on the promise of CEBP, the session management layer must fit into the Web Services/SOA model.

Session management services must be available to applications via component interfaces in the application server layer (Figure 3). That is, the application server layer must be augmented to include a new set of high-level component interfaces-interfaces like: routeCall(sessionID), forkCall(sessionID), encryptCall(sessionID), recordCall(sessionID), terminateCall(sessionID), etc. - with the complex session management code behind these interfaces hidden from the developer.

With robust session management accessible via familiar SOA component interfaces, companies will be able to implement CEBP quickly and cost-effectively. Application programmers will not have to learn new programming languages or write difficult new code. They will be able to set dynamic real-time policies by writing one line of Java instead of hundreds lines of XML. Real-time session management will be accessible immediately and easily to millions of experienced developers.

CEBP in Action

While CEBP and dynamic real-time session management may sound "visionary," many enterprises and service providers are reaping their benefits today. One major financial institution, for example, recognized that the efficiency of communications between customers and the sales force could be significantly improved by integrating call control and call policy with its CRM system. Working with the author's company, Covergence, the enterprise created a CEBP solution that performs as follows.

A sales representative uses the CRM system to select a group of customers to contact with a new sales opportunity. The CRM system passes the customers' phone numbers to the server-layer Manage Call component via a standard web services protocol. The Manage Call component initiates a call to the first number on the list. If the customer answers the call, the call is delivered to the sales representative for a real-time conversation with the customer. If the customer does not answer and the call goes to voicemail, the Manage Call component hands control of the call to the Voice Drop component. The Voice Drop component leaves a prerecorded voicemail message for the customer. Meanwhile, the Manage Call component dials the next customer on the list. This process repeats until all the customers have been called. Because sales reps do not have to spend time dictating messages to voicemail, but can spend all their time talking with live customers, this CEBP solution greatly increases their productivity.

Since this company's CRM system was a packaged solution and not developed internally, the best way to integrate call control was through its existing web services interface. To achieve this, the company's IT staff, with help from Covergence, added call control components to their application server, including the Manage Call and Voice Drop components described above. Besides supporting these server-layer call control components, the session manager also dynamically selects routes from multiple carriers based on a number of factors including the called party's physical location, the cost of different routes, and the quality of service currently delivered by each route.

Conclusion

As this simple example illustrates, by integrating real-time communication with business applications, CEBP can boost employee productivity and reduce operating costs simultaneously. CEBP can also make companies more responsive to ever-changing business and customer requirements. The best way to implement CEBP is to make real-time session management part of a company's existing SOA/Web Services architecture. By adding a robust session management layer and making it accessible to applications via familiar Web service protocols, companies can leverage their developers' existing skill sets and make a quick, cost-effective transition to CEBP. IT

Kenneth Kuenzel is the Founder, VP Engineering and CTO of Covergence. (news - alert) For more information, visit the company online at www.covergence.com.

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Cyber Security for Triple Play Delivery Platforms

Cyber security is one of the hottest subjects these days. A host on the Internet is attacked on average once every few minutes, which means it can be infected before the installer has even reached the point of installing the security software on a machine that is being setup for the first time.

Users need to be more concerned because the nature of the motives behind the attacks have recently shifted from being a proof of superior programming power to a means of making easy money. Computers of unknowing users are pirated to send spam email, fake click-through ads or even to mount distributed DOS attacks, for a fee. The hacker gets away with his profit, and the user is left to suffer the legal liability for initiating the network intrusion.

Until recently, the industry focus has been on computers as primary targets for cyber attacks, and on protection via add-on software modules and applications. This is no longer the case due to the dramatic increase in the number of mobile or fixed networked appliances. In the case of handheld networked devices, the intrusion prevention would be a major drain on the battery. In a business setting a whole department is normally dedicated to network security but at home the users are left to fend for themselves. The focus of the rest of this article is on the residential network.

In businesses, the security devices are concentrated near the router serving as the WAN connection, a role which is played by the residential gateway in a home setting. The gateway, by definition, is the entry point to the home network. It then forms the first barrier to any cyber attack on the various appliances and computers connected to that home network. The gateway's main security concern is to protect from information theft and from unauthorized use of machines on the home network which then may be used to initiate other network attacks.

There are three approaches to security that may be applied at the gateway, since the assumption is that external security boxes are too expensive to apply in a home setting:

1. A gateway using the minimum firewall techniques where the security load is expected to be handled by each host or appliance.
2. Network Intrusion detection.
3. Network Intrusion prevention.

The first case is what's shipping today in all broadband routers where the main function of the box is to route Internet packets to the home LAN. This approach is not sufficient enough to handle the increasing levels of threat and implications of attacks expected on the Internet today.

In the second case, the security software in the gateway monitors all the flows to analyze the packet traffic at each of the OS network layers looking for intrusions and notifying the user of anomalies.

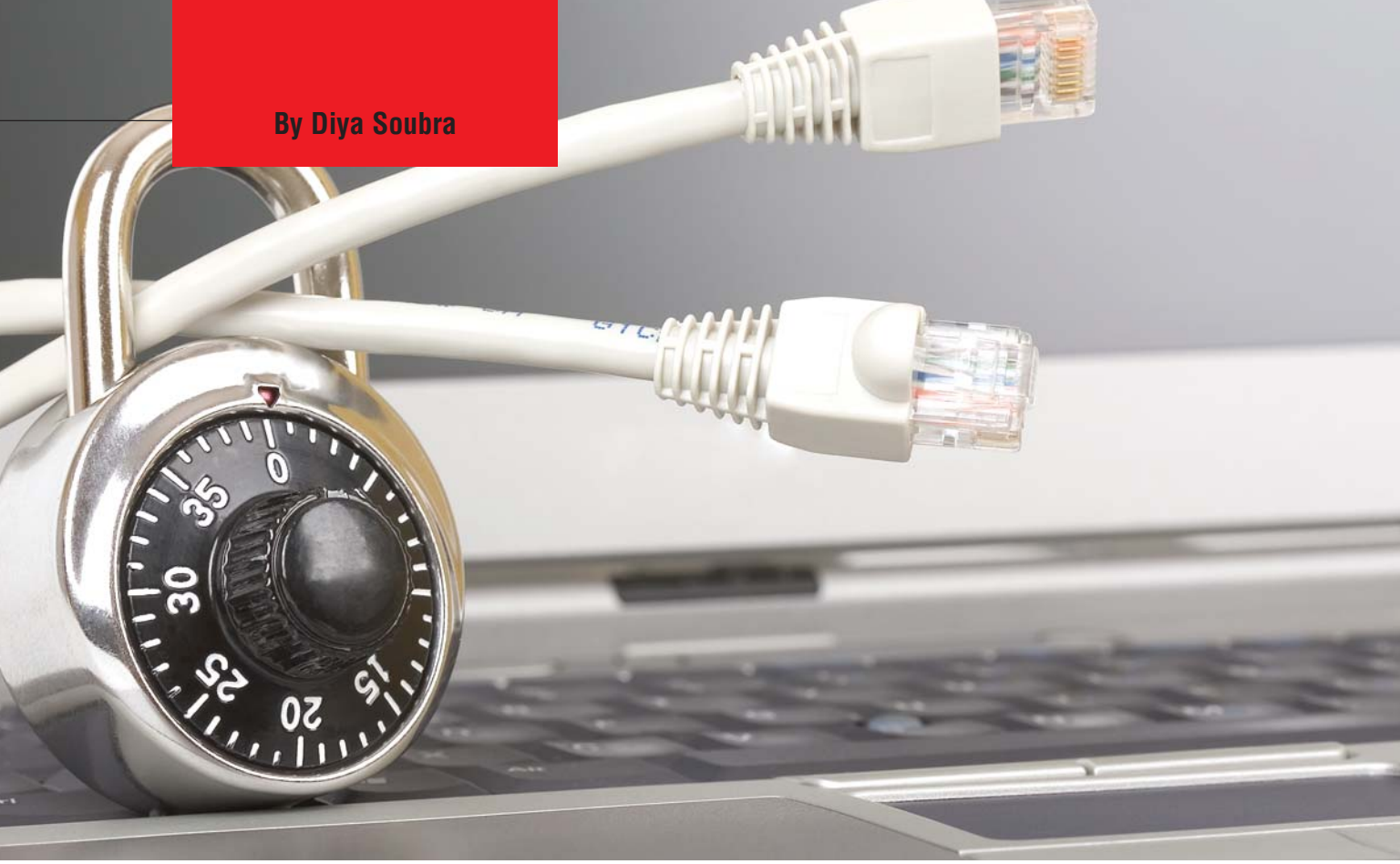
The third case is the most interesting one since the security software is in the packet path to prevent malicious packets from getting on to the home LAN. Given that the majority of the cyber attacks are already identified and classified by the security industry, it is reasonable to expect the gateway to prevent those attacks from proceeding to the home network. In cyberspace, these attacks make up a large part of what's referred to as the Internet background radiation. Worms that were launched in the year 2001 are still around today attacking unprotected hosts despite treatment of machines worldwide. The more dangerous attacks are the new worms and viruses that have not yet been identified and classified. There exists a large body of technical research on how to monitor, track and block new cyber attacks. The key summary point, out of all that knowledge, is that each packet flow has to be handled individually and has to be tracked as it changes states against a predefined set of policies or rules. This immediately translates into having a requirement for a high performance processor and a large amount of memory in order to handle the packet flow in real-time. It is vital to stop the attack before it happens since the clean up costs are always higher than the prevention cost. The situation gets even worse as the bandwidth increases and as the diversity of the traffic grows.

It is to the advantage of a service provider to have a sophisticated residential gateway that has built in Network Intrusion Prevention since that box is an integral part of the provider infrastructure. If each of those nodes is cyber security ready then the infrastructure as a whole will maintain its integrity and reliability which is a key element for service delivery.

Security software has evolved over time from being a bolt on after the fact to being a properly designed unified security module which is then integrated into the system of choice. Eventually, the unified

Go to Table of Contents | Go to Ad Index

By Diya Soubra



security module will be built into the system from the ground up once the platform has the necessary processing power and memory to handle such a load. Security software puts a very heavy load on the host.

With the growth in the number of networked devices and the increase in network bandwidth, comes the increased threat of cyber attacks that will cause larger and larger damage. Today the majority of network attached devices are PCs, and the majority of "intrusion prevention" occurs on the PC itself. The new generation of network attached devices in the home will not necessarily be PCs, and not necessarily have the resources to do complex "intrusion prevention". The WiFi iPod, WiFi Cell Phones, PDA, etc. Especially in the case where they are battery driven and can't really afford the power to do the complex "intrusion prevention". The home gateway must then provide the "clean secure home network traffic".

