www.itmag.com

INTERNET TELEPHONY®

VOLUME 15/NUMBER 6 JULY/AUGUST 2012

The ...ons Authority Since 1998™

Sansay Takes SBCs to the Next Level

MASTERS OF VoIP

Also Inside

TMC Labs Innovation Awards

A New Opportunity for VARs – Microsoft Lync & Hosted Lync

ITIF's Bennett: A Spectrum Crisis Still Looms


Jabra®
Jabra
ACTIVE NOISE CANCELLATION
Jabra
Jabra SUPREME UC
Arm your mobile work force with the best in security and mobility.
• Incredible Sound for mobile and UC calls
• Optimized for all leading UC platforms and latest generation softphones
• Jabra LINK™ Bluetooth® USB adapter - Easy PC connectivity for UC calls
fontel inc.
Fontel Inc. is a leading distributor of voice, data, and video communication products for major manufacturers around the world.
800.238.0787 • www.fontel.com

INTERNET TELEPHONY®

Group Publisher and Editor-In-Chief,
Rich Tehrani, (rtehrani@tmcnet.com)

EDITORIAL
Group Editorial Director, **Erik Linask** (elinask@tmcnet.com)
Executive Editor, IP Communications Group,
Paula Bernier (pbernier@tmcnet.com)

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

ART/DESIGN
Associate Vice President of Creative, **Alan Urkawich**
Graphic Designer, **Lisa Mellers**
Production Manager, **Stephanie Thompson**

EXECUTIVE OFFICERS
Nadji Tehrani, *Chairman and Founder*
Rich Tehrani, *CEO*
Dave Rodriguez, *President*
Michael Genaro, *EVP of Operations*
Tom Keating, *CTO, VP*

ADVERTISING SALES
Sales Office Phone: 203-852-6800
VP Business Development
Anthony Graffeo, 203-295-0234 (agraffeo@tmcnet.com)
VP Events
Joe Fabiano (jfabiano@tmcnet.com)
AVP of Client Services
Jaime Hernaez, ext. 217 (jhernaez@tmcnet.com)
Account Executive
Laura Casal, ext. 299 (lcasal@tmcnet.com)

SUBSCRIPTIONS
Circulation Director, **Shirley Russo, ext. 157**
(srusso@tmcnet.com)

Annual digital subscriptions to ***INTERNET*** **TELEPHONY®**: free to qualifying U.S., Canada and foreign subscribers. Annual print subscriptions to ***INTERNET*** **TELEPHONY®**: free, U.S. qualifying readers; $69.00 U.S. non-qualifying, $99.00 Canada, $119.00, foreign qualifying and non-qualifying. All orders are payable in advance in U.S. dollars drawn against a U.S. bank. Connecticut residents add applicable sales tax. For more information, contact our Web site at www.itmag.com or call 203-852-6800.

EXHIBIT SALES
Sales Office Phone: 203-852-6800
VP of Events, **Joe Fabiano** (jfabiano@tmcnet.com)
Companies whose names begin with A-L or #s:
Sr. Global Events Director, **Maureen Gambino**
(mgambino@tmcnet.com)
Global Events Account Manager, **Nicole Pradella**
(npradella@tmcnet.com)
Conference Sales Director,
Frank Coppola (fcoppola@tmcnet.com)

About *INTERNET* TELEPHONY®
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.

VoIP Marketshare and Regulations

A recent study from Infonetics Research points out that there's a growing gap between large and small VoIP providers in North America, and that Comcast is now head of the pack in the former group.

"After a banner 2010, 2011 was another year of consolidation in North America among business VoIP service providers," says Diane Myers, principal analyst.

Myers adds that "Comcast's acquisition of New Global Telecom, the former perennial leader in our business VoIP scorecards, propelled Comcast to the No. 1 position in Infonetics' hosted Business VoIP Leadership Scorecard this year. And, for the fourth year in a row, Verizon Business is No. 1 in our IP Connectivity Leadership Scorecard, followed by AT&T."

West and 8x8 are also among the top hosted VoIP providers in North America, according to Infonetics, which adds that "the competitive landscape for hosted VoIP services is shaking up, with the traditional PBX and UC vendors such as ShoreTel, NEC, Mitel, Avaya, and Cisco jumping into the cloud."

Of course, another important development relating to VoIP providers, and services companies at large, is the Federal Communications Commission's Universal Service Fund reform effort. Jonathan S. Marashlian of The CommLaw Group recently shared his assessment of the FCC's activities on this front.

The CommLaw Group, he says, perceives "at least three identifiable and troubling 'observations' regarding the FCC's intentions and objectives" discussed in the commission's recently released further Notice of Proposed Rulemaking, which solicits comments from the industry on proposed interim and/or long-term reforms to the methodology used to extract contributions to support the Universal Service Fund.

"First, the FCC appears poised to enact interim reforms to the current revenue-based contribution methodology," writes Marashlian. "There is always the likelihood that if interim reforms resolve the FCC's concerns about ensuring sufficient funding, these interim reforms may become more permanent, thus rendering thoughts of more fundamental shifts to a Numbers-Based or Connections-Based methodology somewhat of an afterthought (or a thought to pick up on at the tail end of the Commission's goal of transforming the 'switched' PSTN to a 'ubiquitous broadband' network).

"The second observation should not be unexpected, as it is the logical extension of the first," he continues. "The FCC's interim (and potentially long-term) revenue-based reforms are geared primarily at EXPANDING the scope of USF contributors to include a broader swath of industry participants, including more VOIP services, Broadband and Internet services, and a variety of users (and what the FCC calls "beneficiaries") of the public communications network and public Internet. A review of the FNPRM quickly illustrates that the FCC is leaving no stone unturned in its quest for USF contribution revenue.

"Also prominent is discussion of 'revenue allocations' to address the Commission's apparent interest in finding assessable telecommunications revenue in practically any service with a 'voice' or 'transmission' component. While the Commission's jurisdictional authority to expand its reach into some of the more extreme areas it suggests is dubious, the FCC nevertheless appears to be holding out the threats, perhaps in an attempt to negotiate a re-positioning of the center point. Even shifting the middle towards a more expansive contributor base will help the FCC achieve its interim goal of shoring up the financial condition of the fund.

"The third trend is somewhat alarming, particularly for providers and consumers of certain international and intrastate services which, heretofore, were shielded from contributions through specific regulatory, statutory or judicial exemptions. The FCC is threatening to eliminate certain exemptions, such as the Limited International Revenue Exemption, thus exposing a larger percentage of international revenue to USF contributions."

Is Yahoo Just Doomed?

Years back I was at a conference with a consultant who worked at Yahoo and told him his company needed to take on Google more directly, and he was told, "That is not the Yahoo way."

I still remember the dumfounded feeling I had when I heard this ridiculous comment. We all know that Yahoo is a company with outstanding assets but with major internal problems. CEOs seem to be ousted annually; the company is behind in just about every market it invented; and even with all its traffic, it seems to be all about yesterday's Internet.

And then there are acquisitions. Yahoo made a bunch of them about a decade ago, getting ready to position itself as the leader of the next generation of Internet technology. But the company so screwed this up that you could write a business encyclopedia about what you shouldn't do in an M&A situation.

Nadji Tehrani, my father and founder of the company where I am CEO – TMC, often says it is better to be first than best. His premise is no one remembers the second person to cross the Atlantic Ocean or to win the Triple Crown, etc. And because Yahoo was the first company to index the Internet, the company is still with us. Otherwise, it would have likely become Pets.com 2.0.

While much of the world is focused on the company's ouster of its CEO over resume-gate, what they should be reading is about how the company took the last eight years or so to purchase an awesome company, Flickr, and then absolutely destroyed it. Matt Honan details how the leading web portal company did virtually everything it could to ensure it wasn't successful as the web became social.

First of all, Yahoo continued to buy products built by user communities without caring about the actual communities. User-generated content is a treasure. The cost to the hosting company is merely storage, and if you can monetize this content– and certainly this was very possible in the middle of the last decade, you ideally want to keep the flow going by keeping users happy. But Yahoo made changes to Flickr that infuriated users, causing them to flee.

Shockingly (assuming you are new to Yahoo horror stories), when Yahoo managers were told about this potential problem they seemed to not care.

Moreover, because Flickr didn't generate tremendous revenue compared to other Yahoo divisions, it was starved of resources and instead of being allowed to focus on innovation it was forced to concentrate of getting its service to work better with Yahoo. In other words, innovation was trumped by integration.

But still, the potential exists for Yahoo to integrate its products more effectively to become the Facebook competitor the market likely wants. But this would require the company to divide up into smaller teams with some sort of integration strategy that is loosely coupled.

Moreover, Yahoo needs more engineering control. This is something I have never written – I am an engineer and putting most of us in charge of product design/execution is a disaster waiting to happen. But in Yahoo's case the situation is so pathetic, having more of a techie-led approach to products and innovation would likely be far more successful than what is happening now.

Finally, what is the company's mission– its raison d'être? We know it is a hodgepodge of sites that allow you to compare cars, check e-mail and news, etc. but the company needs a mission – not so much for the outside as the inside. Even a generic tagline like "Making the Web Better" would help discourage a manager who wants to use his power to kill mobile app features that users would appreciate.

Yahoo is not unlike a company such as Nortel, which also had a dominant position and made acquisitions that helped sink the company. Purchasing companies is very difficult to do correctly and requires resources to ensure you understand not just the integration of the business but how to have it grow potentially larger than the parent.

TMCnet (www.tmcnet.com)

TMCnet EDITORIAL
Group Editorial Director, **Erik Linask**
Senior Editor, **Peter Bernstein**
Assignment Editor, **Stefania Viscusi**
Managing Editors: **Juliana Kenny, Stefanie Mosca**
Contributing Editorial: **Paula Bernier, Susan Campbell, Erin Harrison, Gary Kim, Ed Silverstein, Beecher Tuttle**

TMCnet PRODUCTION
Webmaster, **Robert Hashemian**
Associate Vice President of Creative, **Alan Urkawich**
Senior Designer & Director of TMCnet Communities and Channels, **Maxine Sandler**
Senior Web Designer, Director of Strategic Web Initiatives, **Chhityz Thapa**
Operations Manager, **Tim Goins** (tgoins@tmcnet.com)

MARKETING
EVP of Operations, **Michael Genaro**
Creative Director, **Alan Urkawich**
Marketing Manager, **Jan Pierret**

FINANCE
VP Finance, **Allen Frydrych**
Senior Accountant, **Betsy Estes**
Accounts Coordinator, **Charles Hendricks**

READER INPUT
INTERNET TELEPHONY® encourages readers to contact us with their questions, comments, and suggestions. Send e-mail (addresses above), or send ordinary mail. We reserve the right to edit letters for clarity and brevity. All submissions will be considered eligible for publication unless otherwise specified by the author.

IDENTIFICATION STATEMENT
INTERNET TELEPHONY® magazine (ISSN: 1098-0008) is published monthly, except February and August, by Technology Marketing Corporation, River Park, 800 Connecticut Ave. 1st Fl., Norwalk, CT 06854-1628 U.S.A. Annual print subscriptions: free, U.S. qualifying readers; $69.00 U.S. non-qualifying, $99.00 Canada, $119.00, foreign qualifying and non-qualifying. Periodical postage paid at Norwalk, CT and at additional mailing offices. Postmaster: Send address changes to: INTERNET TELEPHONY®, Technology Marketing Corporation, River Park, 800 Connecticut Ave. 1st Fl. East, Norwalk, CT 06854-1628 USA. Canada Post: Publications Mail Agreement #40612608 Canada Returns to be sent to: Pitney Bowes International, PO Box 25542, London, ON N6C 6B2, CANADA

REPRINTS AND LIST RENTALS
For authorized reprints of articles appearing in INTERNET TELEPHONY®, please contact:
The YGS Group Reprint Division
3650 West Market Street, York, PA 17404
717-505-9701 or 800-501-9571 x105 • tmcnet@theYGSgroup.com

FOR LIST RENTALS
please contact Jill Olsen at jolsen@listincorporated.com or call 914-765-0700 ext. 105.

A Technology Marketing Publication,
River Park, 800 Connecticut Ave. 1st Fl.
Norwalk, CT 06854-1628 U.S.A.
Phone: 203-852-6800 Fax: 203 295-3773 or 203 295-3717

Subscribe FREE online at www.itmag.com

Innovating Your Desktop Communication Experience

With Grandstream HD and Multimedia IP Phones

- HD voice and high clarity video telephony with extraordinary quality
- Integrated apps such as GoogleVoice, Facebook, Twitter, Youtube, music, weather, …
- XML/HTML/Javascript based API/SDK for advanced custom apps development
- Interoperability/certification and auto-provisioning with most SIP platforms/IPPBX

Grandstream

Innovative IP Voice & Video

Follow us:

www.grandstream.com

Contents

Columns

Cover Story

Other

Departments

snom VoIP phones

High-level Functionality and Performance

Introducing the New **snom 7xx** Professional Series

snom's newest IP phones represent the ultimate in professional functionality and performance for business users who seek a high level of efficiency and user-friendliness.

The **snom 720** and **snom 760** are easy to configure, future proof and strictly adhere to the highest security standards of today's business communications.

To find out more about the latest snom 7xx series,
please contact **info@snom.com** or visit **www.snom.com**

By Hunter Newby

The Quest for the Intelligent Community

This monthly column has been focusing on the need for and challenges of creating and building fiber-based, open access systems for the development of high-speed broadband networks. As it has been shown, although many aspire and attempt, far fewer than what is truly required have had measurable success to date. It is not such an easy thing to do, and there are many obstacles on the path. But for those who have lost their way, or have not figured out why they need to start out in the first place, it helps to have a beacon, a source for inspiration and direction. The Intelligent Community Forum is just that.

The mission statement from the ICF website reads as follows:
"The Intelligent Community Forum is a think tank that studies the economic and social development of the 21st Century community. Whether in industrialized or developing nations, communities are challenged to create prosperity, stability and cultural meaning in a world where jobs, investment and knowledge increasingly depend on advances in communications. For the 21st Century community, connectivity is a double-edge sword: threatening established ways of life on the one hand, and offering powerful new tools to build prosperous, inclusive and sustainable economies on the other. ICF seeks to share the best practices of the world's Intelligent Communities in adapting to the demands of the Broadband Economy, in order to help communities everywhere find sustainable renewal and growth. We conduct research, create conference content, publish information and present annual awards, all in an effort to:

- identify and explain the emergence of the broadband economy and its impact at the local level
- research and share best practices by communities in adapting to the changing economic environment and positioning their citizens and businesses to prosper
- celebrate the achievements of communities that have overcome challenges to claim a place in the economy of the 21st century."

There are several key takeaways here that apply to any and all communities globally, and these points have been covered throughout in this column. The greatest challenge is the threat to the establishment, but the greatest threat for the community is to not take action even if it means having to bring about difficult changes in its way of life. The greatest benefit to all of those communities facing these challenges is that they are not alone. Others have come before them and have overcome the challenges. The ICF proves that and takes it to another level, providing visibility and access to many of the success stories of community broadband networks from around the world. The ICF beacon provides guidance, and it also provides hope. There is a way. Find it, stick to it and get there.

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

By Noreen Rucinski

ITEXPO-co-located SUITS Conference to Address Patent Issues

As more individuals and companies develop and invent new hardware, software, products and services, the complex world of licensing and patent applications can be overwhelming. This is compounded by complexities and legalities that engineers, business people and entrepreneurs seldom know how to navigate. With technology developments moving at lighting speeds, the race to apply, own and manage patents and other key licenses is faster than ever before.

Companies stand to earn millions not just on the products they sell but on the intellectual properties they own. In a graphical depiction of technology companies and the patents they own, it's not surprising to see some of the most well known brands of switches, routers, optical gear, handheld devices, mobile operators and more. A recent chart, published by Chetan Sharma Consulting in 2011, only tracks the number of mobile communications-related issued patents; imagine how many more are out there.

The Internet supplies users with tremendous access to information from nearly everywhere, all of the time. Information about applying for patents and licenses is abundant on the Internet – but how does one know who to trust, where to go and learn about the opportunities that are available to any smart and savvy inventor? There are a number of conferences that provide users with the ability to learn, seminar style, how to apply for patents. There are fewer conferences that bring out lively conversations and debates that bring to the forefront the topics about which scientists really want to know.

In the spring of 2012, Synopsis Under IT/Patents Telecom Sourcing Conferences (SUITS) was launched to address just these issues. The overwhelming response and interest in the conference program has spurred us to do a second event, to be held October 2012, co-located with ITEXPO West 2012 in Austin, Texas.

The SUITS program will engage CEOs, inventors, developers, marketing and business people alike. They will be able to learn from a variety of telecom companies that are proven, knowledgeable and have the know-how to advance patents, licenses strategies and monetization for an array of different technologies.

SUITS is the only conference that answers sourcing topics aimed at enabling enterprises, SMBs, corporations, and the public to hear from drafters, designers, engineers, strategists and intellectual property/patent professionals that are or have been part of the fabric of patents all related to telecom. The call for speakers has brought in a number of suggested topics, renowned speakers and will set the agenda for another formidable and lively event co-located with ITEXPO West 2012.

The SUITS program will engage CEOs, inventors, developers, marketing and business people alike.

Come learn the who and the why of those involved in the growth of this evolving and expanding part of telecommunications that usually is a behind closed doors, hushed topic and how it effects your business. In answer to the trepidations faced by all telco business units, SUITS want to educate and provide answers.

Noreen Rucinski is vice president of business development of Schneider Rucinski Enterprises.

Plum's Award-Winning IVR TOOLS

Can Satisfy All Your Requirements, Lower Your Costs and Improve Your Caller Experience

Thousands of Satisfied Customers

Serving Fortune 500 and SMB

Award-Winning VoiceXML Platform

Hosted and Premise-based IVR Solutions

Provider of Next Gen IVR Since 1999

Guaranteed Uptime

PlumVoice
Automated Telephony Solutions
sales@plumvoice.com | 800.995.7585

By Mike Sheridan

Architecture in Internal Social Networking

Between my Linked In groups, Facebook friends, and Twitter tags, I don't lack for social connections. I've previously written about the great power of social networks, and what they can potentially mean to a business. But there's certainly a challenge in understanding a company's needs and how to address those needs from an architecture perspective. We are constantly overwhelmed with news and information, but how do I take both internal and external information that exists and make it relevant to my business, to my role? How do I manage all of this information, make sense of it all and most importantly, trust it?