A first point of defense is the residential home gateway which now is an integral part of the service provider infrastructure. The residential gateway has to have sufficient memory and processing power to perform the network intrusion prevention function by applying pre-defined policies to each and every packet flow besides doing the usual pattern matching and anomaly detection to filter out the internet background radiation. Most processors on the market today for residential gateways were designed for one specific purpose which is to move packets from the provider network to the home network. These processors are not well-suited in the fight to maintain cyber security in the home. Service providers looking into the design of the next version of the service delivery platform need to seriously weigh the consequence of not applying the required security software or selecting the wrong processor to support that load. IT

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Diya Soubra is the Director of Marketing for the Media Delivery Solutions product line at Mindspeed Technologies. He joined Mindspeed in 1990 as a designer and developer of test and validation systems. You can reach him at diya.soubra@mindspeed.com.

Overcoming the Challenges in Implementing IPTV Quality of Experience

IPTV offers great promise to deliver an entirely new paradigm of entertainment and communication that combines all the video and data exchange services from computer and wireless devices with television programming while allowing uninterrupted viewing of the selected channel's program. However, this new paradigm also brings its own set of design, technology and business challenges. One of the single most important barriers to widespread adoption of IPTV hinges upon a superior Quality of Service (QoS) that delivers maximum Quality of Experience (QoE) for the consumer.

An IPTV initiative, called the IPTV Experience, comprised of Enea, Intel, Kontron and RADVISION, has formed to address these major challenges that could inhibit widespread adoption. This group of leading companies is working to build an infrastructure resource for IPTV deployment that takes advantage of the latest proven processor technology, commercial-off-the-shelf (COTS) hardware, middleware, and video networking to offer powerful solutions to ensure IPTV QoS and ultimately QoE. The IPTV Experience has concentrated on the seven key design challenges that equipment manufacturers and service providers are facing today and has solid, proven and reliable solutions for each.

High Network Processing Capability

One of the first challenges to overcome is the need to deliver the network processing performance and bandwidth necessary for the increasing traffic demands for IPTV-based media content, content storage for video on demand, content protection or Digital Right Management (DRM) network management (OSS) in the network.

IPTV systems have a number of unique requirements including:

- Processor chipsets must be designed for media encoding, decoding and network processing such as content lookup rather than traditional decoding capabilities.
- Home broadband connectivity must provide upload in addition to download capabilities.
- The servers deployed in the infrastructure must be fast and reliable with enough processing power and bandwidth.
- To support the high bandwidth MPEG 4 codec requirements, a 10 gigabit Ethernet (GbE) computing platform is necessary that offers the flexibility to keep up with the digital processing trends that are advancing at the rate of Moore's Law as well as GbE usage value increases based on Metcalfe's Law.

Multi-core processing technology greatly improves network performance by providing highly efficient movement of data to and from applications, relieving I/O bottlenecks and freeing the CPU for other processing tasks. Combining Intel multi-core technology with ATCA 10 GbE capabilities from Kontron onto a 16-slot ATCA system furnishes telecom equipment manufacturers with dense processing power in a footprint that is smaller than most proprietary solutions. Kontron's 10GbE ATCA systems also help alleviate bandwidth issues incurred by increasing Triple Play subscriber demands for VoD and live SDTV streams.

Proven Standardized Platforms

IPTV equipment manufacturers must consider a standards driven, commercial approach to reduce costs, lower project risk, accelerate development cycles and create value-added services. A standardized platform will also enable the interoperability crucial for IPTV mass adoption.

RADVISION offers an open standards video conferencing platform to connect people, in real-time, to foster mass adoption of interactive visual communications in the business and con-

Go to Table of Contents | Go to Ad Index

By Chris Lanfear

sumer markets along with many other viable, revenue-generating value-added services that can be deployed on the IP set-top box foundation.

Intel multi-core architecture offers high-performance platforms in a number of configurations including blade server package, reducing physical space and cooling costs. The result is an improved total cost of ownership for the operator as well as improved network reliability.

Kontron's AdvancedTCA, AdvancedMC and MicroTCA-based platforms utilize COTS hardware architecture to provide the building blocks and flexibility needed to build complex IPTV systems.

The Enea Accelerator Platform™ provides equipment manufacturers with an off-the-shelf software foundation for the development of carrier-grade IPTV equipment. These standards-based software components allow rapid development and deployment of IPTV network elements that deliver the needed flexibility and manageability required for high IPTV QoE.

Manageability

Avoiding IPTV downtime is critical, along with the need to manage the network remotely. With more subscribers and increasing service requests, the service provider must be able to seamlessly manage upgrades and service existing equipment. The technology infrastructure must be flexible, adaptable and field-upgradeable.

Kontron's ATCA platforms enable multicore encoding and transcoding as content engine, network processing, media switching with 10GbE, content storage and Digital Rights Management (DRM) functionality. Helping to dramatically shorten downtime and enable remote network management, Kontron has integrated its IPMI (Intelligent Platform Management Interface) which provides full visibility of each blade, module and system.

Enea Accelerator Platforms utilize standard ATCA and SA Forum interfaces to offer extended network management services such as dynamic discovery, publish/subscribe, event notification and process monitoring that greatly simplify the partitioning, distribution and management of applications spread across multiple processors and operating systems. The Enea platform also provides fault management, upgrade management and shelf management services that make it easy to monitor, provision, service, upgrade, and fine tune distributed networks.

Scalability

Infrastructure devices in the IPTV network are subject to big performance and scalability challenges, especially if the device maintains per-subscriber connection context. To accommodate the increasing demand of subscribers, the network infrastructure of a service provider will have to support flexibility and scalability.

With the increase of Intel-based multi-core processing capabilities and bandwidth capacities supplied from Kontron COTS hardware architecture, manufacturers can build scaleable system designs faster, ahead of market demands and reduce their product lifecycles nearly in half. Kontron's AdvancedTCA platform supports network processor technology that is scalable from 1GbE to 10GbE depending on the number of cores.

It is reported that IPTV subscribers worldwide will increase to more than 80 million in 2011.

Central to Enea's Accelerator Platform is LINX™, an interprocess communications (IPC) framework, for integrating platform components and creating scalable, reusable distributed applications. The platform offers comprehensive networking support along with an integrated suite of tools for developing, deploying, debugging, simulating and upgrading application software.

RADVISION's Multimedia Terminal Framework allows developers to focus on application development, hardware integration and user interaction rather than complex VoIP standards when developing IP Set Top Boxes, as well as other Customer Premise Equipment (CPE) devices, such as wireline and wireless terminals, IADs, and mobile handsets.

High Reliability and Availability

In an "always on" environment, it is crucial that IPTV systems be extremely available and reliable. Since content must be made available on demand, it is essential that a high availability framework support controlled and managed failover for a seamless, high quality viewing experience for the consumer. Network congestion and video admission control are also key areas of concern.

Yielding an improved total cost of ownership for the operator as well as improving the reliability of the network, Intel's based multi-core architecture offer high-performance platforms in a number of configurations including blade server package, reducing physical space and cooling costs.

The Enea Accelerator platform is a high availability solution that supports controlled and managed failover resulting in a seamless, high quality viewing experience for the consumer while providing confidence to the IPTV equipment provider and carrier.

With its 10GbE ATCA platform, Kontron also provides the reliability and availability in its COTS-based computing platform to successfully satisfy the increasing traffic demands for IPTV-based media content and broadband media servers that deliver Video on Demand (VoD) over FFTx and DSL networks.

Interactivity

With emerging next-generation network's ability to support HD (High

Go to Table of Contents | Go to Ad Index

Definition) resolutions on decoders, and System-on-Chip (SoC) integrated decoders, the ground is ripe for introduction of full interactive video services based on IPTV and IP set-top-box models that go beyond VoD (Video on Demand) and EPG (Electronic Program Guide). For interactive video conferencing to be successful, VoIP places an additional need on the network for greater upload bandwidth to provide the ability to get high quality video running in both directions.

RADVISION's Multimedia Terminal Framework provides the signaling and call control layers for manufacturers that enable companies to do voice and video over IP calls from any kind of device. This software can be added to a set-top box so it can be used to access rich information, dial from a web page, access sales people, leverage the wide deployment of IM and presence systems and even supply a Quad Play connection to a mobile device and IMS enabled clients.

Fast Time-to-Market

It is reported that IPTV subscribers worldwide will increase to more than 80 million in 2011. This widespread adoption means that network equipment manufacturers will need to accelerate their development cycles. To do this, a standards driven, commercial COTS approach is necessary.

Enea provides intuitive, well documented application interfaces and examples that accelerate the delivery of new applications and services providing the lowest overall cost of ownership.

Intel's multi core technology helps accelerate the time-to-market for TEMs and OEMs for the competitive market segments in the communications industry as well as reduce deployment time for IPTV applications. Intel's communications platforms can dramatically reduce product cycle time while accelerating service deployments.

Offering complete solution framework; encompassing signaling, call control and media management. RADVISION has developed the entire videoconferencing application for Intel's media processing platform, integrating third party audio and video codecs with the platform's peripherals, along with a reference application for OEMs.

The current Kontron AdvancedTCA 10GbE portfolio has been designed to support demands for more than 4GbE to the fabric interface within a 10GbE envelope. The three open modular platform elements consist of - the Kontron AT8030 AdvancedTCA processor node featuring three Intel Core 2 Duo CPUs and one AdvancedMC slot; the Kontron AT8904 AdvancedTCA 10 GbE Switch with two AdvancedMC slots, and the Kontron AT8404 AdvancedTCA 10 GbE Carrier with four AdvancedMC bays.

Conclusion

To create a superior QoE IPTV solution, multiple elements are necessary to address the challenges of reliable content delivery. Advances in next-generation networks, middleware, processor platforms and processing technologies are now in place to provide the foundation for fully-interactive and networked video, voice and data services to residential and business customers based on IPTV and IP set-top-box (STB) models. For more information, please visit www.IPTVexperience.com. IT

John Smolucha is VP of Product Marketing Management at Enea (news - alert) (www.enea.com); Sven Fredenfeld is in charge of Business Development, Telecom, at Kontron news - alert) (www.kontron.com); Troy Smith is Program Director, Intel Communications Alliance (quote - news - alert) (www.intel.com); and Tsahi Levent-Levi is Products Manager and System Architect at RADVISION

Dual-Mode Phones and Enterprise Mobility

Dual-mode phones allow you to seamlessly roam between WiFi and cellular environments, a tremendous boon to mobile and teleworkers. Dual-mode at the moment is making a bit more headway in the consumer space, if only because of the explosion of interest in the Apple iPhone, but enterprises are quickly seeing the advantages of such devices as the workforce becomes more mobile. The biggest obstacle: carrier reluctance.

T-Mobile led the way with cellphones that can roam onto wireless Internet connections both at home and in T-Mobile's thousands of WiFi hotspots.