Most people today learn about new subjects or topics through self-directed study and having those a-ha moments. Wouldn't it be great to have a single collection point where you could get information relevant to what you need to do your job? To be effective, portals that integrate social networking capabilities, metadata tagging and enterprise search are key. One communications firm, Fleishman-Hillard, recognized that within its line of business there was a wealth of knowledge – it just needed to identified and from there, be shared.

Fleishman-Hillard recognized that employees use whatever technology they feel will make their jobs easier. But having no control or processes makes this extremely difficult for IT and managers to manage, especially as clients want to feel comfortable that their information isn't being exposed or misused. The firm observed that its employees opted for other community-building tools and often took part in online discussion groups, blogs, and other networking venues. Internally, the informal nature of these tools, and the networking capabilities they provide, could help employees find and share information quickly.

There is also the question of how to find and leverage skills that employees have. Who is the subject matter expert who could help with a specific project? Fleishman-Hillard saw that there was a wealth of trusted information that can be shared and showcase employee's skills and experience. They saw this as an opportunity to create a customizable dashboard that identifies a range of employees from across the firm's network and displays their skills and experience.

Fleishman-Hillard continues to explore new ways to leverage its existing architecture through the use of social avenues and unified communications to provide a unique and effective user and end user experience, continuously providing corporate responsibility guidance and expertise.

So in this instance, social networking integrated to business processes continues to benefit the organization. It's not by luck that it is experiencing success, because it asked those questions and acted on them. Have you asked or raised questions like this?

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

By Jon Arnold

What is the Role of IT Now?

The overall theme of this column is re-thinking communications, and in my view everything – and everyone – are on the table. Over time, I'll cover various stakeholders related to telecom and the broader space of IP communications; the focus this month is IT. There's certainly a lot to discuss here, and this time around I'll look at how the role of IT is changing.

Traditionally, IT's role was fairly well defined, especially around telecom, which existed in a parallel world alongside the data network. Data encompassed many things, but voice was straightforward, with a dedicated network to provide high-quality, reliable real-time communication. When IP telephony came into the picture, network convergence was the next step, and now IT must manage all the modes in one environment.

On a practical level, that should make IT's job easier, but as we know, other things make the job harder. Certainly, there are complexities around prioritizing real-time modes – namely voice and video – over a common network supporting a multitude of applications. Even more daunting is how quickly new applications are being adopted and how often existing ones need updating. Add to that the growing amount of network traffic that is web-based, and IT is facing a losing battle of control.

This is a very different world from when IT held all the cards and could dictate network access. The web is almost impossible to police, and with BYOD, employees bring not just their devices of choice, but also their own wireless broadband services. The balance of power has been shifting since the advent of IP telephony, but it's really accelerated with tablets and smartphones.

This is very much the consumerization of IT at work, where innovation from outside telecom – namely Apple and Android – has created a new mode of behavior that takes the form of BYOD.

With so much technology and connectivity in the hands of end users, what levers are really left for IT?

Many businesses are faced with a growing demand for bandwidth, but lack the proper tools to effectively manage consumption. As a result, IT has two choices – either keep adding bandwidth, or make do and hope for the best. The former gets to be expensive but won't last, as IT is under constant pressure to reduce costs. This makes the latter the lesser of two evils, with the result being a congested network and compromised performance of communications applications.

Neither is a desirable situation, especially with video poised to become as widely-used as voice. The technologies are ready to support that, and as the cost of endpoints and applications comes down, there is a case to be made that video will replace the desk phone altogether. (I'm among those advocates.) With this major change coming, IT cannot afford to settle for either of the above choices.

In a roundabout way, I'm leading up to the cloud, which may well have just as much impact as video in shaping the business communications environment. There seems to be no end now to the various cloud offerings, both for standalone applications like desktop video, as well as fully integrated unified communications suites. When taking all these challenges and options into account, it's not hard to see how the cloud solves a lot of problems for IT. This is especially true for SMBs, where IT resources and expertise are often in short supply, and the needs keep getting more complex.

If you fast-forward to the point where IT concedes that the cloud is the way to go, things get more interesting in charting their future. With the burden of network management removed, IT needs to find other ways to add value to the organization. Of course, they will have ongoing requirements to integrate the cloud services with internal applications, but at least now they won't have issues about scale or providing high-availability service.

Fair enough, but there is a bigger role to play, and that's with the end users. Essentially, the cloud will free up IT from daily network management, allowing them to focus more on meeting the needs of end users. There is actually a promising opportunity here, as end users need education around all the tools at their disposal, especially for UC.

Not only do they need to learn about what UC has to offer, but it's in IT's interest to encourage them to keep as much business-related traffic as possible running over the LAN. This will allow communication to have its fullest value for the business, especially by keeping it private and secure. Many end users do not realize how vulnerable BYOD traffic is, especially when flowing over Wi-Fi or the public Internet.

This is not the role that IT signed up for, but there is no turning back the clock, as end users are now equal partners in managing network resources. IT has a lot at stake here, and the more they learn to work constructively with end users, the less likely the chance of being outsourced to cloud along with the network itself.

Jon Arnold is principal of J Arnold & Associates, an independent telecom analyst and marketing consultancy with a focus on IP communications, and writes the Analyst 2.0 blog. Previously, he was the VoIP program leader at Frost & Sullivan.

Ask the SIP Trunk Expert

By Steven Johnson

SIP Trunk Reliability

Businesses rely heavily on their voice network; as such, the standard for reliability needs to be much higher than what's generally accepted for consumer use.

The quality of SIP calls can be excellent. Digital packetization of voice has proven to be better than analog. This is because digital packets do not suffer from audio distortions, loss levels and other weaknesses. The quality of voice is directly related to the quality of the network, with the "weak link" of VoIP being latency in a slow network. A SIP-capable enterprise session border controller with QoS solves this problem.

Adding redundancy to the network ensures reliability. By installing a second E-SBC along with the primary E-SBC to create a failover pair, this multiple E-SBC distribution creates a resilient and fault-tolerant network to ensure that mission-critical applications such as voice are always available. The backup server might be a machine in another physical location, presumably not vulnerable to anything that would cause the primary host(s) to become unavailable.

As SIP trunks are delivered over the Internet, the connection to the Internet itself can potentially be a single point of failure. Using multiple Internet service providers avoids this issue should one connection go down. Also, since a SIP trunk is virtual, many service providers can have a primary then secondary route, should the primary become unavailable. Regardless, your E-SBC should have an option to be connected to a secondary ISP.

The tremendous growth of SIP trunk adoption by call centers is a sign that SIP trunks can be deployed business-class. The significant volume of calls makes cost-effective voice a priority, and since voice is the core of their business it has to be reliable.

For more information listen in to a recent Webinar we held with TMC on "Successfully Deploying Enterprise SIP Trunking: Tools and Techniques for Overcoming Common Roadblocks." It can be viewed here: http://bit.ly/KLffVY.

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

E911 Watch

By Nick Maier

E911 for Cisco Unified Communications

Complete Solution Requires Careful Planning

As the enterprise voice market continues its migration toward a more integrated unified communications model that encompasses telephony, unified messaging (e-mail, voicemail, fax, SMS), data sharing, videoconferencing, etc., Cisco has established its platform as a viable option worthy of inclusion in the majority of RFP shoot-outs. For organizations with Cisco-centric data networks, the company's IP communications solutions represent a particularly attractive option.

As with any platform, providing E911 protection to users connected to Cisco voice networks requires careful planning, budgeting and building support among the stakeholders impacted by the project including those responsible for finance, legal and risk management, public safety and security, real estate and IT.

Cisco Emergency Responder is often considered a go-to E911 solution for Cisco voice networks. However, many well-intentioned IT and telecom pros don't realize that CER represents only half of an effective E911 solution.

CER is a great solution for tracking the location of SIP and H.323 phones as they move around the enterprise. CER also integrates with Cisco Unified Communication Manager to provide automated location tracking, support for Layer 3 and Layer 2 network discovery and for 911 call notifications.

There are several key aspects of a complete E911 solution that CER does not handle that require assistance from third-party solution providers. These include automatic location information record validation against the Master Street Address Guide used by emergency responders; 911 call routing to deliver the emergency call to the public safety answering point responsible for dispatching help to the caller in need; and 911 call notification to alert on-site responders, security and administration personnel of calls in-progress and the location of the caller.

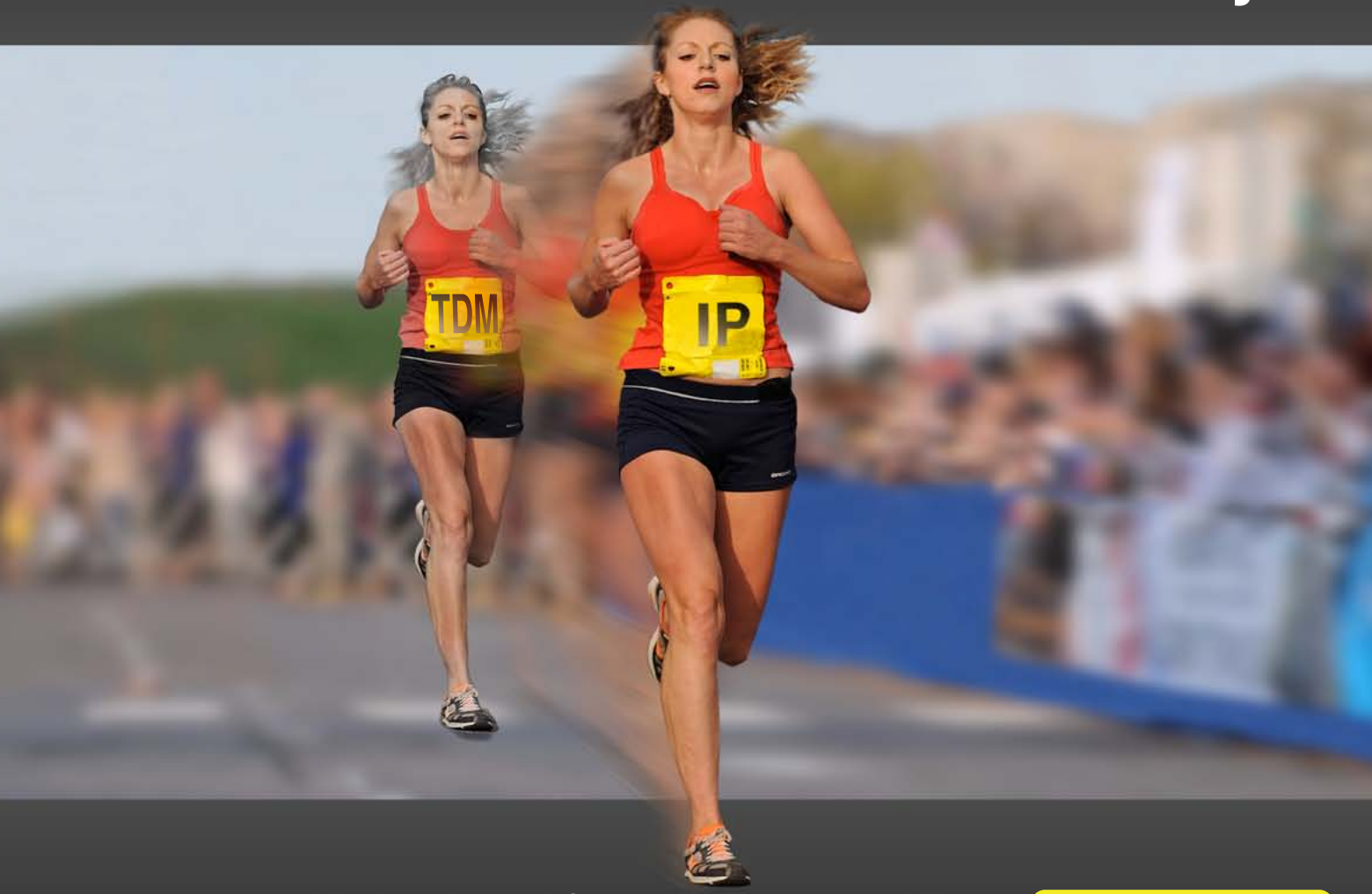
There are several viable options from E911 providers to bridge this critical gap between CER and a complete E911 solution. These solutions can be deployed as on-premises software or hardware, or as a cloud-based service. The bottom line: You need to select one of these options to provide life-saving E911 protection.

Whether you're involved with planning a move to unified communications or upgrading your enterprise voice network, don't forget to include E911 planning in your project plan, and be sure that your specification delivers a complete solution that protects everyone relying on your network.

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

VoIP for the Long Run

SmartNode™ 10K Series VoIP Media Gateways



It's no sprint transitioning telecom infrastructure to converged IP…

…it's a long run. With a generation of investment in the race, carriers, call centers and large enterprises must leverage legacy elements to deliver classic universal and NGN services simultaneously. Supporting TDM-to-TDM, TDM-to-IP and IP-to-IP architectures concurrently, the SmartNode 10K series from Patton facilitates your long-term migration plans. Providing 16 to 64 T1 or E1s, 1 to 3 DS3s, or an OC3/STM-1 trunk, and supporting 2048 concurrent VoIP or Fax-over-IP calls the SN10200 connects your SS7 edge, core and peer zones with emerging H.323 and SIP networks. In business since 1984, Patton is in the race with you…

…for the long run.

Special Offer!
Free onsite installation when you order ten or more SN10200 systems before 30 September 2012.

Details at
patton.com/smartnode10k
or call +1 301-975-1000
Mention SC236

You always get free support!

PATTON®
Let's Connect!™

www.patton.com • sales@patton.com
tel: +1 301.975.1000 • fax: 1 301.869.9293
7622 Rickenbacker Dr., Gaithersburg, Maryland, USA

Disaster Preparedness

By Rich Tehrani & Max Schroeder

Continuity Planning 101 – A Continuing Educational Series

Picking Your Cloud

Organizations looking at their first BC/DR implementation or upgrading an existing plan should first evaluate software-as-a-service options. SaaS solutions are quick to deploy and have lower up-front costs. Additionally, their inherent design makes them a perfect BC/DR choice.

For costing purposes, the buy/build vs. rent option in real estate is a good analogy. However, since software cannot appreciate in value like an office building, the renter's ROI is even better. Renters move in immediately; buyers have to wait. Renters rely on their landlord for maintenance; buyers have to resort to private contractors. Of course, picking a bad landlord would not be good. This is certainly not a true caveat emptor (buyer beware) situation, but you will be entrusting your organization's future to the SaaS providers (SaaSP), so reasonable due diligence is required.

As with any DR plan, carefully organize your requirements list and identify which are mission-critical or simply desirable options. For example, SaaS will reduce the workload of your IT staff, but that may not be mission-critical like VoIP or fax. Next, ascertain if any SaaSPs offer all or most of the mission-critical requirements. You may have to contract with several to cover all of your organization's needs. Once you have narrowed the search, you can refine the study to determine what SaaSPs offer the best overall solution(s).

The total cost of ownership now needs to be factored into your study. Generally, SaaS provides a lower TCO than an in-house solution, but your CFO will probably want to review the actual numbers. The TCO will also provide some guidance on comparing the various SaaSPs. For example, business continuity and resiliency services from IBM, Oracle's CRM or other high-end solutions may exceed your organization's basic requirements so alternatives like Microsoft Office 365 could make more sense. The collocation(s) used will directly affect the overall cost, but using a major global operator like Equinix will also provide a higher level of security and reliability than some other collocations. This is definitely a decision where cheap may not be the least expensive.

Bear in mind this is not an all-or-nothing decision. There are plenty of hybrid solutions that combine SaaS and in-house operations so you have plenty of choices. Hybrids also ease budget considerations and provide greater migration flexibility. Time to pick your cloud.

Max Schroeder is senior vice president of FaxCore Inc. (www.faxcore.com) and managing director of the DPCF. Rich Tehrani is CEO and group editor-in-chief at TMC, and conference chairman of ITEXPO.

Regulation Watch

By William B. Wilhelm and Jeffrey R. Strenkowski

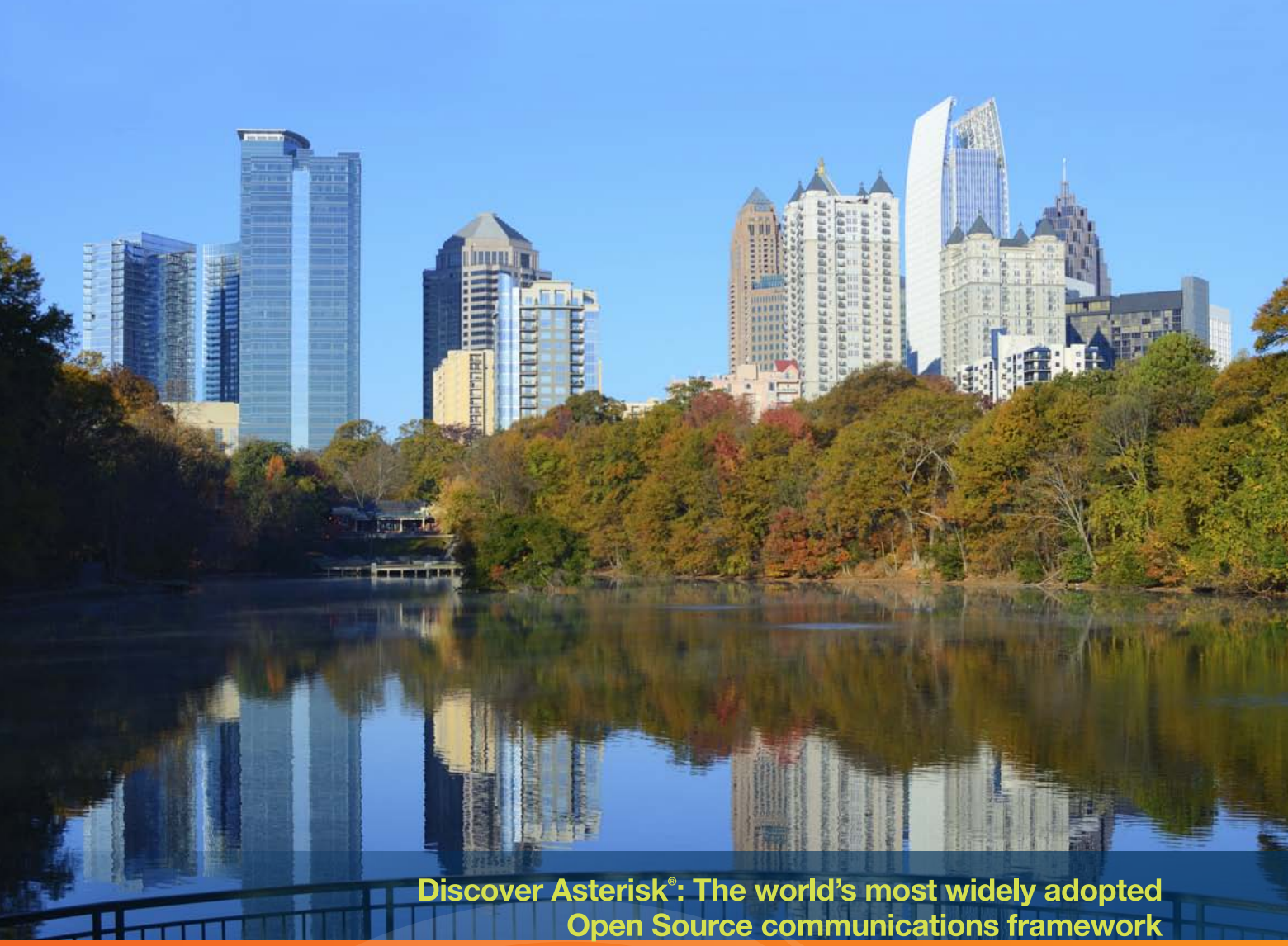
FCC Issues Call Blocking Prohibition Order

On Feb. 6 the FCC's Wireline Competition Bureau released a declaratory ruling requiring originating carriers to police the actions of downstream providers that are blocking or otherwise restricting calls terminated by rate-of-return carriers serving rural areas. Noting the increased number of complaints lodged by rate-of-return carriers serving rural areas, the order reminds carriers of the commission's prohibition on blocking, choking, reducing or otherwise restricting traffic, including VoIP traffic, and clarifies several statutory provisions that may be violated for those types of activities.