As Deepak Mehrotra, Vice President of Mobile Terminal Solutions at Aricent (news - alert) (www.aricent.com), says, "Although not directly related to the enterprise space, T-Mobile's offerings are certainly interesting, since at home or in a hotspot you can connect to WiFi and talk as much as you want. It was a bold move by T-Mobile to do it. Technologically, it's actually not that difficult to incorporate both cellular and Voice-over-WiFi standards into a phone. Nokia has been doing that for some time with their 'N' Series. Basically, dual-mode has been held back by carriers, so I was pleasantly surprised to see what T-Mobile has done."

Mehrotra's company, Aricent, is a communications software company that went from a small software development division of Hughes Electronics Corporation 15 years ago to a 6,700-person organization with offices worldwide. Aricent also provides integrated consultancy, design and development services to help companies bring new communications services and products to market.

"As for the enterprise space," says Mehrotra, "we've worked with companies such as Cisco who are fully entrenched in the WiFi or VoIP areas, and have looked at offering handsets that are primarily single-mode but can deal with wireless VoIP. From an enterprise market point of view, having that ability is huge because people can be in offices around the world and yet rely on just a single phone number. They don't have to make roaming calls when working outside of their main office if WiFi is nearby. So it's easy to justify dual-mode at the enterprise level; the resistance has been from carriers in the U.S. where phones tend to be subsidized and so the carriers don't see how they can really make money on them."

"Some critical events occurred in the last quarter," says Mehrotra. "One is the introduction of the iPhone, where you have the ability to download all of your multimedia through your own WiFi network. People should be excited about that. Typically the enterprise space leads this kind of thing, but because of the control of handsets by the carriers, the consumer side is now leading things, which means that enterprises will finally receive the advantages of these technologies once we all have these handsets equipped with WiFi, GSM and W-CDMA, even if they have to come from the consumer side. Now we just have to get the equipment costs down. Qualcomm recently announced a new chip which can deal with WiFi."

"We at Aricent can provide software, device and compliance testing activities for our customers, such as the top six handset vendors," says Mehrotra. "We have some projects going - nothing big at this point, but we have much capability on the multimedia side in terms of applications. The delivery of multimedia will become easier. That's great for us because we have a lot of products, particularly codecs and multimedia frameworks, that are very useful to our customers and we can drive that technology to a higher plane, especially now that higher data rates are becoming available on the handsets. Of course faster data rates means more power consumption and so there will be challenges for us, but it's still within our range of expertise."

"WiMAX is interesting too - again, it's a question of when carriers will deploy it," says Mehrotra. "The challenge is - how can a carrier provide everything? My belief is that if you have WiMAX from one carrier and your regular W-CDMA or GPRS from other carrier, it would be a very difficult thing for a not-so-technologicaly-savvy customer to handle, especially in the U.S. market. In other markets such as Europe, consumers do more market research when carefully buying handsets, so it might work out. A customer could have one subscription to Vodafone and another to some other carrier that's a offering WiMAX solution. In the U.S. people want to deal with one phone bill, like a triple play bill."

One Stop Shopping

Bluesocket (news - alert) (www.bluesocket.com) offers a top-notch wireless LAN security and management solutions portfolio that can deal with the complexities of mobile enterprises. That portfolio includes the scalable BlueSecure Controller that supports enterprise WLAN deployments from the network edge to the core, BlueSecure Access Points, the Wireless LANPlanner and the BlueView Management System for centralized configuration and maintenance, policy-management, and monitoring capabilities for your infrastructure.

Bluesocket President and CEO, Mads Lillelund says, "We are of the very firm belief that within the next several years, the workforce is going to connect to a

Go to Table of Contents | Go to Ad Index

By Richard "Zippy" Grigonis

mobility environment rather than the Ethernet jack in the wall. That will involve not just your laptop but any PDA or device which the workforce utilizes. Desktop phones are a big cost in any IP PBX infrastructure deployment, but going forward I'm wondering if there won't be some 'softness' that will occur there as some of these devices proliferate in the market. Looking at industry growth and where to position our company, we decided focus on the mobility aspect. We've secured the wireless and wireline environment and we've created application software in terms of access management, billing, and so forth. We continue to target the enterprise space. We have done city-wide networks too, and have aggressively moved into the hospitality sector."

"Looking at market trends," says Lillelund, "we see a much more rapid adoption rate of wireless LANs. We play in a market that will be roughly $3 billion by 2009. In the voice space, that another $3.7 billion by 2009 as well. The market utilizes FMC [Fixed-Mobile Communications], which is another $3.7-3.9 billion market. Because with FMC you must encounter presence client software, which is what we're testing at the moment. We'll license out that technology as it matures. Our strategic moves have been to increase our capability within the WLAN environment to offer up voice connections within the WLAN, so we're SpectraLink certified, we deal with Avaya and anybody who's doing Cisco VoIP will be able to do the same over our wireless LAN."

"But then we've taken things a step further," says Lillelund. "The total $10 billion market and the three areas of WLAN, voice and FMC are converging at a rapid pace. That's why we acquired PingTel, to acquire the call control and PBX features, because from a corporation standpoint, the fact that you can roam between a WiFi and cellular environment and not drop the call is great, but there must be more value to the scenario than that. Our intent as we move forward is to integrate WLAN with voice, and voice will become a bit of a 'killer app' within the wireless world as we position ourselves to make a strategic move into the FMC space. We want to be able to take whatever PDA or device the client is using and start to port some basic feature functionality from the PBX side into the PDA. So whether or not they're in the WiFi environment or actually moving into a cellular environment, that whole capability moves with them. That creates more value to the customer than just the fact that they can roam in and out of a building."

"The desktop phone has many functions, but most people can only remember about five of them. If we can at least port those five features over, that creates some significant value," says Lillelund. "Also, corporations will realize that there are some cost savings to all this, and that they'll be in better control of their cost structure."

"At the beginning of 2006, many people thought that the acceptability or availability of dual-mode phones would be a barrier," says Lillelund, "but I think now that that barrier is rapidly going away, if it hasn't already disappeared entirely. You also see now the advent of the iPhone, and activity in the education vertical. RIM has announced WiFi capability in their newest Blackberry. You can even buy a WiFi-enabled Samsung BlackJack phone in Asia. Overseas consumers are better able to dictate a bit more what kind of functionality they want on their phones. But the technology is there and these kinds of phones are now starting to hit the North American market."

"We at Bluesocket are all over dual-mode," says Lillelund, "because we focus on the mobility aspects of the workforce. But we also play strongly in the education vertical. So I think you'll see a lot of students and educators using such dual-mode devices as well as VoIP. So we're pretty excited about what's happening, which is why we made the move to acquire PingTel. With a strategic eye we'll look at what companies are in the FMC space. But for us it's really a software play. The software can and will sit within our current controllers or we will position them on a special appliance, depending on what the customers want."

Getting the Bugs Out

Of course, since WiFi operates in what's technically an unlicensed band, it's subject to all kinds of interference. Cognio (news - alert) (www.cognio.com) builds troubleshooting solutions that find and solve wireless networking interference problems, enabling business critical wireless deployments to work. Their premier product, Spectrum Expert, can quickly analyze, diagnose, and locate devices within corporate radio frequency (e.g., WiFi, RFID) environments. Cognio sells its solutions directly and in partnership with companies such as AirMagnet, Fluke Networks, and WildPackets.

Cognio's Co-Founder and CTO, Neil Diener, talked with Yours Truly about the need for spectrum management, policies and plans for enterprise wireless networks.

"Certainly people want one phone and they want it to work both indoors and outdoors. They don't want to pay for usage when they're indoors - either in their home or office," says Diener. "There are a couple schools of thought how that can be implemented; dual-mode phones is one idea. There's also a movement behind femotcells, picocells and distributed antenna systems that basically just ensures that cellular works better indoors. My opinion is that, if you had to guess how the market will shake out, at least in the transitional period, everything will be dual-mode. The infrastructure side will want to support both cellular and WiFi-type voice applications, and the phone vendors themselves will want their devices to work over both networks. These things don't settle out quickly, of course, but people want the maximum compatibility."

"Cognio as a company is more closely involved on the WiFi side of things," says Diener, "although we do believe that our spectrum-related technology is somewhat band-agnostic and would apply also to the cellular bands. We look at the RF physical layer. This has been of particular concern in the WiFi space as people are concerned about its ability to deliver a reliable service, especially when you consider that WiFi operates in the unlicensed band, which makes it in some ways a sort of experiment by the FCC to see if the industry could itself straighten things out there. Basically that's what we're trying to do - deal with the problem that you've got lots of other stuff operating in that band that's not WiFi, such as Bluetooth, cordless phones, microwave ovens, security cameras, motion detectors and even video game controllers - all kinds of things that people decide they want to experiment with and deploy in that unlicensed band. WiFi in most cases runs into difficulty when there is interference from non-WiFi devices."

"The problem gets emphasized as data-over-WiFi gets supplanted by voice-over-WiFi," says Diener, "which has been latently there. There's a lot of interference that eats into your WiFi network capacity, causing things such as retransmissions and jitter. If you're just running data you won't necessarily notice it, but when you start to run real-time applications such as voice, you suddenly realize that your WiFi network is not as tuned-up as you had hoped. That's where we can help. We sell a diagnostic CardBus card and we're soon coming out with an ExpressCard. By inserting the card into your laptop, you turn it into a smart spectrum analyzer to see what's happening at the RF physical layer in the WiFi bands. Other WiFi tools, such as packet sniffers and site survey tools using a WiFi card, have been blind to anything that was happening that wasn't WiFi in nature since they relied on the capabilities of a WiFi chip that wasn't designed to analyze any non-WiFi signal 'noise'. Thus, it was practically impossible for people to identify sources of interference. So, we designed our own custom chip and software for our card."

Of course, with the upcoming deployment of WiMAX on a large scale, we all may end up walking about with tri-mode phones, along with three different kinds of interference to deal with, but who's counting when you're having fun downloading multimedia? IT

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

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Conferencing and Collaboration – Doing More with Less

IP-based conferencing and collaboration continue to get easier to use, have more features (like wideband audio and high fidelity video) and are becoming less expensive. Moreover, many vendors now want to enter the space with some kind of videoconferencing solution. They're either waiting for a way to make and deploy them inexpensively or else they're waiting for a video-related killer app that will move the equipment at a higher price. We're even seeing the growth of "virtual events" complete with professional networking and social networks based on rich media conferencing. Conferencees and collaborators are also increasingly mobile - but watch out for that interference nicknamed "Blackberry buzz"!

Founded in 2003, WideBand Solutions (news - alert) (www.wideband-solutions.com) set out to develop a new generation of high-end audio conferencing products. Their inspiration came from the shift of analog telephony to high definition voice via the Internet and the growing demand for global communications.

Co-Founder and President Lonny Bowers says, "We found our biggest users to be Fortune 1000 companies and larger. All of these companies have some type of investment in a PBX or are moving into VoIP. What we did was to design our conference system to allow these phones from Avaya, Cisco, Nortel and Siemens to connect directly to our system. This allows for several things to happen. For example, I have an Avaya VoIP phone in my desk. In my conference room there's the same VoIP phone. So all the features on my desktop phone can also now be found in the conference room. I don't have to pull in an analog phone line to the conference room, which was a typical occurrence until we came along. We can use any of these types of phones to engage our conference system, with its volume control, muting, and so forth."

"As it relates to high-definition [HD], a term which can include 'wideband audio' conferencing," says Bowers, "most phone makers involved in VoIP, including the Nortels, Avayas and Ciscos, either have or will be releasing some type of HD voice codec, such as G.722, but theirs will be proprietary for internal VoIP calls. When you plug that phone into our system, you're now doing HD voice calls, which normally have the same quality as videoconferencing. One major company has our systems in all of their conference rooms scattered throughout the world. So when Japan talks to Mountain View, California, or Mountain View talks to India, they benefit from the 7 kHz quality that's already built into these phones, especially when you're talking to people for whom English is a second or third language."

"As far as corporate telephony trends," says Bowers, "there's definitely a move to VoIP and as more people move to VoIP, they'll definitely be able to benefit from having this HD 7 kHz voice codec quality."

BCS Global (news - alert) (www.bcs-global.com) a leading, global provider of managed video conferencing solutions, can deliver to businesses various virtual communication tools such as the Virtual Presence and iView suite of services. Their fully managed video conferencing solutions work with your existing infrastructure at whatever location. Virtual Presence and iView (for video conferences while traveling, operating a small business or working from a home office) can connect different offices and satellite or home office locations - even from desktop PCs or laptops on the road. As a fully managed service, neither you nor your IT staff needs to be video experts to use it.

Stuart Gold, Vice President of Global Marketing for BCS Global, says, "If we had this conversation a year ago, we'd be spending time on standard definition video conferencing in a conference room. Now the market for video two-way communication and collaboration has gone not only out of the boardroom and into the executive desktop and on the road, it has now also gone up the spectrum as well with HD codecs and now telepresence and more exciting stuff. How that all plays together is becoming more important. We're of the belief that the basic need

Go to Table of Contents | Go to Ad Index

By Richard "Zippy" Grigonis

of collaboration and conferencing has usually been the hardware, and is followed up in tandem with the network. What we're finding now is a shift in interest to the user applications and the services that are becoming more of the value-driver for the end user, whereas the other, hardware piece is becoming more commoditized."

"There's a lot of exciting things happening in this industry," says Gold. "Prices are dropping, things are moving forward. Big companies are getting involved. This is all good. Through our relationships and interconnects and what we call our Virtual Communication Exchange, we are able to provide service anywhere in the world. We have partners on both the white label side and we go direct to our customers. If you were in the U.K., for example, Cable & Wireless is actually reselling our service as their own. In Canada, Rodgers resells our Virtual Presence as Rodgers Virtual Presence, and in China, we'll be doing the same thing with Shanghai Telecom. We also work with the traditional reseller channels as well. We don't sell hardware and we don't sell network minutes. We really are focused on the application; on making video work the way customers expect it to and that's really our value proposition. When customers have a business need for bringing in video, it's not an IP manager who makes that decision, it's a business person with a business problem to solve. Our Virtual Presence solution will bridge the gap between expectations and reality, no matter what problems the customer may have."

Conferencing and collaboration is increasingly done by mobile users. Genesys (news - alert) Conferencing (www.genesys.com) recently brought the Apple iPhone into the orbit of its standards-based AJAX technology of the Genesys Meeting Center 4.0. Users can now easily join a voice and web meeting through the iPhone's Safari browser. Version 4.0 itself is quite impressive, supporting real-time collaboration (real-time online presentations, and the sharing of documents and applications). All features regularly viewable on a desktop during a web meeting are supported on the iPhone with zoom-in capabilities and portrait/landscape view. The speed depends on your WiFi or EDGE connection speed.

Tony Terranova, Vice President of Product Marketing at Genesys, notes, "When you join the meeting, Genesys calls you. You don't have to enter meeting numbers and pin codes. You just click and your phone rings. This works as well with the iPhones. When you get an invitation, if you've participated in a prior Genesys meeting, then your name and phone number will already be embedded in the system. You just have to click okay and your cell phone rings. In more than 20 percent of conference calls today, participants are using a cell phone. Many times there is concern over the cost for all of these cell phones to dial into one system. This eliminates that problem. That's huge. Because whenever I'm traveling I have to print out the number that I'm supposed to dial in or toggle back-and-forth on my Blackberry to look up what the number is, then remember it or write it down. Our new ability to get of all of those procedures makes it so much more hassle-free to join a call when you are traveling with your cell phone."

One Step at a Time

SKC Communications (news - alert) (Products (www.skccom.com) is a communications solutions provider, basically a 'one-stop shopping' integrator, that helps their clients 'collaborate, communicate and connect' with their key audiences. They work directly with Avaya and other industry partners. They play in four different communications lines: Phone systems such as Avaya's, head sets, videoconferencing, and custom room audio-visual integration.

"The industry buzz is about unified communications," says Jeff Holton, SKC's General Manager on the Avaya

integration team. "Many manufacturers out there are calling their products 'unified communications', which indicates how much buzz is out there."

"We also do a lot of work with presence and SIP [Session Initiation Protocol]," says Holton. "SIP is another 'other' industry buzzword, along with 'presence', 'unified communications' and 'mobility'. In the Avaya world, we do a lot with SIP. Avaya has done a lot with SIP; they've worked to ratify the SIP standard for years now."

"We work with a lot of customers to provide them with presence technology," says Holton, "because many customers want to be able to see the status of people: Are they on the phone? Are they away from their desk? Are they available for a call? They also want to integrate that capability into a corporate-wide instant messaging capability, so they can IM people. Many call centers are looking at that now, because today, a call center agent gets a call, and normally they might have to find a product specialist or a call center supervisor to answer a question for them. And if the agent must use a phone or physically walk somewhere, then that call will take a longer time than if they can simply use IM to contact a specialist or supervisor, so the agent can now have more minutes to answer calls."

Holton elaborates: "The great thing about this technology, from a mobility, UC and a presence standpoint, is that it's really a matter of, 'What does the customer want to do?' What is their corporate goal and objective? From there, we take that information and custom design a solution for them. Avaya doesn't 'pigeonhole' any customers. Everything is customizable. The idea is that they can take their own path, pace and choice. So we ask customers about their goals for the next three months, six months, year, and two years down the road, so that way, as we're designing the solution, it will not only meet their present goals, but also their corporate initiatives appearing down the road."

"Videoconferencing has always been a high-growth business for us," says Holton. "SKC is a leader from the videoconferencing standpoint, for both Polycom and Tandberg. We do a lot of videoconferencing installations for many Fortune 500 customers across the USA. It's exciting because there's also a direct integration to the telephony system that we sell from Avaya. Avaya, the leader in IP telephony, and Polycom, the leader in videoconferencing can be integrated so that videoconferencing can be an extension off an Avaya phone switch. It's like making a phone call. We also see that integration from a unified communications standpoint. But certainly we see videoconferencing as a very big growth industry for SKC. Even before Polycom acquired Spectralink, we were familiar with Spectralink's WiFi phones, since that was Avaya's choice for a wireless handset provider. So we have many deployments of Spectralink equipment too."

"Many customers are also looking at a 'meet-me' type of conferencing arrangement," says Holton. "Working with Avaya systems, we provide six-port meet-me capability, so customers can have their own extension or DID number to connect to this. Yes, we're seeing more 'ad hoc' conferencing occurring out there, because the current technology allows customers and end users to be able to easily dial an extension and immediately end up in an audio conference. In the past, you needed a person to schedule the conference and maintain the bridge. But with 'meet-me' conferencing, people don't have to walk across campus to a conference room; they can all just jump on a call and the conference automatically sets itself up."

Where Social Networking Meets Conferencing

Given the huge popularity of Facebook, MySpace, LinkedIn, Orkut, Photobucket and Xanga, it makes sense that one of these social networking websites, HeyCosmo.com (news - alert) ((www.heycosmo.com), would integrate live video and audio conferencing, as well as live chat and real-time desktop sharing. HeyCosmo, launched by Arsenal Interactive in Mountain View, California, allows up to 50 people to simultaneously watch, create, broadcast and share video, audio, or anything else you can bring up on your screen, seamlessly. HeyCosmo's technology supports up to 10 live webcam video participants, and up to 50 people can listen, watch, and chat during the session. During its launch, HeyCosmo held a live, multi-playable Texas Hold'em poker game, demonstrating the site's virtual gaming capabilities. Is HeyCosmo the future of Web 2.0 conferencing? Only time will tell.

Virtual Events

Unisfair (news - alert) ((www.unisfair.com) is the leading provider of virtual trade shows, virtual expos, virtual conferences, virtual job fairs and virtual marketing events.

Brent Arslaner, Vice President of Marketing, says, "We provide a full virtual event environment for both enterprise as well as media and publishing companies. Here, let's take a tour of the virtual Automated Test Summit 2007."

With that, my PC screen displayed what looked like the vast orifice of a convention center.

"This is the grand entranceway into the virtual event," says Arslaner. "Such events include our multisession conference tracks, exhibitor floor, exhibitor booths and resource centers as well as professional networking capabilities. We provide interactivity among the organizers, sponsors as well as the attendees of these virtual events. Just to give you some examples, we've done over 200 virtual events to date.

Go to Table of Contents | Go to Ad Index

Change without changing it all.

While the world is telling you to move to VoIP in rather disruptive ways, we'd like to pause and propose a better way. That's because it's not about getting new hardware. It's about getting new software. Now you can keep the hardware—your PBX, gateways, even phones—and move to VoIP with software. Software that integrates with Active Directory®, Microsoft® Office, Microsoft Exchange Server, and your PBX. Maximize your current PBX investment and make it part of your new software-based VoIP solution from Microsoft. Big change is just a software install away. Learn more at microsoft.com/voip

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They include everything from virtual trade shows, conferences, job fairs, sales training events and user conferences. These are just a few examples of the types of events that have leveraged our platform."

"At the end of the day, we combine rich multimedia content with professional networking and interactivity," says Arlsaner. "We have a very robust intelligence, so that all of the activity in the environment is tracked for various purposes."

Yes, all very interesting, but where's the virtual Pepsi to drink in the virtual show office? IT

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

10 Tips for Successful Conferencing and Collaboration

By Mike Wixon, Vice President, Product Management, ThinkEngine Networks

How many times have you set up a conference call, only to have 4 out of 10 participants show up? How about when you hosted a web meeting for added collaboration and the key person in the meeting can't get connected to the web portion?

It is difficult to imagine life without conference calls and today, even web conferencing is becoming ubiquitous. These communication tools make business life more convenient and productive.