First, the order clarifies that a carrier "that knows or should know that calls are not being completed to certain areas, and that engages in acts (or omissions) that allow or effectively allow these conditions to persist, may be liable for a violation of section 201 of the Act." A violation may be found if a carrier fails to correct the problem or fails to ensure that intermediate providers, least-cost routers, or other entities acting for the carrier are performing adequately. If a carrier continues to hand off calls to intermediate providers that a carrier knows are not completing a reasonable percentage of calls or are otherwise restricting traffic, that would be considered an unjust or unreasonable practice. The order also notes that carriers are responsible for the acts of their agents, and thus are responsible for agents engaging in unjust or unreasonable practices, such as blocking, choking, or otherwise restricting traffic.

A service provider engaged in these prohibited activities may be subject to enforcement actions, including cease-and-desist orders, forfeitures, and license revocations, which could include a forfeiture of up to $150,000 for each violation or each day of a continuing violation, up to a statutory maximum of $1,500,000 for a single act or failure to act.

William B. Wilhelm is a partner and Jeffrey R. Strenkowski is counsel at the global law firm of Bingham McCutchen LLP (www.bingham.com).



Discover Asterisk®: The world's most widely adopted Open Source communications framework

AstriCon™

October 23-25, 2012
Sheraton Atlanta Hotel, Downtown

Asterisk is the open source engine powering the VoIP revolution, enabling developers to rapidly build and deploy communications applications. AstriCon provides a wealth of information, whether you're just getting started or have already discovered the power of Asterisk.

Expand your awareness and knowledge of Asterisk at AstriCon, a three-day conference and exhibition dedicated to all things Asterisk. With a mix of in-depth technical sessions, tutorials and business content, AstriCon draws nearly 1,000 users, developers, integrators and service providers. Join us and connect with the Asterisk community.

Register now for AstriCon 2012!
www.astricon.net

ENT • IP-PBX • IVR SERVER • VoIP GATEWAY • CALL RECORDING • UNIFIED COMMUNICATIONS • EC
L • AUTOMATED ATTENDANT • VOICEMAIL • FAX SPEECH RECOGNITION • ECHO CANCELLATION•
G • CALL CENTER ACD • VOICE XML • TEXT-TO-SPEECH • CALL CONFERENCING SERVER • G.729•

By Jonathan Rosenberg

The Seven Reasons Why Living Room Video Calls are Hard

In May, Comcast launched Skype on Xfinity, enabling customers to get Skype on their TVs utilizing their set-top boxes. Skype has been working on video calling in the living room for quite some time, partnering with manufacturers of both HDTVs and Blu-ray players.

Competitors have also been playing in this space. The benefits of video calling in the living room are obvious – it's a great way to connect with friends and family near and far from a comfortable environment where the whole family can be involved. Plus, the delivery of video calling into the heart of the home – the living room – is encouraging the shift from 1:1 video calls to group video calls, which, according to our user research, is found to be exciting, fun and inclusive by the families or individuals who try it.

Unfortunately, delivering on the simple promise of video communications in the living room is not easy. There are no less than seven major technical and business challenges to deliver video in the living room.

Distribution

Far and away, the hardest problem is distributing the hardware and software to end users that they need for video calls in the living room. Users require a video camera, a microphone system, and software that can provide this functionality on their TVs. Distribution of hardware can be done through retail – though traditional stand-alone cameras can be expensive. Or, as in the case of our Comcast partnership, it can be done through the cable operator. Software distribution may also be a challenge. Traditionally, users have been unable to download software from a marketplace. Instead, they have to buy the software bundled with the set-top box or TV and then rely on the provider to push updates. The Xbox and other gaming consoles hold a lot of promise here, and the top TV OEMs are also making advances in this area.

Cost

Video calling in the living room requires cameras and microphones. This hardware is readily available on PCs, tablets and smartphones, but not on televisions, set-top boxes, or other living room equipment. In fact, only a very small handful of TVs come with embedded cameras. As such, most consumers must purchase additional hardware for this purpose. This may introduce a cost barrier as well. For example, the TelyHD – which includes Skype functionality inside of a set-top camera – retails for $249. But we expect the use of embedded TV cameras to spread, just as embedded cameras in laptops are now commonplace.

Setup Complexity

Consumers need to bring the hardware into their homes and then set it up. This usually involves the need to connect to a home Wi-Fi network, the plugging and unplugging of HDMI cables (which are often hard to reach behind the TV), and then the setup of a video calling account. This is a non-trivial process and increases user friction for adoption of the service.

Always On

In order to receive a video call, the other party needs to be online and reachable. For users to receive a call on their televisions, the TV (and the associated hardware, such as a set-top box or game console), must be powered on and ready to receive a call. Most users do not leave their TVs on all of the time, and many of these devices do not support low-power standby modes capable of receiving incoming calls as smartphones and tablets do (yet). Consequently, spur-of-the-moment calls are relatively infrequent today (though our research shows some users do). For this reason, users typically pre-arrange living room video calls, using a regular phone or a Skype call on a mobile device to make sure the other side is there, ready and able to take the call. For the kinds of calls that happen on the TV – weekend calls to the family – this kind of pre-arrangement is not a big problem.

User Interface

Televisions have great displays for video, but are very weak on input and non-video output. Remote controls are frequently lost and have limited capabilities for entry – particularly of text – making instant messaging and search more complicated. Some systems have remotes that come with keyboards, but these have traditionally been cumbersome and unnatural to use. It can also be difficult to read text from a distance, limiting the amount of text that can be displayed on the screen, once again making IM and search difficult. Recent innovations in gesture controls, such as those provided by the Microsoft Kinect – may improve this situation. Voice control is another technology that may likely improve the user interface.

Audio Quality

Audio in the living room is hard. Users are far from the microphone, and there is frequently a lot of background noise. If a TV program is on and generating audio output, this can introduce an echo problem. Users frequently make calls with family members in the living room, so there are multiple speakers, further complicating the audio processing. For this reason, array microphones are often used to allow for better audio input processing.

Video Quality

The final challenge is video quality. The television is a large screen experience, and it places high demands on resolution and frame rate. VGA or better resolution is essential for a good experience. Achieving that requires a solid Internet connection with little background traffic on either end. Furthermore, the video quality on the TV is largely based on the connection and quality of the video camera used by the other person in the conversation. If that person is calling from a mobile phone, a tablet or laptop on a weak network, users in the living room viewing the call on their TV will likely have a negative experience even though their equipment is not at fault.

While video calling in the living room poses challenges, Skype and others are creating solutions to address them. We will undoubtedly see further innovation in the future as the industry seeks the right set of tools to create a premium video calling experience in the living room.

Jonathan Rosenberg is general manager of product strategy and research at Skype (www.skype.com).

KEEP UP TO DATE WITH THE LATEST COMMUNICATIONS TRENDS AND BREAKING INDUSTRY NEWS

Visit our Next Generation Communications Global Online Community. As a trusted partner of service providers, enterprises and industries around the world, we deliver the innovation you need to stay ahead.

Explore new thinking on:

- How to generate revenue while reducing OPEX
- New business models and strategies
- How to leverage a high value network and Web 2.0 capabilities
- New ways to deliver a superior customer experience

Join us at **http://next-generation-communications.tmcnet.com** and follow us at **http://twitter.com/NextGenCom**

Alcatel·Lucent

AT THE SPEED OF IDEAS™

By Lori MacVittie

A Single Policy Namespace

Policies governing delivery of and access to applications are often tightly coupled to the notion of IP addresses, leaving operations to grapple with a growing diseconomy of scale arising from the volatility of virtualized infrastructure and services.

Abstracting and virtualizing policies governing all aspects of application delivery provides a layer of flexibility at a strategic point of control that brings the economy of scale promised by virtualization and cloud computing back to the data center.

The Challenge

The problem with policies, particularly those governing access, is that they often start with the premise of a "from" and a "to". Like legacy access control lists, such policies attempt to codify network locations as a foundation for determining access.

As the number of possible "from" increases, so do the number of policies. Likewise, as virtualization is introduced into the mix, the number of possible "to" increases, creating an exponential number of possible combinations. This increases the risk of not only misconfiguration, but simply missed combinations.

A common solution is to codify authentication and authorization in the resources. But when infrastructure services providing identity management are part of that equation and they become virtualized or require scaling, the embedded strategy falls apart; it becomes impossible to predict where the identity service may reside in the future.

The Solution

One solution is to apply virtualization to the policy enforcement and decision points within the network to manage the volatility inherent in virtualized and cloud computing environments. A layer of virtual policy decision points, much like load balancing, enables seamless scale as well as transparent access and invocation of services.

This virtual policy layer becomes the endpoint for policy services, a single policy namespace. By abstracting the endpoint for these services they are always accessible, regardless of actual implementation. This is the power of virtualization applied to architecture – abstracting services into an agile, transparently scalable layer that returns the economy of scale by obfuscating the rapid changes in the underlying network topology.

Once such a layer is in place, variables required to ultimately determine access or other delivery-related policies, can be more effectively managed. The target is now a single virtualized endpoint, simplifying the architecture and policies required to govern it.

Virtualization as a Strategy

Virtualization has been appropriated such that it brings to mind only certain types of technology, but the broader concept of virtualization – abstraction – has been used within the network for much longer than hypervisors have existed.

It is that concept of virtualization that must be used to address challenges arising from the more common definition –volatility of network topology.

Lori MacVittie is senior technical marketing manager at F5 Networks (www.f5.com).

A layer of virtual policy decision points, much like load balancing, enables seamless scale as well as transparent access and invocation of services.

Panasonic
ideas for life

BEST OF SHOW 2011 ITEXPO Austin, TX

NEW KX-UT670

Grow your business with the right connections.

Panasonic's SIP-based phone systems offer a full range of options, cost-saving advantages and numerous certifications for implementing Hosted or Open Source PBX solutions. Empowering your business is how we're engineering a better world.

panasonic.com/sip

SOLUTIONS FOR BUSINESS

By Peter Radizeski

Three Ways to Stand Out in the Telecom Crowd

When I search for the term telecom agent, I receive 244 million results. Telecom broker has less with 12 million. More than 3,300 attended the last telecom agent show. How do you stand out in that crowd? Here are three ways.

Certification

As a TCA Certified Telecom Professional, I am unique. There are less than 200 of these CTPs in the U.S. If you don't want to take that program, get certified from a vendor. Most hardware and PBX vendors offer some certification. Certification is proof that you have an expertise in a subject (you are a SME – subject matter expert) and that you finished the program.

Verticals

I tell all of my clients to go vertical. It is much easier to garner WOM (word-of-mouth) marketing in a vertical, since they talk to each other about business problems. For example, they all need phone systems. How many telecom agents do you think attend an NRA show or a bar association meeting? Each vertical has its own language, which you will learn and become an insider. There are more than 93,000 lawyers in Florida. Just 5 percent of that is 4,500 clients, which is a very healthy practice.

Speaking

The Rotary Clubs, Lions and other civic groups meet regularly and need speakers. It is a great opportunity to practice public speaking. It's a good chance to talk about the trends and technology that you are seeing. These civic groups usually consist of business leaders. That's a hot target market. Don't want to talk tech or trends? How about presenting a case study about a client that you really helped with a complex sale?

Speaking and certification are ways to demonstrate your expertise. Working verticals is a way to become an expert inside a sector of the marketplace. It is a challenge to stand out, but these are three things you could get started on right now to become an expert on telecom instead of one of the millions of telecom agents.

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

VoIP Never Sounded So Good!

Your IP PBX increases the productivity of your users and lowers your operational costs. It makes excellent business sense. Enhancing your system with SIP PRINT makes it even better.

SIP PRINT offers award-winning solutions for:

CALL RECORDING - Record in-bound and out-bound calls for specific users, for training, quality assurance, customer satisfaction or legal compliance requirements

CALL ACCOUNTING - Control costs and compliance with detailed reports on historical usage, and plan for the future with forecasting

UNIFIED COMMUNICATIONS MANAGEMENT - Monitor your environment for quality-of-service and business effectiveness, and control all elements from any location

And Much More! - Visit www.sipprint.com For more Information

By Mike Storella

A New Opportunity for VARs - Microsoft Lync and Hosted Lync

The excitement for unified communications in the channel is building and received a big boost from the recent introduction of a new cloud-hosted Microsoft Lync offering. The availability of Lync in the cloud, which is being offered by companies like Chinook Communications, provides the channel with another compelling communication and collaboration offering for their business customers. There is now Microsoft Lync and cloud-hosted Lync, which is called Microsoft Lync Server 2010 Multitenant Pack for Partner Hosting. Let's take a closer look at these two solutions and explore the opportunities both present to the channel.

Today's businesses have more and more options when it comes to choosing a system for their voice communications, which means more and more questions for VAR partners tasked with implementing, managing and supporting these solutions. Businesses select either a premises-based IP PBX or a hosted service for their telephony system. Increasingly, businesses are also factoring unified communications into the equation either as a complementary piece to their existing IT and telecom architecture or as a standalone alternative for voice communications and collaboration.

Microsoft is one of the companies leading the way with a bundled voice/UC solution. Long known for its business and computing software, Microsoft broadened its offerings and entered the voice telephony market in late 2010, introducing Lync as the next wave of its Office Communications Server. With Lync, Microsoft combined its strength in multimedia conferencing, presence and instant messaging software with a full telephony component, making Lync a powerful all-in-one communications and collaboration solution.

To sweeten the pot even further, Microsoft is offering a new version of Lync for the hosted/cloud market that offers small and medium-sized businesses a one-stop shop for all communication and collaboration needs, including e-mail, document management, messaging, telephony, and multimedia conferencing with snom's IP desktop phones as endpoints. The new offering is called Microsoft Lync Server 2010 Multitenant Pack for Partner Hosting, and it includes collaboration functions (presence, instant messaging, audio, video and web conferencing, desktop sharing and whiteboard) and business telephony features such as hunt groups, auto attendants and call forwarding.

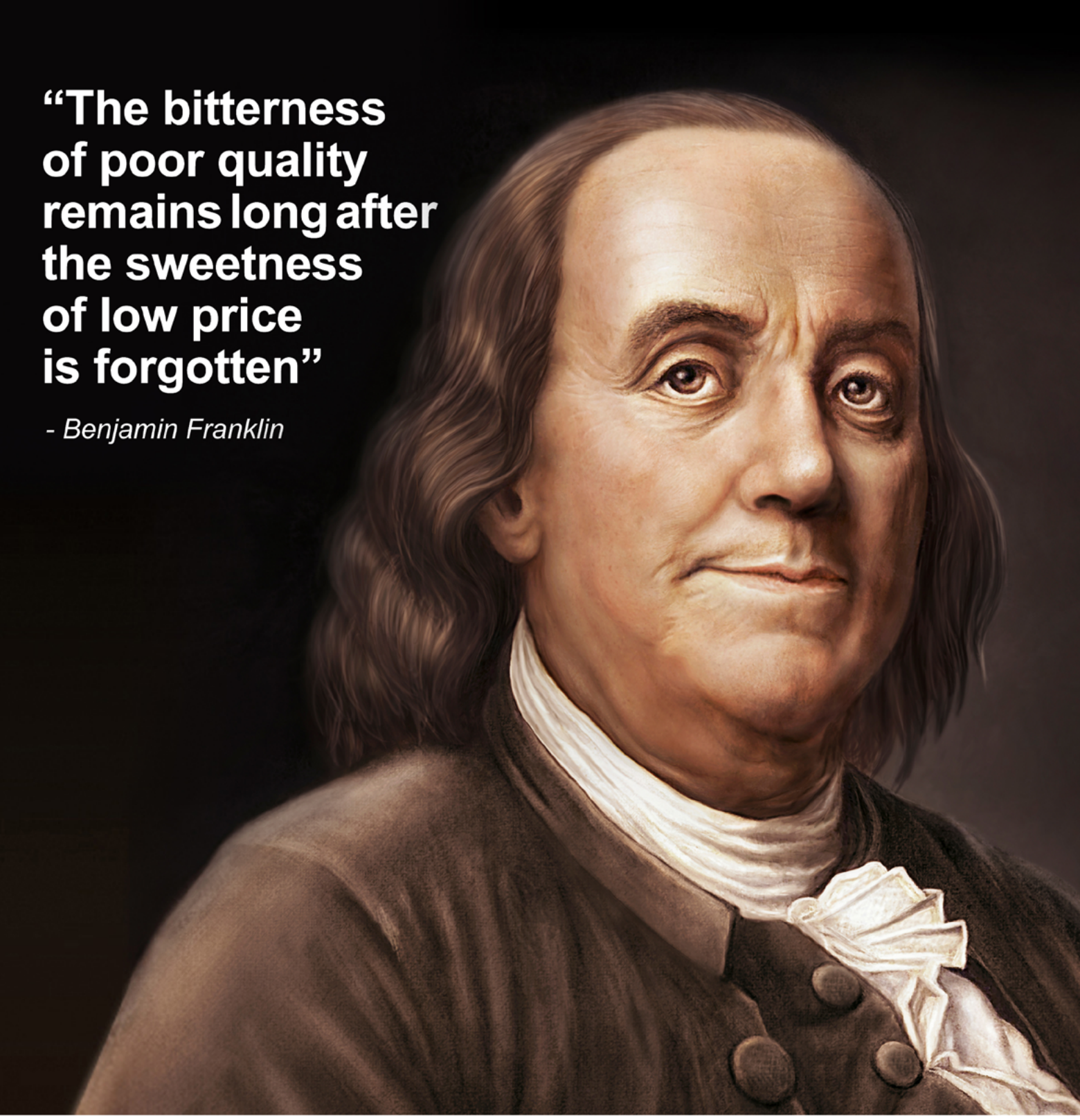
Offered through hosting providers, this Lync in a cloud based on Microsoft Lync Server 2010 Multitenant Hosting Pack reference architecture makes it possible for service providers to manage a large number of businesses, up to 50,000 total users across multiple tenants.