ThinkEngine Networks builds the hardware and has developed the software that runs the conferencing applications at many top conferencing service providers. Through countless conversations with our customers and their customers, we have developed our top 10 list of conferencing best practices to make virtual meetings more effective.

1. Simple steps increase participation. If you hold recurring meetings, start at the same time each week. Use Outlook or calendar tools to keep the call on people's schedules. Send out an agenda the day before to remind participants of the call.

2. Determine if you are trying to reach a broad or narrow audience. The audience then dictates the type of call and meeting tools to use. For example, if you need to deliver a major announcement to 1000 employees you may want to host an event call with a question-and-answer session and make the recorded call available to those who missed the call. For routine meetings, a reservationless call works great - use the same dial-in number and passcode each week.

3. Make the actual online meeting productive for everyone. Show up on time or a few minutes early. Test the web connection ahead of time. Set meeting objectives. Use interactive web features to illustrate points and collaborate on documents.

4. Improve the audio quality of calls. Make sure your service provider and speakerphone offers full duplex audio. If you're on a cell and there's background noise, use the conference mute feature when you aren't speaking.

5. Don't sweat the technology. Let your conferencing service provider help you figure out the tools you need for different meetings. Focus instead on the audience and message.

6. Consider trying new features and add-on services on your conference calls. A picture is worth a thousand words so why not demo the software online while the prospect is on the phone instead of talking through PowerPoint slides?

7. Take advantage of flat-rate meeting rooms offered by some providers if you hold several reservationless calls per week. You may come out ahead with a low flat monthly fee for unlimited calls.

8. Provide options for international participants. The most common way to for them to join is by providing a toll number where they pay for their international transport. Many providers also offer international 800 numbers if you wish to pay for all components of the meeting.

9. Maximize your company's network, LD rates and conferencing contracts. Most conference calls are intra-company so use on-network minutes whenever possible. Consider consolidating conferencing providers internally.

10. Consider a managed solution if your company conducts many conference calls each month. Even if you are using 10,000-20,000 conferencing minutes per month you should talk to your service provider about managing a bridge on your customer premise for additional savings.

Done right, there's nothing better than communicating sales pitches, board updates, employee messages or project statuses without traveling to multiple cities and countries in a mere fraction of the time. IT

Mike Wixon is a senior member of the management team at ThinkEngine Networks, (news - alert) a leading provider of TDM and IP-capable conferencing bridges and media servers. He has more than 20 years of high tech experience and is recognized in the industry as an expert in VoIP. Wixon is responsible for building the customer base, managing customer relationships and has been instrumental in the design, development and evolution of ThinkEngine's VSR1000, which includes both TDM and IP interfaces as standard equipment and is capable of processing 968 simultaneous sessions in a compact 1U platform.

Go to Table of Contents | Go to Ad Index

Packet8
Internet Phone Service

Join the Packet8 VoIP Services Community!

VoIP Services For SMB & Residential

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.

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IPTV is Here!

After endless tests and a few hit-and-miss trial deployments, IPTV is now gathering steam and is appearing in various places around the world. Welcome to the interactive, high-def future. You'll never run home to watch a TV show at a certain scheduled time ever again. Indeed, you may watch it on your mobile device, or instruct your digital video recording feature to capture it, or your IPTV provider may already have done that for you, allowing you to click on and play an episode from a list of hundreds of them once you get back to your home, hotel or office.

One of the key components that makes IPTV work is middleware. Microsoft's efforts in this area immediately come to mind, but there are other, smaller innovative players out there too. For example, Espial (news - alert) (www.espial.com) delivers IPTV middleware that manages IPTV applications along with subscriber interactions between the set-top box and the network. Espial also offers such video applications as electronic program guides, Video-on-Demand, interactive content portals, web browsing, PPV and more.

Espial's Vice President of Marketing, Brian Mahony, says, "I think we're all moving beyond basic IPTV deployments. And we're already starting to see operators looking at differentiating via new services, which is really something they must do to set themselves apart from traditional broadcast TV. We've made some recent announcements such as our enhanced DVR [Digital Video Recorder] service, which includes 'start-over TV', so if you missed the first 20 minutes of your favorite show you can push a button and watch the show from the beginning. IPTV needs to address sophisticated users that want the full-featured capabilities of DVR but it also needs to cater to the less sophisticated users that want simple applications they can understand and from which they can derive value."

"We've also demonstrated remote mobile convergence - remote control of your DVR from your mobile phone," says Mahony. "We can also do 'time-shift TV', which is more of a Video-on-Demand type of model where the operator has stored in the cloud the past days of popular shows and you can watch them anytime you want, as opposed to a conventional DVR where you have to personally program a recording in advance."

With the rise of Video-on-Demand [VoD], one wonders whether people will ever bother sitting in front of a TV at a particular, scheduled time ever again.

"The reality is that the success of IPTV largely depends on new ways to view existing content, not just new content," says Mahony. "Increasingly, there's a separation between the time the content is first available at first broadcast and the times when people actually want to view it. That separation is important to people because it gives them the flexibility to decide how it fits into their lifestyle. DVR, time-shift TV, start-over TV, mobile convergence - all of these are ways to get more control and more flexibility relating to how subscribers experience the content."

Beam My Content Down, Scotty

2Wire (news - alert) (www.2wire.com) provides telecom carriers with broadband products, software, and service platforms enabling an integrated triple play of networked data, voice, and media services. Their portfolio includes residential gateways, broadband multimedia set-top boxes, remote management systems, and call center customer support.

Wes Hoffman, Executive Vice President of Media for 2Wire (www.2wire.com), says, "We're better known for a product we refer to as a residential gateway. It's the bridge point between the telephone line on the outside of your house and broadband connectivity inside the house. 2Wire provides gateways for AT&T U-verse suite of services for their Project Lightspeed. We're the gateway provider for getting the bits from the side of the house into the home, and in AT&T's case, to a set-top box that obtains its content from Microsoft servers."

2Wire's HomePortal 3000 series residential gateway supports fiber-to-the-premises and VDSL technologies. The residential gateways essentially create a home network that delivers IP-based services throughout your home, such as IP-based video, high-speed Internet access and ultimately VoIP service. The 2Wire also offers the MediaPortal platform, which combines broadband services and satellite TV programming to complete the triple play of voice, data, and video services. The MediaPortal is a hybrid solution suitable for service providers having existing satellite TV partnerships. It enables services such as multi-room digital video recording, Internet video-on-demand [VoD], music management, and photo sharing. Its remote access capabilities enable subscribers to use any web-connected computer to record TV programs and access photos, music, and computer files while away from home.

"2Wire has also expanded its role into the house with the MediaPortal, which is also marketed by AT&T as HomeZone," says Hoffman, "which is a hybrid product. It gets its linear services from satellites, not IPTV, avoiding the last mile bottleneck, and yet it has the capability to receive movies, music and photos from a broadband connection over the Internet. AT&T

Go to Table of Contents | Go to Ad Index

By Richard "Zippy" Grigonis

views our residential gateway for U-verse and the MediaPortal as being complementary simply because 'pure IPTV' will be distributable to only about 50 percent of AT&T's customers over a fairly substantial period of time and they wanted a TV-based product for their other customers. We recently ported our HomeZone software to an EchoStar box, which will continue to be marketed under the name of HomeZone, but the maker is EchoStar."

"So we're quite involved in pure IPTV initiates, and I think the trend we've seen over the past year is that the definition of IPTV has been expanded quite a bit," says Hoffman. "Initially, IPTV is exactly what AT&T is doing with U-verse; it's really a pure IPTV play, and we would have said that HomeZone is not an IPTV product, it's a hybrid product. But as that started to get some traction and actually looked like it might be successful, at least in the eyes of Wall Street, many other telcos have come back to Wall Street with a HomeZone-like market proposition. They want to use similar hybrid boxes that receive linear video content from satellites or off-air sources, and has a broadband connection for other services to the subscribers. They refer to that as 'IPTV' too, which expands the definition. So we think we're in a very nice position."

"A hybrid solution such as ours makes sense because many IPTV initiatives today are struggling to figure out how to get two simultaneous HD streams to the home over a last mile link," says Hoffman. "So a hybrid solution makes sense as IPTV networks build out over the next two or three years as we wait for the cost for that build-out to become more predictable. The architecture will be more scalable and it will be possible for some of the smaller operators to really take a serious look at pure IPTV. But until that happens, until one of the big guys like AT&T really proves the economics of it, that's a big expense for some of these smaller telcos. And because of that, the little guys will look to the hybrid solutions to reduce the capital costs of creating a pure IPTV network."

Over at ADVA Optical Networking (news - alert) (www.advaoptical.com), Paul Morkel, Senior Director of Business Management, Carrier Optical, says, "We've got a fairly unique presence in the market that's very strong, historically, on the European side, in the metro WDM space. Recent investments have been driven by triple play services and IPTV in Europe. We've been deploying a lot of back-haul networks for IP DSLAMs, for various PTTs and smaller carriers in Europe. We typically deploy solutions that are based on CWDM [Coarse Wavelength-Division Multiplexing] an intermediate technology that has a capacity greater than WDM and smaller than DWDM, that we use for Gigabit Ethernet backhaul from IP DSLAMs to central offices."

"They don't have a lot of cable plant in Europe, and clearly the PTTs are dominant in terms of connectivity in the last mile," says Morkel. "DSL technologies have been the only real vehicle, as far as I can tell, that have been looked at seriously for delivering on-demand content to end users. There is some cable presence in the U.K., where there's a fair bit of HFC [Hybrid Fibre-Coaxial], but Europe is still very much dominated by DSL last mile delivery mechanisms. Still, there's a lot of interest in IPTV and the CWDM backhaul component that we provide."

"Translating that across the pond, clearly with AT&T, BellSouth and their deep fiber initiatives, they're looking to do very much the same kind of thing in terms of deploying IPTV for triple-play services," says Morkel. "But the drivers are different here in the U.S., since there is competition with the cable MSOs. We've seen quite a bit of investment that has taken place, mostly in the core thus far, by Verizon and AT&T in terms of supporting their video initiatives. The 'second mile' from the edge will also undergo capacity expansion to handle the additional bandwidth needed by the IPTV initiatives."

"Interestingly, the MSOs don't 'need' IPTV at the moment, because they already can deliver a great deal of bandwidth to end users," says Morkel. "Even so, they're looking to implement IPTV anyway to makes the most efficient use of what bandwidth they have. This is a common message. We hear it from Verizon; even though they have a fiber-to-the-home initiative, they're looking at IPTV for implementing cost efficiencies in terms of reducing the number of wavelengths, but also in terms of personalization. The IPTV model affords great opportunities for personalized content, advertising, and so on, that the traditional broadcast model just doesn't support."