Simply put, VARs can offer hosted Lync as a managed service to their SMB customers, which gives these businesses a complete package of collaboration and voice services at a set cost per month – this means recurring monthly revenue for VARs. snom recently announced its snom UC desktop phones were selected to be part of the offer as the qualified endpoint for the hosted Lync solution. The entry-level snom 300 UC edition, snom 370 UC edition and the advanced snom 821 UC edition are tested and certified as Qualified for Microsoft Lync. In fact, these snom phones are the only currently-certified IP phones to operate with hosted Lync. The snom UC600 is a purpose built phone Optimized for Microsoft Lync that also operates with hosted Lync.

The snom 300 UC edition and snom UC600 are good fits for general office workers, while the 370 UC edition, with its large graphical, high-definition display, is ideal for business executives. The advanced snom 821 UC edition is also a great choice for executives and features a large, high-resolution color display, an integrated XML browser, wideband audio for enhanced audio quality and the built-in gigabit Ethernet switch for the latest network installations.

Telecommunications is undergoing a fundamental shift as traditional telephony communications merge with IT services to create a new generation of productivity-enhancing collaboration and communications business applications. With Microsoft Lync Server 2010 and Microsoft Lync Server 2010 Multitenant Pack for Partner Hosting, snom channel partners can ride this wave of change and deliver a solution that blends advanced IP telephony features from the telephony world with powerful collaboration and communication capabilities from the IT world to meet the needs of large and small businesses alike. Whether it is a mass multisite deployment in the enterprise or a smaller, single site implementation, snom UC edition phones can serve as the endpoints for voice access. This true convergence, in which telephony and IT come together, is the future of communications. Don't miss out!

Mike Storella is COO at snom (www.snom.com).



Ben would have loved Virtutone’s Quality!

Virtutone provides carrier-grade origination and termination services.

- Only white routes
- No 503 errors
- Rates as low as .003 in Canada
- Rates as low as .00072 in the United States

www.virtutone.com / 1.877.804.1645

Virtutone Networks Inc.

By Paula Bernier

Sansay Takes SBCs to the Next Level

Sansay Inc. opened for business a decade ago, bringing to market its high-performance session border controllers. Yet Sansay probably isn't the first name that comes to mind when you think SBC. But, company executives say, perhaps it should be – particularly if you're a service provider seeking a carrier-grade solution with top-drawer support, and a hardware and software warranty.

"We have spent our time and money where it matters – in product development and support," says Andy Voss, Sansay president and CEO. "If you didn't know about us until now, it's because we wanted to grow at a rate dictated by our ability to provide superb support vs. faster [growth] but compromising on service.

"Sansay grew by word of mouth based on a reputation for the best product and support in the business," he adds. "We are now ready to grow past the industry secret stage."

Voss is being humble in calling Sansay an industry secret. In fact, more than 300 organizations have Sansay appliances deployed in their networks. Sansay customers include domestic and international wholesale service providers; prepaid outfits; hosted voice application service operators; residential and business VoIP service providers; and inbound and outbound call centers, and call center traffic aggregators.

That includes AireSpring, which is using Sansay solutions to support its enterprise call center and wholesale SIP trunking services; Endstream Communications, LLC, a next-generation carrier and mobile apps provider; Impact Telecom, for which Sansay provides part of the underlying infrastructure for U.S. domestic wholesale termination services for high volume VoIP service providers; IPBell, which is leveraging Sansay technology to enable wholesale and retail service provider, and hosted business VoIP provider, operations; and VoIP Innovations, which has installed Sansay appliances in its wholesale DID footprint.

"Our customers generally are more demanding in terms of rapid customization of our products to their specific applications, thousands vs. hundreds of call set ups per second, ease of use of the products in the network, and ease of migration as the customers expand and add new revenue-generating services. Whereas Acme and Metaswitch SBCs' primary application is, or at least began, as something for subscriber-side applications, Sansay SBCs were designed to deal with the special demands of inter-carrier routing

Glen Gerhard, Jerry Ryner, Max Sheng and Andy Voss.

and expanded to include subscriber-side requirements. And, as will become increasingly evident over the next few years, Sansay has 10 years invested in what the company says is the perfect architecture for cloud-based, secure, high-performance voice, fax and video communications infrastructure.

Most service providers are by now aware that they require session border controllers for security, interoperability, least-cost routing, call admission control, CDR generation, and media handling, says Voss, adding that most VoIP-based providers have acquired SBCs or built their own.

"Our ideal scenario is when they got their education from working with another vendor, so they can be pleasantly surprised by the contrast when they engage with Sansay," adds Voss. "Many customers who come to us have had experience with other vendors in our category, and find they prefer Sansay's performance, price, ease of use and/or support. That's not to mention our approach of doing anything we can to help them thrive, which is a lot considering our teams' 17 years of developing and deploying what used to be called next-gen telecom infrastructure back when the prior generation of TDM solutions were still being deployed."

Sansay's VSXi VoIP SBCs can be deployed in the core or at the edge of a network to manage VoIP traffic between SIP proxies, SIP UAs, H.323 gateways, IP PBXs and H.323 gatekeepers. The company designed these appliances specifically to handle a high number of calls per second, deliver high availability, perform fast and sophisticated call routing, and enable rapid adaptation to changing network environments, explains Voss. A single VSXi node scales to 1200 cps and can support up to 25,000 sessions. Sixteen-node clusters of the appliances can scale to 19,200 cps and 400,000 sessions – and with what Sansay says is greater than 99.999 percent availability.

The appliances' routing tables and LCR capabilities optimize bandwidth costs in a variety of VoIP peering applications, allowing carriers to interconnect without requiring traditional Class 4 TDM switches in the call path. Replacing Class 4 functions including call routing, CDR generation, security and network privacy, the VSXi also acts as the billing switch between carriers at what Sansay says is a fraction of the cost. As a result, VoIP providers can move the peering function off softswitches and gatekeepers to make networks more secure and reliable, and a wide range of services more profitable.

In access applications, Sansay's VSXi VoIP session controller works in conjunction with Class 5 switches, feature servers and gateways, and enables differentiated services, interoperability and secure firewall/NAT/call admission control.

"Sansay has had a purpose-built architecture for standard Intel servers since commencing development in June 2002," says Voss, who with other former Nuera execs Jerry Ryner and Max Sheng established Sansay. "From our days at Nuera, developing carrier gateways and softswitches in the '90s, we started out at Sansay with an architecture that dealt with signaling, media and applications as separate functions that need to work well together – but with each customer having a specific set of requirements to optimize for their customers, facilities and traffic."

While market leader Acme Packet, and others like Metaswitch, are probably the names most frequently associated with the SBC space, Voss says he and his colleagues (Ryner, Sheng, and Glen Gerhand, Sansay's vice president of product management) think of those companies as the "new guys" in the VoIP infrastructure market. That's because Sansay executives have had extensive experience in this arena.

"Sansay was founded in 2002 by a founder and key technical executives from Nuera Communications," Voss elaborates. "Nuera was founded in 1995 to focus on VoIP gear for service providers and became known as the technology and market leader in service provider VoIP infrastructure – carrier-scale gateways, softswitches, signaling gateways.

"We deployed over $100 million worth of VoIP infrastructure there before Acme and others in our current SBC market were even founded," he continues.

But while Nuera had success, and attracted investments from such venerable companies as AT&T, Motorola, GE and Goldman Sachs, Voss adds that Sansay management took a different approach to getting the business up and running. For the first year and a half, Sansay ran as a "starve-up", then raised just enough outside capital to pay salaries for another year of development until the payments for the initial round of orders came rolling in, he says. The fact that management owns a majority of Sansay shares, he adds, allows the company to take a longer-term approach, and focus on customer satisfaction first and foremost.

"Our development is focused on standard Intel servers with tight change control over hardware components and drivers – same as we did at prior companies where we spent more than half our R&D budget building custom hardware," Voss says. "Now we cut inventory costs, focus all our R&D on features that benefit our customers, and we and they benefit from rapid increases in performance as we allow customers to migrate to faster hardware over the years for only the price of our servers – vs. having to purchase a new product."

This has been a winning formula for both Sansay and its customers.

The company, which has been profitable and cash positive since 2007, last year reported revenue of $5.1 million. That was a 50 percent increase from the previous year. And the company expects 2012 revenue of $10 million.

Voss says Sansay is seeing significant growth in wholesale, call center and dialer applications, and because of investments it made in recent years in development and interoperability certification, the company has experienced "dramatic growth" in access-side SBCs used by hosted voice application service providers. The company also has broadened its product portfolio to include routing and stateful, session-aware transcoding solutions.

Customers typically use Sansay technology initially to support 2,000 to 10,000 session deployments. But Sansay has customers that have grown to 50,000-session deployments and continue to expand rapidly, Voss says.

Given the team's experience at Nuera developing solutions for service providers with millions of subscribers, Voss adds, Sansay expects to be ready and able to support millions of concurrent call sessions per customer in the next several years.

By Paula Bernier

Differentiated Services

How Policy-based Networking is Advancing and Facing Challenges

Policy has become a central theme of networking recently, and as wireless service providers invest in their networks with new 4G technology, there is talk about their interest in bringing new value-added pricing and packaging of wireless services along for the ride. Policy, vendors in this realm say, can help them do all that. But just how to implement policy in the network infrastructure and to what extent wireless operators will leverage policy to offer differentiated services remains to be seen.

To date, network operators have used policy primarily as a stick as opposed to a carrot, indicates Chris King, senior director of product marketing at Oracle Communications.

"As carriers scramble to meet growing demand for data services, they are running into spectrum limitations, severely reducing the amount of total bandwidth they can offer subscribers," King notes. "This creates significant challenges for network operators working to ensure a problem-free service experience for existing customers as well as sufficient network capacity for new or upgrading customers. Further compounding this issue, consumers are increasingly turning to over-the-top providers, whose applications place an additional strain on the network while delivering little to no revenue to the CSP."

Indeed, 70 percent of mobile application revenues are going to over-the-top players and not to the operators, says Joanne Steinberg, director of strategic marketing of Tekelec.

Oracle's King adds that to overcome these challenges, many carriers have rolled out first-generation policy products that throttle users when they exceed bandwidth.

"These first generation 'punitive policy' solutions lack the flexibility and extensibility that CSPs require in today's competitive marketplace," King says. "What CSPs should implement is a flexible policy management solution that facilitates real-time, personalized policy controls, which help improve the customer experience. With this type of solution, CSPs can optimize data usage and ensure a fair allocation of network resources."

Service providers can benefit from the increased flexibility afforded by policy controls to create customized service plans that are tailored to each individual's mobile preferences, enhancing customer service and creating new, value-added revenue opportunities, he says, adding that it can also enable carriers to more easily implement and enforce regulatory requirements.

Jonathon Gordon, director of marketing at Allot Communications, says that his company has definitely noted some advancement since last year in service providers' innovation in charging and policy.

Steinberg of Tekelec agrees, noting that Telefonica offers structured mobile data plans based on subscribers and what applications they use. For example, you could have a social networking plan and pay $30 a month for Facebook and Twitter social networking, so the service provider would zero-rate those apps, but assign other services a quota, she says. Meanwhile, U.S. wireless operators have been using policy to define service tiers and shared data plans. That means they have to track how much bandwidth is used by multiple devices in the family, total that and match it to the service quota. There's a need for policy to enable that, she says.

Allot's Gordon adds that some service providers also are beginning to charge differently for video, or HD video, by using policy to ensure video doesn't buffer, for example. Gordon adds that it's really about improving the customer experience, and he notes that consumers wouldn't put up with buffering if they saw a movie at a theater.

To help its carrier customers move into differentiated mobile services, Allot in May announced plans to acquire Ortiva Wireless, which specializes in mobile video optimization. The incorporation of Ortiva's technology within the Allot Service Gateway will allow mobile service providers to manage the increasing volume of video traffic on their networks, which according to Allot's latest Global MobileTrends report represents 42 percent of mobile data traffic worldwide.

"This acquisition is an important building block in our Service Gateway vision," comments Rami Hadar, Allot's president and CEO.

But Gordon says it's still early days on this front for LTE.

"We're a little disappointed on how that's being priced," he says, noting that all-you-can-eat packages still dominate.

Tekelec's Steinberg says one challenge is that new policy requirements (related to VoLTE and IMS application control, for example) for LTE are someone different and more complex than the one we saw with 3G. Another challenge service providers have in implementing new services is that it sometimes just takes too long to launch policy to enable them, she adds. To address that, Tekelec outfitted its rules engine with preprogrammed, preconfigured, and table-based features that makes it easy to modify policy.

There's also the question as how best to implement policy from a network architecture perspective, adds Don Bowman, CTO of Sandvine.
Sandvine believes policy is something that should be done in the IP domain, as opposed to in the access router, he says. That's because if it's done in the access router, you need different policy for each kind of access – whether it's DSL, Wi-Fi, 3GPP wireless connectivity, or whatever, he explains. Supporting policy in the IP domain, meanwhile, allows for a consistent experience, and integrated and consistent analytics.

By Mohan Palat

Policy-enabled Session Management

Your Ticket to Cost Savings, Service Differentiation and Productivity

Integrating robust policy control and enforcement capability with session management provides service providers and enterprises with an opportunity to both make money and save on operating costs.

Policy includes policy control/management, policy enforcement and optionally policy databases. Policy control determines how policies/rules are applied to each SIP session or IP flow. This action is triggered by policy requests received from the policy enforcement element. The policy enforcement element enforces policies/rules on SIP sessions, IP flows, etc., which it receives from the policy control element. A policy database serves as the repository for policies. The policy control element queries the policy database, if necessary, to determine the policy. Example: No one in the office is allowed to access non-business related websites between the hours of 9 a.m. and 5 p.m. The list of restricted sites is contained in the policy database.

A robust session management solution should support both network policies and subscriber-level application policies on a per-session basis. When a subscriber initiates a SIP session, specific policies can be applied to the session based on the identity of the subscriber, the application invoked by the subscriber and the network conditions. Typically, these policies fall into three categories: local policy, static policy and dynamic policy.

A local policy can be thought of as a sub-set of static policy, and applies to one specific node/subscriber/location; for example, a company does not want to allow voice or video calls in the main conference room of the company's New York office. Or, it can be a policy applicable to a single PBX, UC device; for example, the UC terminal in the lobby does not allow video calls.

A static policy is one that is provisioned in a (static) policy database/repository. Session management does a lookup of the policy repository to determine the policies to be applied to a given session. For example, a subscriber invokes a SIP video session to stream videos from a content provider with restricted content; however, the session is blocked because the subscriber's profile does not allow access to restricted content.

A dynamic policy is one that can vary from session to session for a given subscriber. Dynamic policy may include dedicated policy applications running on top of (or as part of) the session management layer. For example, a subscriber initiates an intra-enterprise SIP voice call session; session management invokes a presence policy application that determines the current status of the called subscriber; and then it invokes a second location policy application (using service orchestration) to determine the current location of the called subscriber. Depending on the current location/status of the call request, specific policies are applied to the call request. Policies can include redirecting the call, blocking the call, sending the call to voicemail, etc.

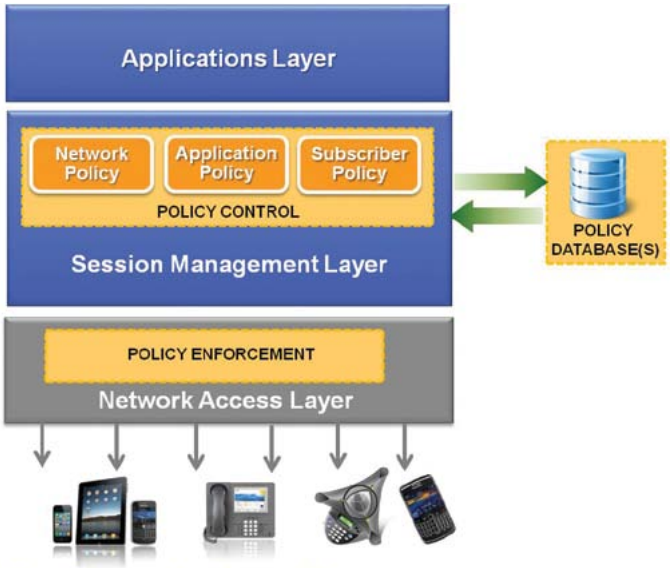


Fig.: Policy enabled Session Management

Network policy complements subscriber-level application policies, and in combination, they create a powerful policy solution for session-based services within enterprises. Network policies include intelligent network routing based on various criteria, session screening, session blocking, quality of service enforcement, call and number translation. A least cost routing engine can also be part of the network policy management solution. Network policy typically supports routing of sessions based on origination or destination numbers, destination location, session type, least cost, time of day or day of week, and/or QoS requirements.

A fully integrated policy solution for session management should include application policies, subscriber-level policies, and network policies. For example, a subscriber initiates a unified communications audio/video session with another subscriber; session management invokes the location policy application to determine the called subscriber's location; session management then invokes the network policy engine to determine the LCR to the subscriber based on their current location, as well as to apply QoS requirements to the audio/video session; and session management sets up the connection to the called subscriber.

Enterprises and service providers should consider deploying a policy-enabled session management solution in order to reduce cost and generate revenue. In a majority of the cases, this type of solution will fit into their existing network with minimal re-work and integration effort.

Mohan Palat is product marketing manager with Sonus Networks (www.sonus.net).

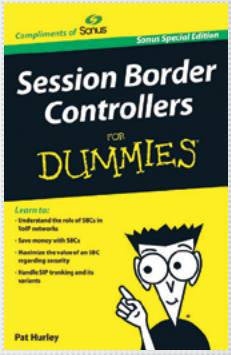
Making the Complex, Rather Simple.

Introducing the Sonus Session Border Controller 5100

The Sonus SBC 5100 delivers protection and simplicity to even the most intricate networks while reducing communication costs and opening up a world of Cloud-based Unified Communications. The Sonus SBC 5100 provides cost savings to medium and large enterprises through SIP trunking, remote worker access and opens up a world of Cloud-based applications. The purpose-built SBC 5100 easily handles 250 to 10,000 sessions, and just may be the most scalable, cost-efficient SBC available today. Maybe that's why Sonus SBCs are the fastest growing on the market.* Call **1-855-GO-SONUS** today.

Sonus®

Scan this QR code with your SmartPhone to receive a complimentary 'SBC for Dummies' ebook.



* Infonetics 1Q 2012 report "Service Provider VoIP and IMS Equipment and Subscribers

sonus.net

FCC Kicks off CAF

The Federal Communications Commission this spring launched the Connect America Fund, which is part of its reform effort related to the Universal Service Fund. "These reforms cut waste and imposed strict fiscal responsibility standards on the Fund, preventing it from growing beyond its current size," according to an FCC press release."Now, up to $300 million in savings from these and prior reforms will be targeted to quickly extend high-speed Internet to up to 400,000 previously unserved homes, business and anchor institutions in rural America."

Verizon Adds Control Plane, Metro 100G Technology

Verizon has built additional control plane technology into its network to enable electronic devices on its optical network to more easily communicate with each other. That, the company indicates, simplifies operations and allows for near real-time provisioning of specified new circuits. The company is leveraging the Ciena 5430 Reconfigurable Switching System on this front. The carrier also expects to extend 100G technology into its metro network worldwide during the first half of 2013. "By combining our expanded control plane capabilities with extended 100G technology, Verizon is building the network of the future," says Ihab Tarazi, vice president of global IP and transport planning and technology for Verizon. "It's no longer about miles and scope. It's about leveraging strategies that further enable us to deliver the promise of cloud-based and mobility-enabled industry solutions."

2012 'Pivotal' for 100G Design

Infonetics Research says this year "will be a pivotal year for 100G design activity, with many new equipment vendors fielding production equipment." That's the word from Andrew Schmitt, principal analyst for optical at Infonetics Research. "This will drive volume in the component world in 2013 as carriers reboot their optical networks and roll out all-coherent networks," he says. "In the meantime, 10G WDM interface growth continues with the tunable XFP playing the lead role, while 10G SFP+ volumes in the data center explode."

ADVA Allows for Dynamic Wavelength Switching

ADVA Optical Networking and the University of Essex have implemented the FSP 3000's OpenFlow technology to dynamically control wavelength-switched optical networks. The work was part of the OFELIA, which provides researchers with a software-defined networking testbed on which to experiment with new applications using a web-services approach. "SDN presents a tremendous opportunity for customers to streamline and automate network infrastructure and operations," says Christoph Glingener, CTO at ADVA. "While server and storage virtualization have been widely adopted, network virtualization is still in its infancy. SDN closes this gap by offering programmable network control, better scalability and faster adaption to virtual machine mobility. We have proven that SDN can seamlessly extend into the optical domain and enables network virtualization across multiple layers. The OpenFlow approach extends our existing SDN solution employing our RAYcontrol control plane."

Cambium Introduces Wireless Backhaul Solution

Cambium Networks has a new wireless backhaul solution called the PTP 810 that supports native E1/T1 and native Ethernet. The solution is aimed at carriers, utility, public safety and enterprise operators that want to migrate existing TDM traffic to an IP-based Ethernet network. It operates in the 6-38gHz RF bands and with user-configured channel bandwidths from 7 to 80mHz. It supports ACM, cross polarization Interference Cancellation (XPIC) and Ethernet link aggregation; T1/E1 and STM-1/OC-3 interfaces; and protected PDH Ring with built in T1/E1 cross point switch. And it scales to 700mbps full duplex.

Ceragon Wins Business in Florida

The Florida Rural Broadband Alliance has tapped Ceragon Networks Ltd. to supply it with high-capacity wireless backhaul point-to-point and point-to-multipoint solutions and last mile equipment. That includes Ceragon's FibeAir IP-10G and FibeAir 2500 wireless backhaul solutions. The deployment, a middle mile effort funded by federal broadband stimulus funds, will bring high-speed broadband service to unserved and underserved communities in 15 rural counties in Florida. The Florida Rural Broadband Alliance is a regional collaboration of local governments, community activists and economic development agencies in South Central Florida (Florida's Heartland REDI Inc.) and Northwest Florida (Opportunity Florida).

Infoblox Solution Addresses Social Media, Mobile

Infoblox Inc. now offers the 4030 DNS Caching Appliance, a dedicated, carrier-grade solution that can handle more than one million DNS queries per second. That's more than 25 times the performance of most legacy solutions, according to Infoblox. "Social media and mobile data are driving an explosion of DNS queries," says Kevin Dickson, vice president of product management at Infoblox. "To deliver the best online user experience, service providers are struggling to maintain an infrastructure that can handle the growing query volume and protect against malicious threats without cutting into their already razor thin operational margins. With superior performance, scalability, security, and manageability, Infoblox's new appliance is designed to directly address these challenges and deliver a fast and trusted end user Internet experience."

fōntəl inc.

YAMAHA ProjectPhone

Ease of Use - High Performance - Smart Design

The PJP -50USB is a conference microphone speaker with a built-in high performance echo canceller. When connected to a PC with a USB or audio cable, the PJP- 50USB enhances your softphone or Web conferencing system for a multiperson response that is as smooth as video conferencing. Eight of the PJP-50USB's high sensitivity microphones achieve equivalent or better audio pickup than twice the number of conventional mics. The PJP-50USB also supports HD audio codecs including AAC-LD.

fōntəl inc.

As the importer of the Yamaha ProjectPhone product line, Fontel is in the process of building a network of authorized Yamaha ProjectPhone resellers in the United States, Canada, and Central and South America. These high quality products with strong brand recognition, are positioned to support the ever growing IP web conferencing (audio and audio/video) markets.

800.238.0787 www.fontel.com

By John Carney

Advanced Security Integration

More Data Points Means Fewer Security Holes

There are two forms of security. The first is physical security, meaning physical access controls, and the second is cyber security, which deals with virus protection or the prevention of unauthorized network access. Companies must integrate both physical and cyber securities to better manage safety and intellectual property. As technology continues to develop, there are innovative and simple solutions used day-to-day within devices, to enhance security without incurring excessive expense.

Below are several ways to incorporate multiple forms of advanced authentication which do not require users to change their behavior, that significantly lower security risks;

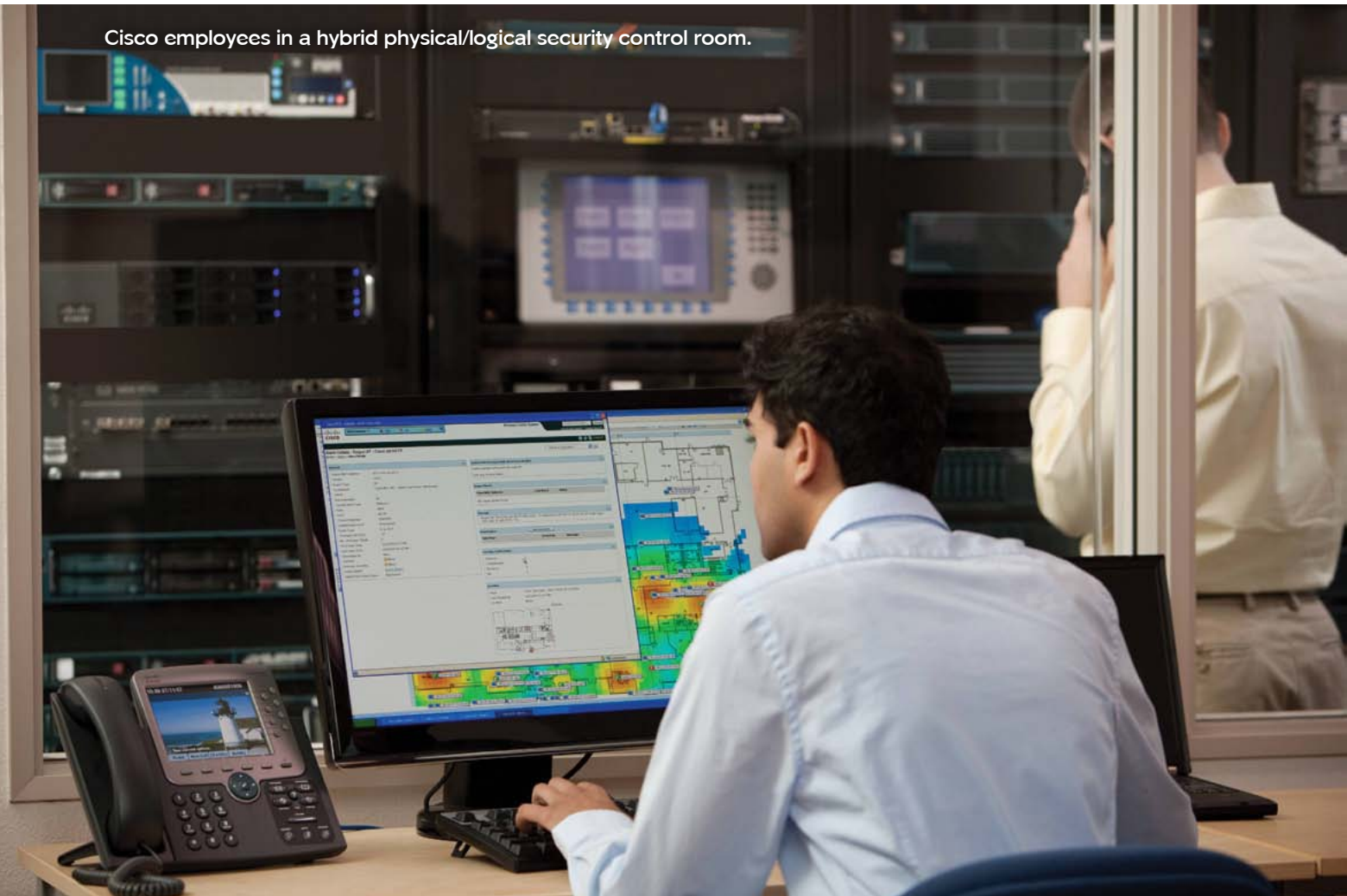
- increasing physical security measures when entering the building;
- tightening security policies for employees and guests inside buildings;
- isolating physical networks;
- increasing situational awareness through continuous monitoring of network, data, hardware, and personnel resources;
- using stronger authentication mechanisms (multi-factor authentication); and
- implementing an identity management system.

Before making security alterations to move toward the goal of integrating cyber and physical security, it is a good idea to assess and prioritize your company's security risks.

Risk Mitigation

Several factors can impact a security threat level, including how many people are in the building, who those people are, and where they are located when accessing sensitive information. These elements are known as data points, and understanding them creates better identification methods.

Location is one key factor in the risk mitigation picture and can be any of the following:



Cisco employees in a hybrid physical/logical security control room.

Contact Center Solutions

http://callcenterinfo.tmcnet.com/

Log On Today!

A Global Online Community sponsored by:

INTERACTIVE INTELLIGENCE®

Deliberately Innovative

Powered By: TMCnet.com

- a GPS coordinate;
- physical access such as a specific card reader or doorway;
- a hallway, office, classroom or store; and
- a large or square mile campus.

There are several "definitions" that can be used to identify location:

- physical blueprints;
- wireless location-based services;
- GPS satellites; and
- or a combination of the above.

Leveraging a user's location information can make it easier to safeguard data and assure compliance. Of course, it doesn't completely solve the security risk, as there remains the possibility that unauthorized visitors can obtain privileged information.

Although safety measures such as locks and security cameras are helpful when determining risk, other elements, such as photo identification cards enable increased data points.

ID Cards for Multi-Factor Authentication

Physical security identification is a relatively easy task, but individual identification for computers, such as voice and DNA recognition, is not an option. The higher number of data points available to recognize the individual or device significantly increases cyber security by lowering the possibility that the system grants unauthorized access.

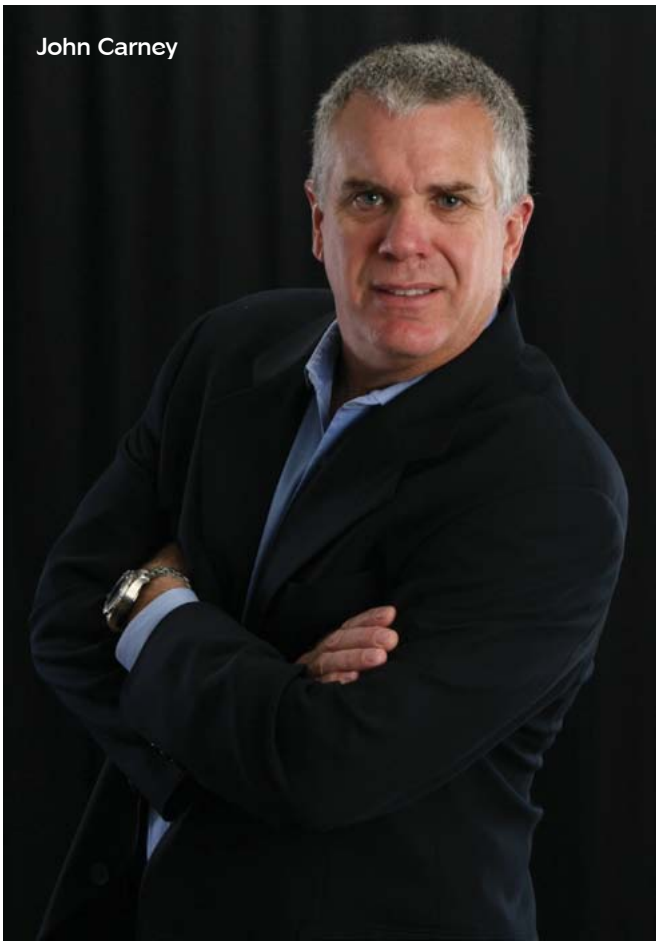
Many organizations require that employees wear ID cards to spot easily who belongs in the building. While the use of an ID is one way to reduce risk, there are many flaws involved with the sole use of an identification card. One such example that may arise is an employee leaving his or her ID card at home. In most cases, employees will not return home to retrieve their cards.

Problems also arise with a one-way entry system. Although it solves basic entrance problems, it leaves security holes, without the ability to track when an employee has exited the building. If employees are required to swipe their ID card to enter the building prior to allowing them network access, the network does not know when they have left, leaving those employees' network authorization and privileged information available, whether they are present or not.

While ID cards can patch holes in a security system, many possibilities for risk are still present, requiring a higher level of integration.

Integration with Existing Technology

Advancements in mobile devices incorporate multiple applications that are being used to fulfill business requirements. While mobile devices are usually seen as a risk to an enterprise, they also offer an opportunity for improved security. While employees may forget their IDs, they are less likely to forget their phones, and if they do they are more likely to return immediately to where they left it.


John Carney

By integrating smartphones with physical access, employees can walk up to doors and gain building access with their IDs (alerting the monitoring system of their arrival). Their phones location could then alert the system when and where to grant or deny their network ID access. Previously, the process was a single-factor authentication mechanism, the ID card, but now there are multiple steps, creating a multi-factor authentication mechanism, enhancing security without having to modify behavior, allowing for optimum efficiency.

As the system once only tracked employees' entrance into the building, it will now track their exit through their cell phones' location-based service. By adding this data point, the network is notified to deny further access to the network, dramatically decreasing security risks.

Of course, success is based on limiting the amount behavioral change required of employees. The more data points a company can capture through identity cards, smartphones and other tools to provide multi-level authentication, the greater the security of the organization and enterprise.

John Carney is senior manager of Cisco Government Practice (www.cisco.com).

Do You Own Your Customer?

Your company sells the technology. **Your company** installs it and trains the customer on how to best utilize and maximize it. If there is any caretaking required after the sale, **your company** does the moves, adds, changes, and Tier I tech support to keep the customer happy.

Why should your OEM technology partner reap the benefit of the recurring monthly revenue for **YOUR** Maintenance Contract on **YOUR** Customer?

STOP GIVING AWAY YOUR REVENUE AND YOUR CUSTOMER!

Siemens is a globally recognized technology and engineering leader. The OPENSCAPE OFFICE is the MOST ADVANCED Unified Communications / Telephony Platform in the market today, with tight Outlook Integration, Fax Server, Conference Server, and DOZENS of other UC features.

Intrigued? Contact the Technology Distributor Partner for OPENSCAPE OFFICE at 866-Go Sotel or partners@sotelsystems.com

Distribution Partner
Siemens Enterprise Communications
SIEMENS

19 Worthington Access Drive
Maryland Heights, MO 63043
www.sotelsystems.com

(314) 787-1800
(314) 787-1899 fax
(866) GoSoTel

SOTEL systems

Unified Communications

Alteva Promotes UC for Law Firms

Cloud-based technologies like Alteva's UC solution help streamline legal practices and business operations in firms of any size, helping to reduce costs and minimize delays to assure faster interaction with anyone important to the organization, even if they are not physically at the same location. That's the word from Alteva, which is promoting the following features of its UC solutions as being especially relevant to law firms. Alteva's Instant Messaging and Conferencing solutions, it says, provide a multitude of new ways to collaborate easily within a firm, regardless of where staff may be located – in a branch office, on the road or at the courthouse. Alteva Anywhere, a fixed mobile convergence solution, enables users to make and receive calls from any location, with only one phone number, one dial plan and one voice mailbox. Through its Unified Messaging and Interactive Voice Response Alteva enables users to receive voicemail as a .wav file in their e-mail and listen to them directly by clicking on the file, and forward them by e-mail or store them in client document files. Alteva Archive, anintegrated call recording product, is also a vital resource to law offices, the firm says, adding that Auto Attendant provides an around the clock virtual receptionist for the office.