Coming: The Internet TV Box

Amino Technologies (news - alert) (www.aminocom.com) designs and delivers electronic systems, software and consultancy for IPTV (telco triple-play applications), on-demand video and in-home multimedia distribution. Their AmiNET series of IPTV set-top boxes (generally loaded with their IntAct IPTV software stack) and gateways are deployed in the telcom, broadcast and hospitality markets. Under its IntAct brand name, Amino licenses hardware designs together with the IntAct IPTV software to OEMs.

Rick Sailor, Vice President, Sales, Americas for Amino, says, "We were founded in 1997 in Cambridge, England. One of the first IPTV projects we had was when we were directed by Ericsson and Nortel to come up with a software decode stack for IPTV, residing on a single chip. It took us about a year to put that together. They said it was a great software stack, but now they needed a piece of hardware to run it. So that's how Amino got into the hardware business. We designed the AmiNET 103 and the 110. The 103 won the Red Dot Design Award in 2003 for all of Europe for CPE equipment. So we started manufacturing the 103 and in just under three-and-a-half years we're now just short of having deployed 1.1 million set-top boxes worldwide. We're twice been rated the Number One IPTV set-top maker in the world by ABI Research, not just because of volume, but because of the versatility of our software stack and our ability to integrate with the products of various middleware an encryption companies, and VoD servers."

"Most of the market has relied on the MPEG-2 codec. We were the first company to put the MPEG-2 Standard Definition and High Definition stacks on single chips. We also were the first with MPEG-4. We're now in the process of debuting our new MPEG-4 Standard-Def and High-Def boxes. Other vendors have come on board and the new chips can handle everything: MPEG-2/MPEG-4 and Standard Def/High Def. Our upcoming AmiNET 125 will be the Internet version of our set-top box. We've got it running Windows Media 9 right now and we're playing with Flash 7 but it looks we'll be rolling the box out with Flash 8 on board at the end of 2007. This will give us an Internet play for set-top boxes. In the U.S. we have about 125 to 130 different phone companies and service providers that use our set-top boxes to do IPTV today. We're also talking with some ISPs and other specialized content providers about our providing a specific Internet-based set-top box."

Number Two Always Tries Harder

ECI Telecom (news - alert) (www.ecitele.com) is a major supplier of networking infrastructure equipment for the world's carrier and service provider networks. They are also a leading worldwide IPTV access network vendor.

Gil Ilany, Director of Broadband Solutions in ECI's Corporate Strategy Office, says, "ECI is Number Two in enabling IPTV lines in the world. We're second only to Alcatel Lucent. In the past five years we've gained a lot of experience in networks that can deliver IPTV, along with the Internet and VoIP. For this we have our Broadband Access Division. It develops and markets the access and infrastructure equipment such as IP DSLAMs. We can deal with networks of any size or topology."

ECI has created an extensive end-to-end infrastructure solution that supports high bandwidth, multicasting, policy control and subscriber management that will suit just about any service provider roll-out plan, network layout and demographic. ECI offerings appear in the areas of access, metro aggregation and the network edge. Their XDM platform provides an optimized metro aggregation bandwidth implemented over Ethernet, with drop-and-continue multicast with an MPLS point-to-multipoint (P2MP) tree for IPTV service delivery. This allows service providers to provide more channels over the metro aggregation network. ECI's Hi-FOCuS series of access platforms can provide broadband pipes to businesses and residences using xDSL and fiber access, from the CO and/or from street side cabinets, connecting them with Ethernet and ATM uplinks. At the residence, ECI's B-FOCuS series consists of home CPE modems, fiber ONTs and modem routers with Ethernet hubs, NAT firewalls and more. Subscriber management and bandwidth control can be achieved with ECI's ST-series of multiservice routers that also handle access aggregation.

The thought of calling up one of thousands of high-def programs with a single click is a bit scary. Won't we all spend more and more time exploring the vast repositories of past entertainment and documentaries? I'm reminded that Thomas Edison refused to develop television technology, since he thought it would be "the world's biggest time-waster". Perhaps he will finally be proven correct. IT

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

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Security and the Service Provider

Many service providers feel the need to go hunting for viruses, worms and other forms of malevolent software gushing through their networks, many of which now utilize ingenious polymorphic attacks that are difficult to identify, let alone eliminate. However, what really drives customers away is something more mundane, spam. Up to 96% of all email traffic is spam, and over 50% of stored messages are spam, some having viruses or other malware attached. Servers fill up, customers become dissatisfied and make nasty service calls. Customer churn goes up.

This turbulent security environment has become an opportunity for companies such as Cloudmark (news - alert) (www.cloudmark.com), which has been protecting major Internet service providers and mobile operators worldwide with its Cloudmark Authority, a carrier-grade software solution, along with Cloudmark's Advanced Message Fingerprinting technology and Global Threat Network, all of which provide spam, phishing and virus protection at various stages in the messaging path.

Hugh McCartney, CEO of Cloudmark, says, "Cloudmark today is a considerably different company than it was in 2005. When we first built our Cloudmark Authority product, which is the gateway product, we found that it was far more scalable than even we had imagined or hoped. As a result, we decided at that stage to focus 100 percent on the service provider market. We did that because of our scalability capabilities and we also did it because of the demanding nature of the customers, which meant they would actually have to trial our software, and if we trialed well, we'd have a better chance of winning in the enterprise marketspace against companies such as Symantec. We found ourselves focusing just on the North American Tier 1s for the first year-and-a-half and seven of the top 12 now use Cloudmark technology to protect their customers' mailboxes. One reason this has become so prevalent is that not only does the product scale well, but it has been architected such that our customers make huge gains in terms of not only the accuracy and the ability to block the 94 percent of mail that is spam, but they can also save on storage and infrastructure."

"Take Charter Communications," says McCartney, "They were running 92 email servers for email filtering using Symantec's Brightmail. When they came to us, that number fell from 92 to 11 servers. So there's a demonstrable gain in infrastructure savings."

McCartney continues: "In Q3 2007 we found ourselves slowly taking on and winning the North American Tier 1 service providers and so we asked ourselves, 'Where do we go next?' We came up with three areas key to moving Cloudmark forward: We protect worldwide about 180 million mailboxes and we're checking on 3.6 billion bad messages a day. So we decided the first way to drive the company forward and accelerate the growth - which was 110 percent last year, and we're exceeding that this year - is to take what we have international. We've opened offices just outside London and in Hong Kong, and in terms of service providers we already work with two Tier 1s in Europe and eight of the top ten in Japan."

"The second way to move Cloudmark forward was to get it into the Tier 2 and 3 markets," says McCartney. "We've integrated our product and made some modifications to get the same technology so that Tier 2 and 3 users have the freedom themselves to examine and look at policies and enable a very great ease of implementation. We just launched that product in April, and four service providers have already acquired the product and another seven are conducting trials. So we're very pleased with the take up of that."

"The third area in which we're looking to grow the company is mobile/wireless," says McCartney. "The same technology we use for fixed-line and cable can be used with a wireless infrastructure, because the product is architected in such a way that it's not really interested in looking at the text itself. Instead, it pays more attention to structure. So all we need is the ability to enable our product to have the correct formats, particularly so as to access SMS [Short Messaging Service] protocols. We've teamed up with a couple of firms and we're actively trialing the product through these partners with a couple of wireless carriers in the Southern Hemisphere, where the spam on SMS is much more prevalent than in the Northern Hemisphere."

Dave Champine, Senior Director of Product Marketing at Cloudmark, says, "Our core competency is really efficiently and effectively identifying and filtering bad messages. These are not just

Go to Table of Contents | Go to Ad Index

By Richard "Zippy" Grigonis

spam, they could be viruses, phishing attempts, and things like that. That's really where Cloudmark's strength is, and the growth we're undertaking in 2007 is really an expansion of what we've done in previous years."

"One really hot topic these days is the mobile space," says Champine. "Mostly that's because of so much investment that's going on in that market, and there's a lot of interest in terms of how mobile is 'the next frontier', if you will, for the next-generation Internet. People get very excited when we talk about that, but, fundamentally, for us, the underlying technology is the same. We're not doing anything new. It's the same core technology. What is very different, however, is the network in which we play. Some major players differ from what we've been used to in the fixed-line space. From that perspective, we think the best move is to go forward with a few partners. This started with the partners Anam Mobile Designs and AdaptiveMobile. With them we're gaining expertise to understand the different protocols and networking topologies, and we're working with the different hardware and technologies you find in a mobile provider infrastructure as opposed to a fixed-line provider."

"If you take a look at the Asian market, the incidence of SMS spam and what-not seems very much to be leading the other geographical areas," says Champine. "We've identified several trends over the past four or five years in wireless. Fundamentally, it boils down to economics. When it becomes inexpensive, almost to the point of zero, to send out messages, then the opportunities for abuse increase. That's precisely what you're seeing in the mobile world in Asia, as more unlimited data plans are adopted and SMS usage climbs, and so abuse opportunities increase. A similar trend is happening in Europe too. The incidences of abuse have cropped up in the fixed-line world there. Same factors, same economics. As the price of sending unlimited data drops, the incidence of abuse increases."

Cloudmark's (news - alert) Hugh McCartney says, "When companies such as ourselves stop 98 percent of the bad stuff, a lot more spam has to be sent out for the spammers to make money. They have two choices: First, try and spam people with higher value and higher margin products and services, as we've recently seen with stock spam. Second, move to operate in lower-cost economies such as Eastern Europe and Asia. In Asia they've certainly figured out how to make money out of mobile spam. Asians are writing things called 'exploits', which are ways into networks and Microsoft Windows on the fixed-line side. They then sell those exploits on the public market. On the fixed-line side, if a spammer writes a useful exploit he'll get about $100,000 for it on the spammers' market. We don't yet have data on how much money people are getting for exploits for mobile, but the economics are obviously working in their favor. The attacks we've seen thus far on the mobile side have been quite targeted rather than totally general and mapped like they are on the fixed-line side. Again, that's been driven by economics."

"We have received some data recently about phishing attacks in the Far East," says McCartney. "These can be more difficult to kick up than on a fixed-line. But we all move forward, just as the bad guys do."

Next-Gen Security Challenges

The promise of IP Communications for service providers was to increase network efficiency (more packet calls can

fit in the same pipe than circuit switched calls), reduce costs and allow them to offer exciting new services. A new world of IP-based voice, video, IM and presence also meant a new menagerie of technologies and protocols: SIP [Session Initiation Protocol], IMS [IP Multimedia Subsystem] and UMA [Unlicensed Mobile Access], each of which introduces never before seen vulnerabilities into the network.

Fortunately, IPCS products from Sipera (news - alert) (www.sipera.com) provide security for many IP communications deployments, including UMA, hosted VoIP, and wireless operators planning to extend their service offerings over the Internet using IMS.

Brendan Ziolo, Director of Marketing of Sipera Systems, says, "Sipera supplies a VoIP security appliance for both the enterprise and provider markets. From an enterprise perspective, we run the full gamut from encryption of signaling and media for voice traffic for both the SIP and Cisco SCCP [Skinny Client Control Protocol] all the way up to voice firewalls, intrusion prevention. On the service provider side, because IMS is based largely on SIP, we can obviously make a transition over to offering similar functionality for the provider market for IMS networks."