CompTIA Study Points to the Cloud

Eighty percent of organizations perceive additional value with unified communications, yet a number of challenges are preventing organizations from expanding their use of UC. That's according to the Second Annual Unified Communications Market Trends study, conducted by the Computing Technology Industry Association. Challenges identified by the 500 IT and business executives responding to the March online survey by CompTIA include integrating new unified communications tools with existing technologies; calculating return on investment; and how to incorporate mobility, social networking, collaboration and videoconferencing. Employee uptake presents another challenge, as people tend to use only the UC functions – like e-mail and voice – with which they are familiar. As a result, CompTIA reports, organizations are turning to cloud systems and/or managed services; about 70 percent of those surveyed said that they will consider a cloud system or managed services model for their UC needs. "What we are most likely to see is a hybrid approach in many organizations, using the cloud for collaboration and web conferencing and on-premises infrastructure for data, voice and video," says Seth Robinson, CompTIA director of technology analysis.

Tone Intros Cloud-Based Service

Tone Software Corp.'s ReliaTel VoIP and UC Service Assurance solution is now available as a cloud-based management service. The service provides managed service providers and enterprises with the ability to manage VoIP QoS, network performance, and UC service levels. "Based on the cost efficiencies that the cloud architecture provides, we designed the ReliaTel Cloud-based Management Service to address pressing business and technical challenges facing both enterprises and MSPs today – namely the alignment of the organization's IT and financial resources with their business productivity goals and ROI expectations from advanced communications investments, notes Amit Kapoor, director of strategic technology for Tone.

BT Employs Cisco UC Security Solution

Cisco says its UC Gateway Services API can be used to detect and thwart malicious activity, including social engineering and identity theft scams, contact center account takeover fraud, unauthorized network access and service use, and telephony denial of service attacks. This advancement is important, notes Cisco, as global telecom fraud losses are estimated to be $40 billion annually, according to the Communications Fraud Control Association Telecom 2011 survey. Once malicious activity is detected, the Cisco UC Gateway Services API allows applications to apply appropriate policy action by the Cisco voice gateway, such as call termination, call redirection or call forking (for recording). The Cisco UC Gateway Services API is supported on the Cisco ISR G2 with the Cisco Unified Border Element for SIP trunks and Cisco TDM gateways for TDM trunks, both of which provide voice connectivity to the service provider. BT is the first service provider to take advantage of the Cisco UC Gateway Services API, which it's using to support the BT Assure Cloud Security Service.

OAISYS Joins SterlingVOICE Hosted VoIP Platform

OAISYS and Sterling Communications have joined forces to deliver a combined communications solution. "Sterling Communications has done an exceptional job of differentiating itself in a competitive market by providing their customers with a flexible, scalable and reliable hosted VoIP offering combined with a strong commitment to outstanding service and support," says Brian Spencer, president of OAISYS. "We look forward to enhancing that value proposition further with our call recording solutions and are eager to play an integral part in supporting their focus on creating total customer satisfaction." Tom Gillihan, president of Sterling Communications, adds: "The combination of our managed cloud-based SterlingVOICE communications system with OAISYS voice documentation and interaction management solutions addresses a growing demand for the more sophisticated and comprehensive feature functionality sought by SMB and mid-market customers."

MOH Minimizes On-Hold Hassles

MOH Technology AG, a solutions developer specializing in audio distribution and monitoring applications, has introduced an on-hold messaging solution that minimizes costs and simplifies insertion into VoIP phone systems. Thanks For Holding, which offers message-on-hold and related audio services worldwide, is the first company to deploy the solution. Thanks For Holding injects on-hold messaging directly into Cisco Unified Communications Manager (CallManager) systems operated by Kendall Auto Group of Alaska at dealerships in Fairbanks and Wasilla – with a third site in Anchorage nearing deployment. "The biggest challenge in our industry is the migration from analog telephones to the digital world," says Michael Newman, president of Thanks For Holding. "Cisco CallManager is the biggest and most robust digital phone system in the world today, and interfacing on-hold messaging to these systems has proven to be a challenge. The MOH Technology solution provides the telecom industry's first easy and effective way to distribute content to businesses that have migrated to CallManager systems."

Think you've seen the best of the cloud?

That's because you haven't met us yet.

1 month FREE – Promo code: TelephonyMag

2011 IMPACT AWARDS WINNER

SherWeb

Microsoft 2011 Hosting Partner of the Year

www.sherweb.com

By Susan Davis

Big Data Explosion – Overwhelming Burden or Competitive Asset?

For Telecommunications Providers, it Depends on the Database

Today's communications service providers are no strangers to big data. The explosive growth of mobile technologies, applications and related services over the last decade has prompted an equally explosive increase in the amount of telecommunications data being generated by billions of users around the world. Call detail records; network logs; as well as device, location and session information are quickly adding to the terabytes, petabytes and soon-to-be exabytes of data that CSPs now need to capture, track and analyze on behalf of their customers. In fact, Cisco's recently announced forecast for global mobile data growth predicts an 18-fold increase in traffic over the next five years, reaching 10.8 exabytes per month by 2016.

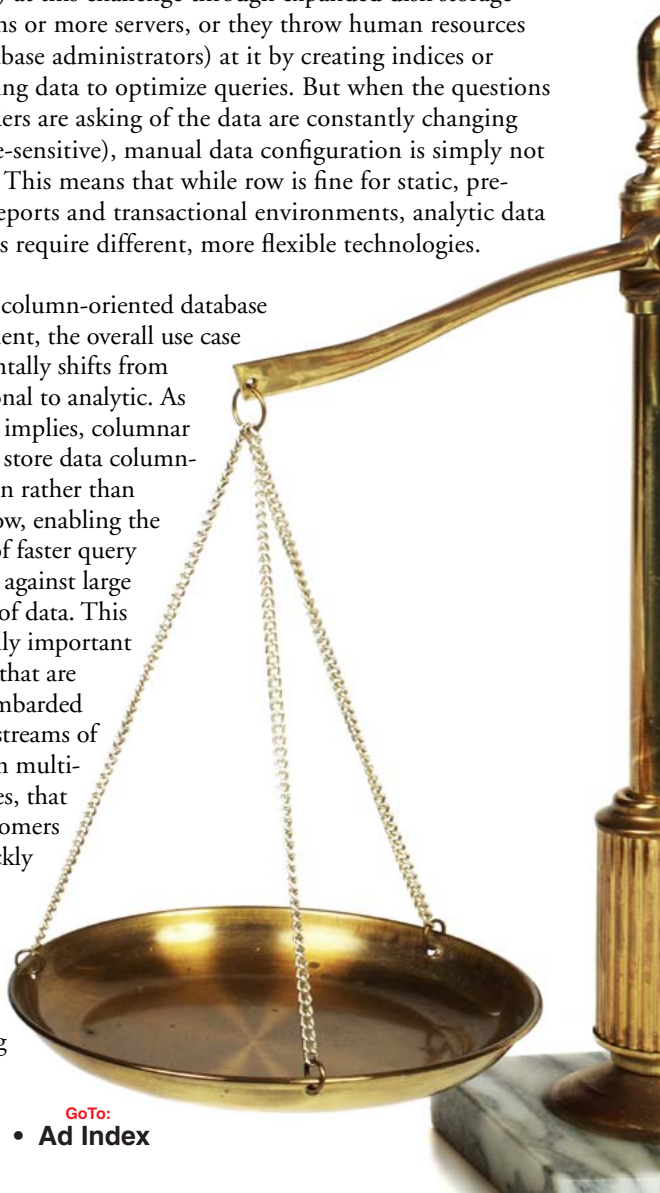
Managed efficiently, this type of machine-generated data can offer a treasure trove of intelligence that businesses can use to gain insights into things like subscriber behavior and customer churn, and to improve billing accuracy and service quality. But if your organization can't get a handle on the volume, dealing with telecommunications data can instead prove to be an expensive, resource-draining burden. A smart data management approach, especially when it comes to database selection, can have a big impact on the ability of a CSP to compete and thrive in the fast-paced and continually evolving telecommunications market. Here are several key considerations and trends worth following.

Row is not the only way to go. For a long time, the row-based database has been the standard approach to organizing data. Common examples include solutions from Oracle, MS SQL Server, DB2 and MySQL. When it comes to transactional requirements – billing and invoicing for example, or inventory management – these databases are a good fit. But they run into trouble when it comes to high-volume, high-speed analytics, especially when intelligence demands are dynamic and unpredictable. Why? Well, it's not what they were designed for. The nature of row-oriented databases means that all the columns associated with each row of data that's being analyzed need to be captured to run a specific query.

Say, for example, you want to find out which subscribers on the friends and family plan are Android users? Using a row database, you'd have to capture every column of data associated with each subscriber to run the query, even if many (or probably most) of the columns aren't relevant. In the case of the above example, this means that in addition to capturing data on the type of plan, device and subscriber identifiers like name and location, you'd also probably need to load data on the number of calls made by the subscriber, the number of calls received, the average length of call, data usage, apps purchased, billing information, etc. If you only have a few extra columns of data, this may not be a big problem. But what if you have hundreds? Multiply those 100-plus columns by millions of rows, and disk I/O becomes a substantial limiting factor.

All too often, organizations either throw money (and hardware) at this challenge through expanded disk storage subsystems or more servers, or they throw human resources (i.e., database administrators) at it by creating indices or partitioning data to optimize queries. But when the questions stakeholders are asking of the data are constantly changing (and time-sensitive), manual data configuration is simply not practical. This means that while row is fine for static, predefined reports and transactional environments, analytic data challenges require different, more flexible technologies.

Within a column-oriented database environment, the overall use case fundamentally shifts from transactional to analytic. As the name implies, columnar databases store data column-by-column rather than row-by-row, enabling the delivery of faster query responses against large amounts of data. This is especially important for CSPs that are being bombarded by rapid streams of data, from multiple sources, that their customers need quickly to ensure optimal service or to laser-target marketing efforts.



Most analytic queries only involve a subset of the columns in a table, so a columnar database has to retrieve much less data to answer a query than a row database. This simple pivot in perspective – looking down rather than across – has profound implications for analytic speed and efficiency. Most columnar databases also provide data compression, so in addition to improved query performance, they also require less storage hardware, which is important as data infrastructure becomes increasingly costly to scale, house power and maintain. Depending on the solution chosen and the mix of capabilities required, there are technologies out there that can achieve data compression of 20:1 or more. In particular, technologies that use knowledge about the data itself to intelligently isolate relevant information are especially worth looking into, as, combined with column-orientation, they can significantly accelerate analytic performance without requiring database administrators to create and maintain indexes, partition data, or build cubes or projections. Infobright's solution is based on columnar technologies, but we are not the only one. HP, ParAccel, and SAP/Sybase IQ also offer column-based analytic databases.

There are also a growing number of distributed approaches to querying large volumes of data, such as the Hadoop frameworks with MapReduce, which can be used independently of, or in conjunction with, columnar technologies. The net-net is that there are a lot of options now available (including open source solutions that are either free or available at a fraction of the cost of traditional tools) that can help CSPs analyze more data, much faster, with far fewer resources and less infrastructure required.

There's a reason that businesses use purpose-built technologies to address specific information challenges. Trying to force a solution to work for a problem it wasn't originally intended for can end up being a big time, money and resource drain in the long run. When it comes to telecommunication analytics, your database needs to be fast, flexible and both cost and resource efficient, especially if your company is serving the needs of multiple intelligence consumers.

Consider the example of Bango, a mobile billing and analytic service provider for mobile carriers and content providers. Bango offers data collection, campaign tracking, page tracking and other services so that its customers can better understand subscriber behavior, optimize mobile marketing campaigns and drive higher advertising rates. More than 1 billion user IDs and over 100 million authenticated mobile subscribers worldwide are identified by the Bango system, and as the company's business has grown, so has the amount of machine-generated data that needs to be stored, loaded and made available to its customers for analysis. In addition to online data such as page views and clicks, Bango tracks mobile-specific information such as device model, manufacturer, and user identity data. After signing one of its largest customers, the company sought a solution that could help it quickly and cost effectively scale its business while accommodating demand for fast, up-to-the-minute data analysis.

Bango's existing row-oriented database required that indexes be custom-tuned to specific queries to deliver fast performance. This more than doubled the size of the raw data, which in turn required more storage. My company, Infobright, worked with Bango to address both its data overload and query performance challenges.

Infobright's analytic database combines column-orientation with data compression capabilities, giving Bango the ability to quickly load massive amounts of mobile data and enable complex, ad-hoc queries in seconds without indexes, manual configuration or complex administration. By taking this approach, the company can support the analytic needs of its customers, both large and small, as the data keeps rolling in. For example, Bango was able to run a particular report in just 22 seconds vs. the five minutes the same analytic query used to take using MS SQL Server. Even more valuable, Bango is now able to analyze data volumes that its previous database wasn't able to query against at all, opening the door to insights that previously were impossible to obtain.

The challenges that Bango has overcome to provide its client base with timely, actionable intelligence in the face of the big data explosion parallel those faced by a number of CSPs. Like Bango, these businesses will increasingly turn to database solutions that are designed to handle the volume, speed and variability that epitomize information analysis in the telecommunications environment.

Susan Davis is vice president of marketing at Infobright (www.infobright.com).

Google Recruits HP Team Members

According to reports, key members of Hewlett-Packard's Enyo team, the HTML5-based app framework for webOS, are jumping ship to go to Google. Matias Duarte, the designer of the original webOS platform, reportedly now handles Android design at Google. Others on the move include Matt McNulty, who led the Enyo team.

Netflix Uses Open Source Software

In a June ZDnet blog David Chernicoff writes that "Netflix is taking the step of deploying its own Netflix Open Connect CDN with custom hardware deployed to ISPs who merit the need to have cached copies of the Netflix content at their datacenters." As part of Open Connect, Netflix's website states, the company also is sharing its hardware design and the open source software components of the server. "These designs are suitable for any other provider of large media files, and are very cost efficient," according to Netflix. "We welcome commentary and improvements, which will be shared with the community with the goal of a faster, less expensive Internet for all."

Kaazing Takes HTML5 Solution to Korea

Kaazing has introduced what it calls the world's first high-performance Web communication platform. Kaazing WebSocket Gateway "provides immediate data delivery with near-zero latency, eliminates costs associated with hardware, application server software, and network bandwidth usage, and allows desktop-class applications to run in browsers and on mobile devices, among other things." The platform leverages HTML5 WebSocket, a next-generation Web communications technology defined by Kaazing's founders in 2008. "With WebSocket going mainstream, this is a great time for Kaazing," Peter Lubbers, senior director of technical communication at Kaazing, recent told Carl Ford from Crossfire Media, a partner of INTERNET TELEPHONY parent company TMC. "Korea has a very advanced technology infrastructure and nearly everyone expects to have all applications and devices work in real time at the highest level of efficiency," says Manyoung Cho, CEO at Future Web Technology Labs. "Therefore it is critical for us to have broad access to the capabilities that the Kaazing platform makes possible. Because we always aim to be leaders in bringing important technologies to Korea, we are proud to be Kaazing's first Korean partner."

Zodiac Sees Good Uptake of Solution

Zodiac Interactive reports increased momentum in its PowerUp HTML5 platform's ability to accommodate multiple set-tops and new service provider environments. As of Jan. 1, 2012, Zodiac software platforms and applications supported more than 20 million users across North America. Introduced in spring 2011, the Zodiac PowerUp HTML5 Application and Services Platform delivers a web browser presentation engine coupled with a service layer to provide a rich authoring environment with full browser control of all systems and subsystems for IPTV infrastructures and set-top box application platforms such as tru2way, PowerTV, Linux and Motorola's GITV.

IT Reviews Wagstrom's 2012 Predictions

It's half way through 2012, so perhaps now is a good time to revisit some of the open source predictions made for this year. Here are a few offered up by Patrick Wagstrom, research staff member at IBM. To review his predictions: SOPA dies a bloody death; privacy regulations for children under 13 are revisited; major automobile software fault; Boxee calls it quits; GNOME falls apart; Netflix gets acquired and Reed Hastings gets fired; Go (the programming language from Google) gets a killer project; Android continues to grow, but not at the expense of iOS; Internet political meltdown; and shakeup at the Free Software Foundation. Here are some of his turn-of-the-year comments on GNOME: "With so many things on the web the operating system just doesn't matter as much. Combine this with fragmentation among the distros, thanks to Canonical being blockheaded with Unity, and formerly large sponsors dropping away from the project (Maemo, Meego, Tizen, who cares?), and I think that GNOME may reach the breaking point this year. Unfortunately, problems in GNOME will cascade to the rest of the Linux desktop world. By the way, did you hear that 2012 is the year of Linux desktop? Just like it has been every year since I started using the Linux desktop seventeen years ago. Ugh." And here are his comments on Go: "I think that Go programming language from Google has a lot of interesting concepts that make it [a] nice alternative to the current dominant languages of Java and C#. Unfortunately, it needs a killer project before people will start to use it (similar to Rails and Ruby). My guess is that this is the year that will happen. Expect Google to show off something big and cool at I/O in June that attracts tens of thousands new developers to the platform."

Open Source Expert Expounds on Preferences

Eric S Raymond, who says he wrote some of the foundational papers on open source development and maintains more than 40 open source projects and FAQs, recently posted a Q&A in which he discusses his tech preferences. In it, he notes his desktop setup details: "I like Model-M-style clicky keyboards (I'm typing on a Unicomp Model M). I prefer trackballs over mice and use a Logitech TrackMan. I like lots of vertical pixels for my Emacs window, so I'm rocking a Samsung SyncMaster 1100DF at 1800x1440 with 120dpi." And he discusses his software choices: "Ubuntu 11.10, but I loathe Unity and Gnome 3 (glossy, confining … that keeps taking more and more control away from me) and am thinking about bailing out. Have gone to XFCE over Ubuntu but might move to Arch Linux on my next machine. Most of my screen time is spent in a terminal emulator, Emacs, and Firefox."