"In the service provider space there are obviously session border controllers and security gateways doing a lot of encryption and firewall functionality," says Ziolo. "So we really focus more on intrusion prevention and protecting against attacks in the service provider market. It's more of a subset of what we do for the enterprise. The reason we do more for the enterprise is because they're more adamant about deploying one box to do everything. Service providers have some pieces already in place, so they're obviously not going to replace their security gateway to do something else, right?"

"As for hosted VoIP services, we offer both SBC functionality as well as intrusion prevention functionality," says Ziolo. "We also do intrusion prevention for UMA networks. We can handle all sizes of networks."

Security may continue to be the IP world's growth industry for many years to come, an expense that we all must endure. Grin and bear it. IT

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

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Web-delivered Applications Will Revolutionize Business

A major revolution is brewing today concerning the way applications are delivered to business users. Companies such as Microsoft have traditionally delivered applications to users inside of products such as the Microsoft Office Suite that are installed on the desktop or connecting to server based applications like Exchange through desktop applications like Outlook. Your model has been to install these products on your desktop machine, and if you need to travel with it, you must have another copy running on a laptop that you have to lug around with you. If you do not have access to either of those systems, or if you loose that system, access to the applications is lost.

Over the past two years, however, Microsoft has indicated a desire to deliver applications, especially to small and medium-sized businesses (SMBs) using Web 2.0 technology, in a revamped incarnation of what used to be called the ASP (Application Service Provider) model. They call it Microsoft Office Live. You can log into a website and start to use applications, such as the Live Business Contact Manager, plus online applications for managing customers, employees, projects, and critical business data. It's all done through a web interface and is based on such things as ActiveX and the Spotlight technology for Microsoft applications.

Companies such as Adobe and CommuniGate Systems (news - alert) (www.communigate.com) have also recognized the benefits of using Web 2.0 to deliver Rich Internet Applications (RIAs) to users. In the case of Mill Valley, California-based CommuniGate Systems, it has developed an extremely flexible, extensible interface client software called Pronto!, enabling network operators, service providers and enterprises to develop Mobile Rich Media Internet communications.

Jon Doyle, CommuniGate System's Vice President of Business Development, says, "The future belongs to applications delivered over the web as services that run through a web browser. You just pull it down and run it, using in our case the Flash Player that is in nearly every browser out there". Microsoft uses ActiveX and now their Spotlight technology. Others do web-based applications in technology such as AJAX, or, as in our case, we wrote Pronto! on the Adobe Flex platform for the Flash player. We program in Flash because it's actually much more popular than Microsoft's ActiveX - over 90 percent of computers worldwide have Adobe Flash Player-enabled browsers, and it works seamlessly on nearly all browsers and OS types: Mac, Windows, Linux, even Solaris. Flash is used quite a bit in multimedia, gaming, and basically anything to do with graphics and audio, since it's much better at this than Java technology. Hence, when CommuniGate Systems decided to build a communications application suite that could be delivered via the web, we jumped into the Adobe Flash Framework."

"The web delivery of applications is all-important for network operators or carriers because they target two types of subscribers: consumers and business people," says Doyle. "Everyone salivates over the prospect of capturing the interest of business subscribers, since they typically will pay more per subscriber for values added services; indeed, the potential revenues are five to ten times greater than with consumers."

"Business people do want useful, rich-media applications, so how can network operators and other providers deliver them?" asks Doyle. "Obviously, Web 2.0-delivered applications make a lot of sense, because they can serve millions of subscribers, and the provider doesn't have to install software on everybody's desktop and act as a sort of IT call center department, which would be a nightmare in terms of support. That's why Microsoft as well as Adobe want to deliver applications as Web 2.0-based services. Microsoft would obviously like those delivered applications to be components of the Microsoft Office Suite, and Adobe would like them to leverage something like Acrobat or Photoshop or communications tools such as CommuniGate Pro's via Flash-based technologies."

"This idea is also relevant to Unified Communications [UC]," says Doyle, "because the Pronto! Flash interface can deliver any kind of communications capabilities you need to the desktop or mobile handset, whether it be email, voice-over-IP, presence information, calendaring, and so forth. Operators and ISPs can now deliver all of these different items via web-based technology to valuable business subscribers."

"One would expect a comprehensive communications product such as ours to be used with a full-blown Office-type suite," says Doyle. "As it happens, a company like Adobe is well-positioned for producing business applications like the Office suite most of us use to create documents, share them, and collaborate. Our communications technology paired up with Acrobat Breeze is already compelling, but it doesn't take much imagination to see something like Pagemaker becoming a document editor via the web. CommuniGate Systems is a partner of Adobe and we've been working with them

Go to Table of Contents | Go to Ad Index

for the past two years to make Pronto! work easily with Adobe's technologies like AIR or the Adobe Integrated Runtime. Looking ahead, we'd like to see users load up Adobe's technologies, or partners that develop in Flex/Flash right along with a version of Pronto! to handle all of their email and voice communications needs."

Doyle beams: "Our Pronto! download is just north of a megabyte in size, which is actually smaller than many MP3 music files. It's very compact and efficient, thanks to Flash, and what it delivers is quite amazing because it provides the same functionality as clients like Outlook, which sits on the desktop and is many megabytes in size. Plus, Pronto! has a whole suite of Media Mangement applications, and soon our partners will be able to plug in their applications, like shopping carts, FoIP widgets, games for consumers, and even IPTV."

Skeptics may say, all well and good, but aside from Microsoft and Adobe, is anybody else doing this?

"I answer such doubters by pointing to salesforce.com that has had a huge success in CRM delivery via Web 2.0 technology," says Doyle. "I would also point to the many social communities such as MySpace, Facebook and even commercial networks such as eBay and Amazon that are essentially large communities that run a store delivered via web technology. All of these services are very scalable, often up to tens of millions of users. The time has arrived for web-delivered applications on our desktops and mobile handsets."

"Moreover, it's not the vendors who are dictating how we will live our business or personal lives," says Doyle. "People themselves want fewer applications to buy and install, since we're all becoming increasingly mobile. If I walk over to my neighbor's house and he lets me flip open his laptop and input my login into one of these Web 2.0 services, then I instantly have all of my applications at my disposal, but on his laptop at his location. I don't have to install anything or do anything to 'impact' or 'alter' his laptop in any way whatsoever. That's why everybody wants Web 2.0 applications. If on the other hand he gives you his laptop but you use a Mac-based application, well you won't even be able to install it there. Pronto looks, acts, and performs the same, in fact normally faster than so called 'fat clients' on any platform"

Thus, delivering applications over the web as services makes the most sense. The whole world is evolving to a state where Web 2.0 is the delivery mechanism for applications/services, and applications vendors such as Microsoft, Adobe and CommuniGate Systems are going to deliver applications to you wherever you are."

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

Rich Internet Applications for the Enterprise

By Chris Swenson, Director, Software Analysis, The NPD Group

The emergence of Rich Internet Applications (RIAs) has taken the development world by storm. With the abundance of bandwidth, the advent of technologies such as AJAX and Microsoft's Silverlight, along with dramatic improvements in the capabilities of traditional media runtimes such as the Adobe Flash Player, developers can now create and deploy Internet-based applications that have the look and feel of traditional desktop or "fat client" applications. Furthermore, with the abundance of web services and other data streams, developers can now build small applications or "mash ups" quickly, easily incorporating real-time data streams and online content such as streaming video into their applications.

Although many RIAs are small, lightweight applications, we are now starting to see an increasing availability of serious enterprise applications such as ERP or CRM RIAs, with Salesforce.com and 24SevenOffice being prime examples. These powerful "enterprise caliber" applications can easily integrate with existing back office solutions; and because RIA runtimes such as the Flash Player incorporate the same "sandbox" security model employed by Sun Microsystems' Java, these applications can be deployed securely.

RIAs have many advantages, most notably in the area of software distribution. In the past, IT managers have resorted to a hodge-podge of expensive client-based utilities and server solutions to deploy new software and keep existing applications updated. With RIAs, such costs are minimized, as users can be sure they are always using the latest version of an application.

Another advantage of RIAs is that users of enterprise RIA apps don't need to be tied to a specific piece of hardware in order to get their work done, as is the case with most fat client applications. Using RIAs, knowledge workers can be productive anywhere they have an Internet connection.

RIAs do have certain drawbacks, however. To date, the biggest weakness of RIAs has been the "offline problem"; i.e., the inability of RIAs to work when users are disconnected from the Internet. Another issue with RIAs has been the inability of many RIAs to run in certain browsers due to the different implementations of Javascript by the various publishers of web browsers.

However, NPD expects many of the kinks involved with deploying RIAs to be ironed out in the near term. For example, with the introduction of new technologies such as Google Gears and Adobe AIR, we're going to see enterprise RIAs with the ability to work "off-line," allowing knowledge workers to use a specific application even when they don't have an Internet connection. And with many enterprise RIAs targeting runtimes such as Adobe Flash or Microsoft Silverlight, we'll see more consistency and application compatibility across browsers and operating systems.

While there is still much work that needs to be done around the edges of the RIA ecosystem, the foundational technologies these applications are built on top of have already matured to the point where mission-critical online applications can be deployed quickly, securely and inexpensively.

The New Inter-Tel 3000 Unites SOHO and IP Expertise

Inter-Tel, Incorporated (news - alert) (www.inter-tel.com) has for many years been known as a global provider of communications products and applications, as well as managed services centering on voice and data network design, custom application development, traffic provisioning and financial solutions. Their newest system is the Inter-Tel® 3000, designed specifically for the smaller business, SOHO, and high-end residential markets.

Aron Aicard, Director of Product Marketing at Inter-Tel, explains the history behind this new platform: "Inter-Tel acquired Lake Communications in 2005, a company that offers superb small office systems and really understands design and manufacturing efficiencies that help reduce costs. Lake sells many of their solutions to British Telecom and other service providers, which in turn drop-ship them to customers who can then configure them out-of-the-box. We brought Lake's expertise to North America and introduced a product line here which we initially launched as 'Encore', followed by 'EncoreCX'. Now we're launching the third major generation of that technology as a new platform called the Inter-Tel 3000."

Aicard says the launch of the Inter-Tel 3000 is much more than just a re-branding of the EncoreCX. There are new technical capabilities, and its positioning makes the platform particularly relevant for the small organization or residence looking for IP connectivity coupled with a robust feature set. What's more, the Inter-Tel 3000 is easy to sell, install and configure. From a channel perspective, these attributes alone are worthy of excitement.