SANGOMA

Gateway to VoIP

Your Migration to VoIP Starts Today

Vega 50
Analog or BRI gateway
2–10 ports

Vega 400
Digital gateway
Up to 4 E1/T1

Vega 5000
Analog gateway
16–50 FXS + 2 FXO ports

INNOVATION IN IP COMMUNICATIONS

Scan for more info on the Vega series (and a bonus whitepaper):
http://go.sangoma.com/wp/voip

facebook.com/SangomaTech twitter.com/Sangoma youtube.com/SangomaTechnologies

By Jon Nelson

Chelsea Piers Gets in the Game with Toshiba's Strata CIX

The Chelsea Piers Sports & Entertainment Complex is a 28-acre entertainment complex built on four historic Hudson River piers. Opened in 1995, Chelsea Piers features a variety of sports facilities, including rock climbing walls, batting cages, ice rinks, a golf driving range, a gymnastics center, a bowling center, indoor turf playing fields and basketball courts, a 150,000-square-foot health club, pro shops, TV production studios, marina, restaurants and more.

Stuart Sheinbaum, vice president and director of communications for Chelsea Piers, identified the need for a single business telephone system to handle the entire 28-acre facility; improved communication with direct-extension dialing, intercom, and paging across the entire facility; the ability to handle 20,000 average monthly incoming calls; unified communications – including caller ID, call history, and screen pops integrated with salesforce.com and the health club database – for the sales team; emergency support with battery backup and alarms; remote centralized management for adds, moves and changes; the ability to report trunk and port usage and track incoming/outgoing call volume; support growth over time; and provide an immediate return on investment and ongoing cost savings.

Chelsea Piers turned to Tele-Dynamics Voice & Data of New York City. Tele-Dynamics has been an Authorized Toshiba Dealer for nearly 30 years. Jerry Pullman, vice president of operations, and Robert Pullman, CEO, recommended Toshiba's Strata CIX IP business telephone system to meet Chelsea Piers' needs. Chelsea Piers has been a Tele-Dynamics and Toshiba customer since 1993. In addition, when Chelsea Piers searched for an additional phone system for its new 300,000-square-foot sports complex in Stamford, Conn., it looked at several options, and once again chose Toshiba and long-time vendor Teledynamics to do the job.

Installed by Tele-Dynamics Voice & Data, Chelsea Piers' Toshiba business telephone system consists of a Strata CIX1200 business telephone system, which provides telephone capabilities for five locations covering 28 acres, including offices, sports facilities, restaurants and more; more than 350 Toshiba telephones on site; a Strata Media Application Server; Call Manager for unified communications, plus screen pops integrated with salesforce.com and CSI database for the sales team; and Network eManager for centralized remote management of all systems.

The Strata CIX1200 IP business telephone system has met Chelsea Piers' communications objectives, including:

- standardizing all locations within the 28-acre facility on a single business telephone system;
- enabling four-digit dialing, intercom and paging across all locations;
- re-using existing fiber backbone for significant cost savings;
- reducing costs for service calls by enabling remote centralized administration of the system;
- protecting their original investment by migrating from an older Toshiba Legacy digital system to the new IP-converged Strata CIX, which allowed the re-use of telephone handsets and interface units, delivering a significant cost savings;
- eliminating costly Centrex lines, saving more than $50,000 annually; and
- providing an immediate return on investment as well as $26,000 in yearly savings.

As a result, Chelsea Piers now has a single business telephone system for its five cost centers across 28 acres. All five locations share a centralized voice mail system and low cost T-1 service as well as easy extension dialing throughout all locations.

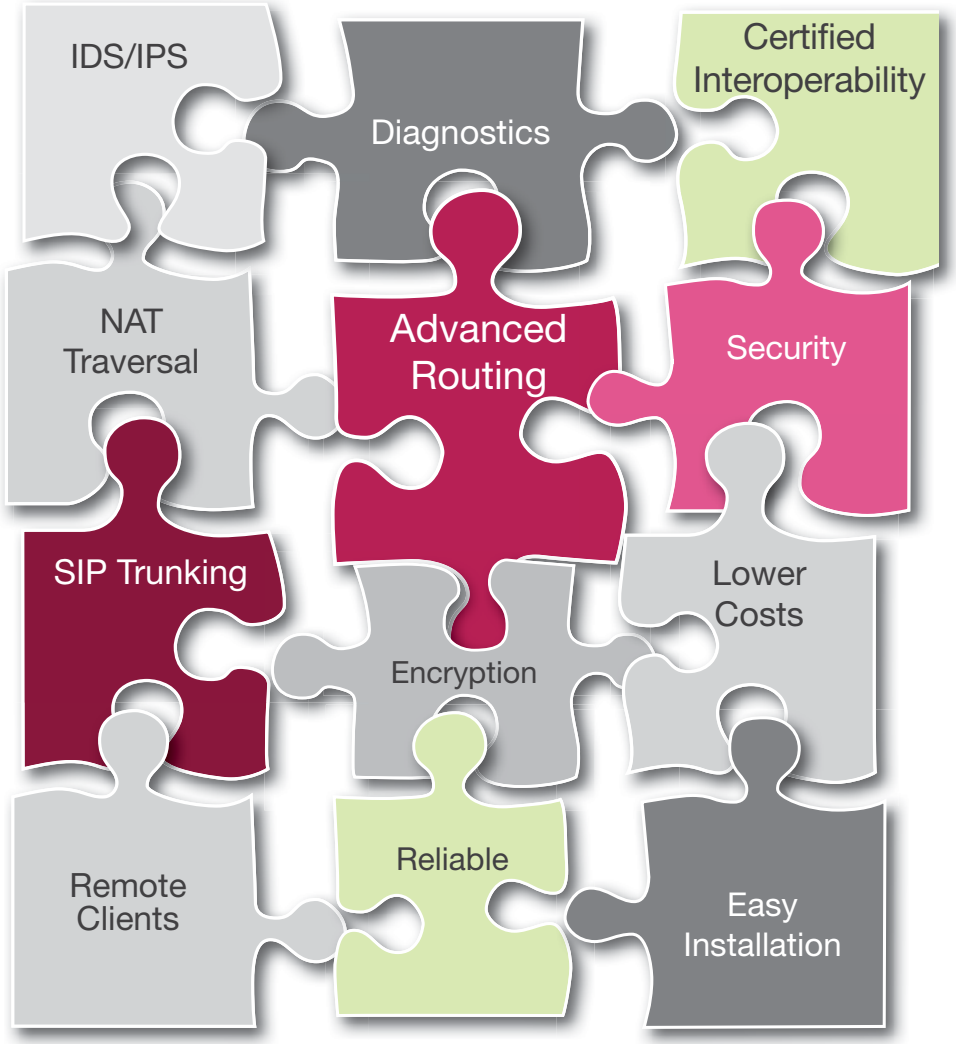
With the Strata CIX1200, Chelsea Piers also improved internal and external communications with four-digit dialing, intercom and paging services across the entire 28-acre facility. In addition, incoming calls can be routed to a live operator, so no call ever goes unanswered.

Using Toshiba's Network eManager remote administration tool, Chelsea Piers' IT team members can now remotely manage the entire telephone system from their laptop or desktop computers. They can easily make adds, moves and programming changes remotely for all five venues.

"Together, Toshiba and Tele-Dynamics delivered on our top three goals: standardization on an affordable, reliable platform; reduced business telephone costs; and the ability to self-administrate," says Sheinbaum. "It's a winning combination."

Jon Nelson is product marketing manager at Toshiba Telecom (www. telecom.toshiba.com).

Ingate Systems
Software-Only E-SBC solution



Our hardware or yours?

All the benefits of Ingate's E-SBC can now be installed on your own server or used as a virtualized application.

Software SIParator®,
Enabling SIP – Simply, Confidently and Economically.

BRINGING IT ALL TOGETHER

www.ingate.com

By Richard Bennett

A Spectrum Crisis Still Looms

In 2010, the FCC's National Broadband Plan predicted a "looming spectrum crisis" would begin to affect mobile broadband networks by 2013 unless the government took action to reallocate spectrum from legacy applications to commercial networks. Analysts cognizant of the growth in demand for mobile bandwidth brought about by the rise of the iPhone and the slow pace of advances in wireless efficiency agreed that action was warranted.

The historical pattern for bandwidth consumption tends to follow Moore's Law, doubling every 18 months, while increases in spectrum efficiency follow Cooper's Law, doubling every 30 months. Sending a video stream from a smartphone consumes 10 times the bandwidth of a voice call, and people were converting from dumb phones and feature phones to new devices that were more like small computers than telephones. Last year, smartphones outsold PCs for the first time, and it's likely the trend will continue.

Not surprisingly, NBP's recommendations were worrying to some. The U. S. government has assigned 2-300mHz more of the prime two-way frequencies to its own uses than have our counterparts in Europe. While the civilian agencies are generally willing to adapt applications to alternate technologies, the military and public safety establishments generally resist change.

Television broadcasters are aware that less than 15 percent of Americans rely on over-the-air TV signals, but fear that surrendering their broadcast rights will ultimately lead to the demise of the "must-carry" rules that line their coffers with cable system revenues. Advocates of free wireless networks fear that their nirvana will be squeezed out of existence before it's born if it becomes de rigueur to view spectrum strictly as a licensed and tradable commodity.

We haven't made significant progress toward the NBP's goals – 300mHz for mobile broadband by 2015 and an additional 200mHz for both fixed and mobile uses by 2020 – in the ensuing two years. LightSquared's efforts to repurpose mobile satellite spectrum for terrestrial networks were squelched by the DoD, the FAA, and the GPS lobby on dubious technical grounds, taking 40mHz off the table. Public safety demanded 20mHz for an LTE network of their own that won't end up being substantially different from anyone else's, and efforts to re-allocate federal spectrum in the 1755-1850 band are likely to stretch out for 10 years and carry a huge price tag. There have been some small victories with the 1755-1780 and 2155-2180 bands, but the overall trend is mixed.

Progress has been so slow that some pin their hopes solely on the promise of alternatives to spectrum politics such as opportunistic access and super-decoding radios that can share time, space, and frequency with active neighbors without experiencing packet loss. These are promising technologies that will probably be important elements of the mobile broadband networks of tomorrow, but this very claim was made 10 years ago. Contrary to Yogi Berra's opinion, predictions about the future aren't hard as long as we're relaxed about the timeline.

We're accustomed to coding systems such as CDMA that permit multiple transmitters to employ the same frequency at the same time, but these systems require coordination. Wi-Fi employs opportunistic access, but it's not collision-free or infinitely extensible in space. Space-division multiple access and multi-user MIMO systems relax these constraints but don't eliminate them, and coordinating faint GPS signals with adjacent terrestrial signals at much higher power levels requires knowledge of the neighbor's characteristics and constraints on both sides.

Even if we had fully robust radio systems ready for production that didn't suffer from analog limitations, the transition problem would be immense. A quick household inventory tells me that I own no less than 30 devices that signal over electromagnetic spectrum without the benefit of smart radio magic, and while I'm not the typical user there are probably two to three billion such devices in the U. S. alone. The transition from analog to digital TV took 15 years, so moving from dumb to smart decoders is easily a 30- to 50-year project.

We need to continue making progress toward better radios, smarter coding, smaller cells, unlicensed data offload, and all the other means of making radio networks more robust and efficient. Reallocating spectrum from legacy applications such as over-the-air TV and government video surveillance to general purpose commercial networks is a step in this direction.

Commercial networks are better at sharing spectrum among diverse groups of users and applications than any of the applications that were granted special spectrum dispensations by regulators before cellular networks emerged. There's no downside to redesigning government applications and improving DTV standards in any case. Even if the spectrum crunch were the biggest myth since Santa Claus, technical progress benefits from our acting on the assumption that it's real.

Richard Bennett is a senior research fellow with the Information Technology and Innovation Foundation (www.itif.org) and one of the original designers of Wi-Fi.

A NID is a NID is a NID. Right?

Not exactly.

Transition Networks' suite of carrier grade products are built to support the most stringent service level agreements (SLAs), while providing easy methods of provisioning and managing customer connections. The depth of the portfolio solves carrier needs for 3G and LTE Mobile Backhaul, Legacy Mobile Backhaul, Fiber Based Ethernet Services, Reclaiming Fiber Count, Maximizing Fiber Usage, and Aggregation of Metro Ethernet and Backhaul Services. Transition's product will revolutionize your networks with easy management, reduced OpEx & CapEx, enhanced network capacity, and reduced time to provision all while providing a higher availability of uptime.

www.transition.com/difference

TRANSITION NETWORKS®

24 hours/7 days a week
support worldwide
+1-952-941-7600
info@transition.com

YOUR NETWORK. OUR CONNECTION.

By Jeff Sharpe

Small Cell Security

How to Protect Traffic on New-Generation Wireless and Backhaul Networks

Wi-Fi and small cells represent new opportunities for mobile operators, but also come with new security risks that must be addressed. Given the extraordinary uptick in data consumption via 3G- and 4G-enabled devices such as smartphones and tablets, operators are investing in the next generation of small cells to enhance the benefits provided by microcells deployed in the late 1990s and early 2000s.

These new small cells allow operators to access additional spectrum, use existing spectrum more efficiently, and promote greater deployment flexibility, all at a lower cost. They also reduce radio access network build-out and backhaul investment, while improving the end user experience by providing increased access to mobile networks. In addition, because they can be held in the palm of one's hand, they reduce a base station's footprint and have less environmental impact in terms of power consumption and obtrusive objects in the public domain.

This next generation of small cells can be broken into four main types:

- 3G/4G femtocells for closed user groups;
- public access small cells;
- mobile operator-deployed Wi-Fi access points; and
- public Wi-Fi WLAN access points.

The specific security issues vary across each small cell type, but the solution can be found in variations of the same 3GPP security architecture, leveraging a carrier-grade, highly-scalable security gateway.

Common Security Vulnerabilities across Small Cells

When small cells, including Wi-Fi WLAN, are rolled out in volume, it will be into an increasingly IP-oriented mobile network environment where the security vulnerabilities are inevitably greater. Because most of these Wi-Fi and small cell deployments rely on an untrusted IP network, security risks increase for both control and user plane channels. For example, in cases where small cells need to leverage pre-existing fixed access networks for backhaul via a DSL connection, the mobile user's traffic is liable to be exposed to the untrusted open Internet environment, rather than managed end-to-end across the mobile operator's dedicated trusted facilities.

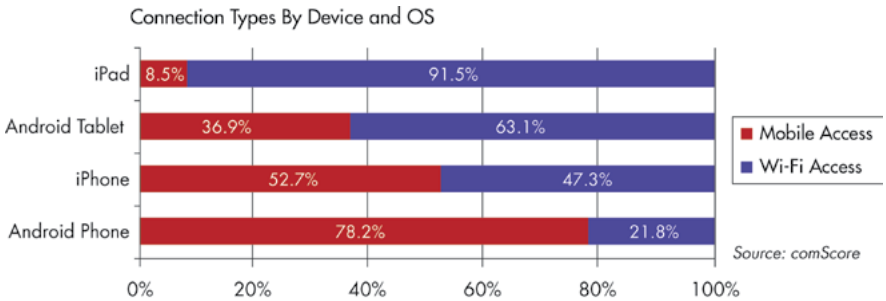
As a result, data encryption becomes increasingly important and challenging. For example, femtocell user traffic is no longer protected by 3GPP encryption, but is clear text that could potentially be intercepted. In LTE the 3GPP-mandated encryption terminates in the eNodeB but there is no native or embedded encryption in LTE between the eNodeB and the core of the network. Moreover, when encryption is terminated in the 3G public-access small cell, the operator needs to encrypt it again across the backhaul to secure it effectively.

In addition, because small cells are more likely to be deployed in a relatively open and accessible public place, such as a shopping mall, street light or other utility pole, they are easier for unauthorized parties to physically tamper with and potentially compromise. A public access small cell that has a radio-based backhaul that is a physically separate unit will have the additional vulnerability of possible interception of traffic in the wired or wireless communication path between the two devices.

While there will be very little difference in the security architectures that mobile operators use for femtocells, the greater disparity and complexity associated with deploying and managing public access small cells will give rise to a lot more variation in the security model that operators adopt as these are rolled out. For example, Wi-Fi has a unique set of security challenges that must be addressed.

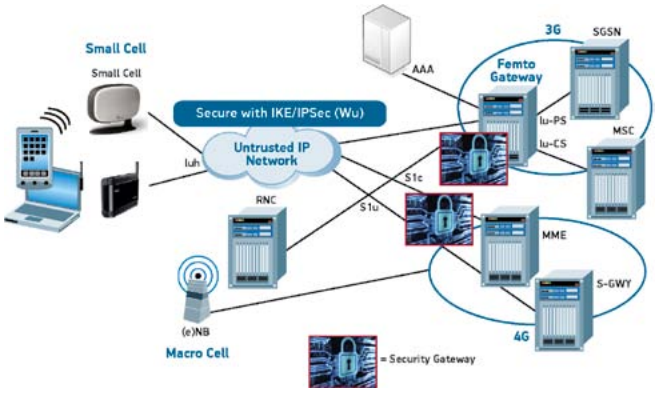
Trusted Wi-Fi Access

Because it operates in unlicensed spectrum that is more vulnerable to interference than licensed 3GPP spectrum, Wi-Fi has traditionally been considered something of a poor relation to licensed cellular radio standards in mobile operator circles. Mobile operators do have experience leveraging Wi-Fi, but it is typically as a parallel access network to the mobile network. However, Wi-Fi is popular with subscribers. According to the comScore data referring to the U.S. market in Q3 2011, customer smartphone usage is now split evenly between Wi-Fi and 3GPP access networks. Furthermore, the number of connections on AT&T's Wi-Fi networks has increased from 20 million in 2008 to 745 million by the end of the third quarter in 2011.