"We want our resellers to be successful in the SOHO space," says Aicard. "This platform targets environments of smaller than 20 users, but it can scale up to just above 50 users. Thus, we give our customers a lot of room for growth. We want our resellers to be able to go after those customers in a profitable and mutually beneficial way. Typically, the SOHO business is based on very thin margins, which means that resellers have little opportunity to do a good job selling to and supporting the customers. With the Inter-Tel 3000, however, we have the opportunity to change that old model."

Aicard elaborates: "The endgame here is to better serve the SOHO environment with a product line that our resellers can focus on and be profitable. From a reseller standpoint, if they're already carrying some of our other products in the mid-market or the SMB space, they can now sell to SOHOs by consolidating their vendor relationships and deal with one manufacturer instead of two, which is certainly more efficient."

"If you're going to sell into the SOHO space you must offer a solution that's easy to sell," says Aicard. "It must be easy to communicate its value. Installation, configuration and support must all be very straightforward. Customers also need scalability and good pricing."

"The Inter-Tel 3000 improves profitability for the reseller; the dealer ROI is stronger," says Aicard. "Furthermore, there's proven demand in this market segment. We've sold this product for several years now through our channels, and we understand what people typically like and don't like about SOHO products. That's why the Inter-Tel 3000 differs from what you normally see with many competing products - it comes with a track record of maturity, proven success, experience and best practices, a legacy from both the Encore and EncoreCX."

Inter-Tel's plan calls for current EncoreCX resellers to begin offering the Inter-Tel 3000. "They are already familiar with the product, and with the marketplace," says Aicard. "They've received training, and they know the touch points of the customer. That's something you don't often see in new product introductions. It eliminates much of the uncertainty about risk that resellers might have adopting - or customers choosing - this platform. Any way you look at it, the platform is reliable and ready for the market in every way."

One of Inter-Tel's core tenets, that SOHO environments must be treated as unique entities, and not as enterprises "scaled down," is evidenced here. "Other vendors strong in the middle-tier and trying to market a SOHO offer may not have the proper expertise, whether in terms of how they design or sell their products," says Aicard. "You can't simply push mid-size features into a SOHO system, any more than a maker of wall clocks can suddenly start producing watches. Fortunately, we attained that kind of small system expertise when we acquired Lake Communications, and we've been capitalizing on it ever since. We bring good news to resellers: 'You can profitably sell into the SOHO space and be highly competitive in pricing and your customers can be easy to retain and stay happy'. The Inter-Tel 3000 gives resellers more reasons to carry our product lines exclusively. In addition, by becoming one of our Exclusive Business Partners (EBPs), our partners can remove the inefficiencies of dealing with different vendors, discount structures, training and support models by utilizing Inter-Tel's full breadth of resources."

So, what's new in terms of the Inter-Tel 3000's features and functions? A lot, it turns out.

"Perhaps the most widely-requested change is the addition of full-duplex speakerphones," says Aicard. "Our previous digital phones were not full-duplex and in some environments, such as a manufacturing facility or an auto mechanics shop, background

noise makes conversation on a speakerphone difficult. So, we redesigned both our 8- and 16-button phones."

"We've also introduced a new IP-based System Phone for this platform, which marks a big technological change," says Aicard. "The platform is no longer a small digital key system; it's now a hybrid supporting plug-and-play IP connectivity, the kind of technology we've been installing in remote offices since 1999."

"Existing customers can add IP via the optional Broadband Module," he continues. "The Module provides the LAN/WAN connectivity for 12 channels of IP phone extensions for internal or teleworkers. Its integrated ADSL modem makes it easy to connect to the outside world, and its integrated wireless LAN access point makes it an all-in-one solution, even for wireless PCs."

In addition, the Inter-Tel 3000 offers several new software enhancements, include 'paired extensions' for both standard digital and IP phones. This is a very simple, straightforward approach to the 'hot desking' and remote worker concept. A user's office and home phones can be paired up so that when a user gets home, and they activate the feature, their profile shifts to the home device, allowing the home phone to behave exactly like the one in their office.

"We're also merging our resources, so Inter-Tel 3000 resellers can call upon the same technical support organizations that they're accustomed to calling on for larger platforms," says Aicard. "That applies as much to the front-line, first-call level as it does to any escalation point in the problem resolution chain."

"Finally, aside from aggressive dealer channel pricing improvements, we've changed all of our collateral and sales tools, and have made it easier for sellers and customers to go through the sales process," says Aicard.

All things considered, the Inter-Tel 3000 is a carefully formulated addition to the Inter-Tel product line. Smaller businesses, SOHOs and even residential "power users" should find it quite appealing.

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

Small- and Mid-Size Businesses: The Misunderstood Market

By Aron Aicard, Director of Product Management, Inter-Tel

For the majority of PBX providers, success is usually manifested in how many large corporations - or enterprises - they can list as customers. Vendors have long been seduced by the dollar volume an enterprise can pony up in terms of acquiring new technology, training and maintenance contracts. Larger businesses, they surmise, have the resources - and a real business need - to leverage new solutions much more consistently than smaller businesses.

Consequently, the misperception that small and mid-size companies are too small, too unsophisticated or too cash-strapped to fully enjoy the benefits of advanced communications technology continues to permeate the industry. But vendors that make these assumptions fail to understand and appreciate the vast potential represented in the thriving SMB sector. The reality is that these tools make as much - if not more - sense to smaller businesses compared to their larger cousins. This is a market that continues to grow by leaps and bounds. These businesses can be found in virtually every community and represent numerous vertical markets. What's more, today's small- to mid-size company doesn't just compete with its neighbor down the block; it often goes head-to-head with companies on a national and sometimes global scale.

Typically defined as companies with anywhere from 20 to 500 employees, small and mid-size businesses operate in much the same fashion as an enterprise. Both entities routinely rely on geographically disparate locations, whether it be workers who perform job functions from a home office, from satellite offices in strategically important markets, or mobile workers who are constantly on the road generating sales and addressing customer concerns.

IP telephony is the obvious solution to address these geographic challenges. And judging from the myriad of hosted offerings that have inundated small business owners, service providers have created a niche by providing basic voice transport. Hosted offerings, which offer limited functionality and simple administration, do fill a basic need, but in reality only touch the periphery of addressing the most common SMB requirements. As with their larger cousins, the real value of IP technology resides in powerful software applications that deliver productivity-boosting presence management and collaboration tools that are easy to use and manage, making complete economic sense and an attractive option for small businesses. In addition, some vendors offer flexible software licensing that allows smaller organizations to comfortably leverage these solutions.

Another overlooked tool for the SMB is contact center software. The traditional definition of a contact center as a cavernous hall filled with hundreds of agents on the phone doesn't sync with most small to mid-size organizations. But when you look beyond head counts and examine business processes, you'll find that contact center technology makes a lot of sense for smaller customers. While they may not have the large call centers, they usually have departments, like customer service, accounts payable, or technical support, charged with handling a majority of calls. Giving small businesses the ability to better manage and track calls improves operational efficiency and enhances service, important requirements for companies of any size.

Today's small and mid-size business is savvy, motivated and driven to succeed amidst a constantly changing landscape of competitors. While they may not have the human and financial resources of a large enterprise, they nonetheless see advanced communications technology as integral to their success.

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Plugfest III to Certify Interoperability for IMS Services

By Greg Galitzine

A while back I had the opportunity to interview Brian Allain, Vice President and General Manager of 3Com's Data and Voice Business Unit. The conversation ranged to include a wide variety of topics, and the results of that discussion appear below.

Writing in his column in IMS Magazine, IMS Forum president and Chairman Michael Khalilian explained that Plugfest I allowed participants to demonstrate that by using IMS, a service provider could bring online a large best-of-breed central office switch in eight hours. Plugfest II showed that when vendors implement IMS architecture the result is an easy-to-use, quick-to-install-and-run delivery service.

In a recent interview, Khalilian told me the impetus for the Plugfest series was simple. "We needed some level of interoperability and validation, so we implemented the plan starting in January 2007 for Plugfest I, and in June 2007 for Plugfest II and now the upcoming Plugfest scheduled for October."

Building off the success of Plugfest I and II, Khalilian and his organization believe that there is still work to do.

"In looking at the infrastructure requirements for service delivery of triple play and quadruple play applications to consumers and looking at broadband transport including wireless and wireline options and also the various levels of access CPE, we are interested in how these applications and services have conflicts and issues regarding interoperability," he told me.

Regarding what standards are being considered for the IMS Forum testing methodology, Khalilian shared the following: "We are looking at 3GPP, ETSI, CableLabs, SIP and other industry standards as a baseline requirement and validation. We are also looking at the requirements for service and application delivery and thus we're designing our IMS Forum test plan."

Manuel Vexler is on the board of the IMS Forum; I asked him what issues carried over from the most recent Plugfest.

According to Vexler, "The main outcome of Plugfest II that may affect Plugfest III is the discussion around the deployment of services and applications in a scalable and multivendor fashion."

"When you start to look at the services and how they are deployed in the lab and how they get deployed, we begin to see some of the areas where there are not necessarily limitations but they require qualification in terms of how the standards need to be applied," he said.

Vexler added, "Because there are multiple ways of deploying the same service, the question becomes which is the best way in terms of operational economics and operational technology."

In addition to major sponsors Sonus, Intel, and Empirix, the initial Plugfest III participants will feature Acision, ARGELA Technologies, Coppercom, Data Connection Ltd, Ixia, Mavenir Systems, Mu Security, NE Technologies/MARBEN, RADVISION, Reef Point, Starent Networks, and Tekelec.

Khalilian believes that the main goal of the Plugfest is to prove that it doesn't have to be overly difficult to implement IMS, and his concern is that an exceedingly negative image of IMS only serves to scare off potential investors.

"IMS, triple play, quadruple play… are not complex and are not only for greenfield service providers to deploy," he said. "We're trying to take the fear and the complexity out of the equation, because that is what concerns Wall Street. Service Providers are getting concerned. And the ripple effect concerns me."

"What we are showing in the IMS Forum plugfests is that interoperability between a number of vendors - as well as the services and the tools and applications - is there today. The products are there today. Back office support is there today. FMC, VoIP, mobile applications, IPTV, video, they are all available today. Now, of course, there is still room for improvement, but these services are all available today and the service provider can have a business case for increasing their revenue or enhancing their infrastructure using IMS."

Khalilian gets passionate when he confronts naysayers who deride IMS as being a pipe dream. He believes that in order to be successful, companies playing in the IMS space need to "…be creative, with good marketing, good technology, good back office support, a good engineering team and most of all a good management team."

"Don't blame the technology," he says. "There are other factors that need to be considered. IMS is a framework to bundle different applications and services utilizing broadband and offering services to consumers. Like it or not it is happening. Don't blame the technology for lack of a good business plan."

Nevertheless, the IMS Forum Plugfest III is being held this October to help dispel any negative press surrounding IMS and to help prove that the technology works, and that vendors are indeed interoperating on various levels today. IT

Greg Galitzine is TMC's Editorial Director.

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