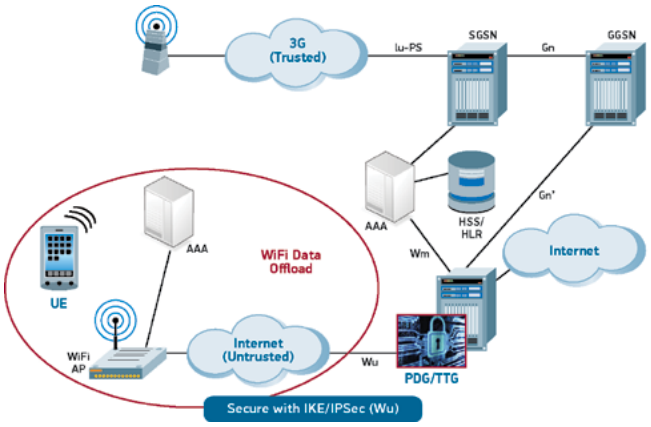


According to the comScore data referring to the U.S. market in the third quarter of 2011, customer smartphone usage is now split evenly between Wi-Fi and 3GPP access networks.

As a result, mobile operators around the world are looking again at how they use Wi-Fi to handle rising data traffic volumes and complement their service offerings. With its origins as a self-deployed home and enterprise access technology, security wasn't a key consideration in the evolution of Wi-Fi. The resulting ease with which countless numbers of users have had sensitive, personal information copied and stolen is well known, but a lot of work is being done to render Wi-Fi networking more secure in terms of both the user-facing air interface and the network-facing transport or backhaul service.



3GPP Interfaces for Small Cells



TTG / PDG Configuration for I-WLAN Untrusted Networks

3GPP Security Architecture Has Flexible Model for All Small Cell Types

3GPP's unique security architecture for small cells and Wi-Fi offload has proven to be highly secure, which is demonstrated through its successful support for the two million femtocells in service today. The key feature of 3GPP's femtocell security architecture is that it leverages the IPsec tunnel within the femtocell for encryption and authentication of traffic as it exits the femtocell and is transported across the access network. That tunnel is then unencrypted by a SEG in the operator's core network.

There is certainly an opportunity to reuse the same security gateway to terminate both femtocell and public-access small cell traffic. The operator can share the same security architecture across public and private domain small cells as well as the same physical equipment, providing it is able to scale sufficiently to support hundreds of thousands or even millions of subscribers. Because operators can reuse the same security infrastructure, the upfront investment is lower providing carriers with significant capex and opex savings.

SEGs and How They Function within Various Architectures

SEGs enable operators to support large numbers of concurrent, bi-directional IPsec tunnels on a stateful, high-availability system at the lowest possible cost per subscriber, while meeting the unique security challenges for each type of small cell. For example, a North American Tier 1 operator is implementing WLAN offloading and interworking with 3G and 4G, and a mobile operator in Asia with 35 million subscribers is using Wi-Fi to offload data traffic. Both carriers are securing their networks with an LTE SEG, which serves as a common platform in the 3GPP architecture and delivers turnkey tunnel terminating gateway and interworking wireless LAN functionality, providing the operators with significant advantages in leveraging different applications of the same platform for each of the small cell types. Now network equipment providers can offer their mobile carrier customers a multitude of security services on a single blade, including LTE network domain security, firewall and an evolutionary path to supporting packet data gateway technologies.

Key Requirements for 3GPP Security Gateways

Mobile operators need highly-scalable and cost-effective security solutions to protect their networks and subscribers as small cells are rolled out in volume in the home, enterprise and wide area public access markets. Carrier-class solutions are preferable to enterprise products, enabling the operator to support potentially large numbers of concurrent, bi-directional IPSec tunnels on a stateful, high-availability system, at the lowest possible cost per subscriber.

Key factors required from a 3GPP SEG to ensure rollout of small cells is accompanied by robust security are:

- carrier-grade availability and redundancy;
- full alignment with 3GPP standards;
- ease of integration into the existing network;
- high scalability and performance
- reuse of the security solution across multiple types of small cells, LTE and macrocells; and
- highly secure hardware and software architecture.

When purchasing a 3GPP SEG, the operator must recognize the location, the performance and the reuse of the software throughout the network. Having the SEG co-located or integrated with the primary elements in the mobile network infrastructure such as the radio network controller, GGSN or PDG is recommended for deployment. Because 3GPP-based public access small cells share many of the same vulnerabilities as closed user group femtocells, reusing the femtocell security architecture is a viable solution. For Wi-Fi small cells, 3GPP's I-WLAN standard specifies the use of an IPsec tunnel in the end user device as a means of securing what it defines as untrusted Wi-Fi traffic coming into the 3G core.

Jeff Sharpe is senior product line manager for Radisys (www.radisys.com).

MasterCard Expands Mobile Money Offerings

MasterCard this spring announced PayPass Wallet Services, which enable a consistent shopping experience no matter where and how consumers shop. The services consistent of PayPass Acceptance Network (PayPass Online and PayPass Contactless), PayPass Wallet andPayPass API. American Airlines and Barnes & Noble will be among the first merchant partners to incorporate the PayPass Online checkout button on their websites, and American will integrate PayPass Wallet into its mobile application.

FCC Releases Mobility Fund Details

The Federal Communications Commission in May announced the competitive bidding procedures for Phase I of the Mobility Fund, which aims to accelerate delivery of advanced mobile services to tens of thousands of road miles that currently lack 3G or 4G service. Winning bidders must deploy either 3G service within two years or 4G service within three years of the award. The Mobility Fund will award up to $300 million that was reserved out of savings from the commission's USF reforms.

Addressing LTE's Spectrum Sprawl

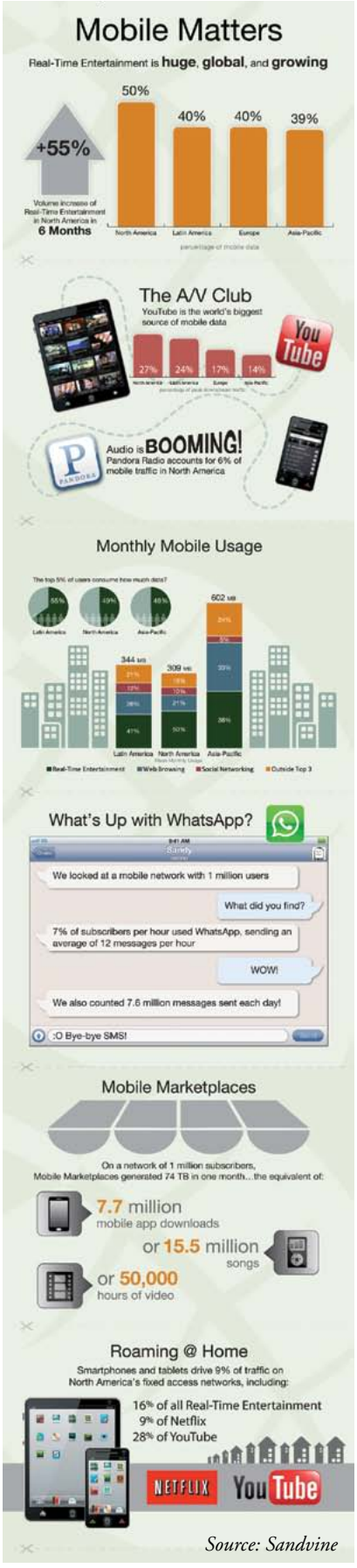
Worldwide roaming for LTE is going to be a tough row to hoe given worldwide spectrum for this 4G technology is all over the map. That's the word from Jeff Smith, CTO at M2M solution provider Numerex. He says that spectrum auctions may help, but that spectrum for LTE is nonetheless very spread out across the spectrum. That means wireless devices will increasingly have to be able to support multiple air interfaces, which adds expense, and that's a particular challenge for M2M given it is very price sensitive. However, Numerex and others are building boards that can host any air interface module, he says, adding that this is in a sense a precursor to software-defined radios, which Smith says are still seven to eight years out.

Almira Embraces Feature Phone Users

For all the growth and excitement around smartphones, there are still far more feature phones out there today. To enable service providers address all such endpoints, Almira Labs is introducing a collection of cloud-based services that don't require downloads and are accessible by calling a number. "Now every phone is an opportunity," says Almira Labs CEO and COO Javier Martin Lopez. Those services, which Almira delivers as part of revenue-sharing deal with carriers, can allow service providers to leverage and grow revenue from their legacy base of feature phone users. The offerings, being marketed under the name BrainPhone Store (although carriers can brand it however they like), are available worldwide. Vodafone in Spain is one of the early adopters, delivering a Voice2Email service through partnership with Almira Labs. Another service option available through Almira's cloud-based offering is voicemail to e-mail. There's also a service that provides the ability to use voice to update and communicate on social media.

BeQuick Targets MVNOs

BeQuick Software has unveiled a cloud-based billing and fulfillment solution called Fusion that's targeted at mobile virtual operators, resellers and agents that want to focus on selling their services rather than buying and maintaining a lot of back office systems. COO Steve McIntosh, who with his brother-in-law founded BeQuick, says Fusion addresses customer lifecycle from cradle to grave. That includes agent care, analytics, billing, CRM, e-commerce, fulfillment, order capture, and payment. And Fusion provides a single view of the subscriber. Jennifer Shin, BeQuick Software's director of business development, emphasizes that not only does Fusion address the entire customer lifecycle, it also gives companies greater insight into their operations, and access to that data allows MVNOs to make critical business decisions. Rockville, Md.-based MVNO Cintex Wireless is among the first users of Fusion. Cintex Wireless dropped its previous supplier and embraced the BeQuick solution. However, Shin notes, another option is for clients to introduce APIs so they can adopt BeQuick while keeping any back office systems they elect to keep in place.



comptel
FALL 2012 CONVENTION + EXPO
plus

THE HUB OF COMMUNICATIONS BUSINESS

OCTOBER 7-10, 2012

COMPTEL *PLUS* Fall 2012
Convention & EXPO

Gaylord Texan

Dallas

The COMPTEL *PLUS* Convention & EXPO is THE place to do business with innovative service providers and vendors in the competitive telecom industry.

- Diverse, Expanding Mix of Attendees
- Targeted at Decision Makers
- Wide Range of Exhibitors
- Extensive Networking Opportunities
- COMPTEL *PLUS* Business PLANner
- Expert Educational Agenda

www.comptelplus.org

By Tom Keating

Winners of the TMC Labs Innovation Awards Include the Latest and Greatest

Even though VoIP traces its roots back to 1996, it continues to be one of the hottest and most innovative technologies. It has even proven to be a game changer in the mobile phone arena. Viber, Skype for iOS and Android, and other mobile VoIP apps, are very popular. TMC Labs has enjoyed discovering and testing innovative products and services within the VoIP industry for several years, and one of the things we enjoy most is recognizing innovative VoIP products via the TMC Labs Innovation Awards.

2012 marks the 13th annual INTERNET TELEPHONY TMC Labs Innovation Awards, with several strong contenders in cloud, collaboration, unified communications, high bandwidth products and, of course, VoIP.

TMC Labs uses a rigorous process when selecting innovative products. This year, TMC Labs proudly bestows 14 companies with TMC Labs Innovation Awards.

WINNERS

Company	Product	Website
01 Communique	I'm In Touch Meeting	www.01com.com
Acme Packet	Net-Net SIP Multimedia-Xpress (SMX)	www.acmepacket.com
ADTRAN	ADTRAN Optical Networking Edge (ONE)	www.adtran.com
AVI-SPL	Unify ME VNOC Symphony	www.avispl.com
Digium	Switchvox 5.5	www.digium.com
Ensim Corp.	Ensim Unify Service Provider Edition	www.ensim.com
Grandstream Networks	GXP2124 Enterprise HD IP Telephone	www.grandstream.com
Knowlarity Communications Pvt. Ltd.	SuperCaller	www.knowlarity.com
M5, ShoreTel's Cloud Division	M5 Intelligence	www.m5.net
MRV Communications	Fiber Driver - High Density 10G Optical Transport Solution	www.mrv.com
Panasonic	Panasonic SIP KX-UT670 Smart Desk Phone	www.panasonic.com/sip
Radware	Radware's Attack Mitigation System (AMS)	www.radware.com
Symphony Teleca Corp.	m-Suite	www.symphonyteleca.com
Virtual PBX	Virtual PBX Complete with VoIP Anywhere	www.virtualpbx.com

THE COMMUNICATIONS & TECHNOLOGY MARKETPLACE

Workshops & Conference Sessions: October 2-5, 2012 • Exhibit Hall: October 3-5, 2012
Austin Convention Center • Austin, Texas

ALL ASPECTS OF TECHNOLOGY—ALL IN ONE PLACE

WWW.ITEXPO.COM

TMC Cloud COMMUNICATIONS EXPO

SUPER Wi-Fi SUMMIT

TMC Cloud4SMB EXPO

Synopsis under IP/Patents Telecom Sourcing Conference SUITS

CVX

TMC ITEXPO®

StartupCamp6 comms edition

EDUCATION • NETWORKING
PRODUCT DEMOS

HTML5 A DevCon5 Event SUMMIT

MSPAlliance MSPWORLD

LatinComm conference and expo

TMC MACHINE 2 MACHINE Evolution Conference & EXPO

TMC MOBILITY TECH Conference & Expo

Platinum Sponsors:

AVAYA · 8x8, Inc. · sansay · INTERACTIVE INTELLIGENCE · AudioCodes · NETXUSA · Sonus · digium

Gold Sponsors:

DoubleHorn COMMUNICATIONS · MegaPath · tw telecom · Vitelity · SANGOMA · SIP PRINT · snom VoIP phones

01 Communique Laboratory Inc.
I'm InTouch Meeting
www.imintouchmeeting.com

I'm InTouch Meeting allows users to collaborate, host online meetings, and share their desktops with up to 15 attendees while leveraging whiteboard, chat, VoIP, and a PSTN phone bridge. The audio from VoIP and PSTN callers is inter-mixed so VoIP callers can communicate with PSTN bridge callers and vice versa. Importantly, there is no need to have any software residing on either the host's (i.e. meeting moderator/presenter) or the attendees' computers since it is 100 percent on-demand browser based.

I'm InTouch Meeting features a shareable (concurrent) licensing model so that multiple users in an enterprise can share the same license. This makes is cost competitive against some of its competitors. It also features file transfer to/from the moderator and attendees and powerful administration and real-time attendee access rights control. Perhaps one of the most innovative features is the remote printing of documents from the moderator to the local printer of an attendee.

In addition, it supports detailed reporting features and robust management tools. You can schedule a group meeting online, search current and previous meetings, re-start adjourned online meetings, customize your invitation e-mail, generate statistical reports, create users, and access and manage your billing account. The solution also offers real-time granting/revoking of different access rights for an attendee (e.g. the right to do file transfer, the right to receive remote printing, the right to see the presenter's screen, the right to remote control the presenter's computer, the right to see who else are in the meeting, the right to chat, etc.). Unlike some competing solutions, the moderator can share his or her screen and give control to an attendee. In the last six months the company has added the mixing of VoIP and PSTN real-time audio chat sessions feature, improved the speed in the screen sharing, and added the ability to re-assign the presentation role to any of the attendees.

Acme Packet
Net-Net SIP Multimedia-Xpress (SMX)
www.acmepacket.com

The Acme Packet Net-Net SIP Multimedia-Xpress (SMX) is designed to handle small subscriber populations from initial service rollouts to large-scale IMS networks. It can start as low as 20,000 subscribers and can scale up to 250,000 subscribers per system. For larger deployments you can create a Net-Net SMX cluster using the Net-Net Session-aware Load Balancer to increase subscriber capacity up to two million subscribers per cluster. The solution is targeted at service providers that want to deploy a more cost-effective and less complex solution. Acme Packet explains, "IMS deployments are often burdened by complexity and cost, because of too many decomposed functions, products, and signaling interactions that slow network migration. The Acme Packet Net-Net SIP Multimedia-Xpress (SMX) combines IMS session management with leading session border control functions to reduce the complexity and cost to deliver high-value, revenue generating SIP multimedia services."

Net-Net SMX can be used to deliver a broad range of SIP-based services including consumer or business voice (over fixed line, 3G, 4G/LTE or Wi-Fi), rich communication suite (RCS and RCS-e), video chat and hosted unified communications services. The solution minimizes up-front cost and risk while providing a fully-standards-based IMS architecture that leverages the rich features and functions of Acme Packet's Access SBC, creating an integrated IMS service delivery solution. The company claims the solution reduces the cost of IMS infrastructure to approximately one to four dollars per subscriber.

Through standard interfaces including SNMP, SFTP, XML and SOAP, Net-Net Central also integrates with OSS/BSS ecosystems to deliver advanced service fulfillment, service assurance, billing and mediation. Acme Packet tells TMC Labs, "The SMX solution is the first product of its kind to provide IMS access, call session control, routing and interconnect functions all in a single platform, and is the only solution using a session border controller for the IMS core. With this increased simplicity, Acme Packet's solution is the most cost-effective and business-oriented product for IMS." Integrating the IMS core with the session border controller solves 70 to 80 percent of the IMS complexity changes and cuts service provider costs, according to Acme Packet.

In the last six months, Acme Packet has developed solutions that address over-the-top service providers, as well as wireline and wireless providers. The Net-Net SIP Multimedia-Xpress has also expanded services to support the development of voice over LTE.

ADTRAN Inc.
Optical Networking Edge (ONE)
www.adtran.com

The ADTRAN Optical Networking Edge (ONE) portfolio enables service providers to bridge the gap between network access and transport, leverage their installed base and extend the bandwidth efficiencies of the core all the way to the optical edge. ADTRAN explains, "In the past, parallel packet or circuit-based SONET networks would be constructed to ensure each new service did not impact the quality of another – a method that is not only expensive to build and manage, but limits scalability. ONE reaches beyond the delivery of high-performance optical services at the edge of the network, enabling service providers to eliminate the need for capital-intensive overlay builds to support 4G backhaul services." ADTRAN continues, "Through scalable

service separation, ONE allows providers to optimize their network assets and cost-effectively grow their overall addressable market opportunity in both mobile and residential backhaul applications. Moreover, in combination with the ADTRAN Advanced Operational Environment (AOE), ONE assures the stringent service level agreements required for high-quality broadband and cell-site backhaul services."

The web-based SLA monitoring tool and cell-optimized wavelength service capabilities ensure each type of traffic is guaranteed and provisioned as needed. The ADTRAN AOE provides its customers a means for efficient collection, proactive analysis and clear presentation of service and network data used to verify strict backhaul SLAs. The AOE Service Monitor tool provides intuitive, proactive reporting of SLA compliance status including customer bandwidth and ITU-T Y.1731-based performance statistics for one-way frame delay, delay variation and frame loss to sub-millisecond accuracies.

ADTRAN claims that ONE is the only solution on the market that combines legacy networks and services like SONET/SDH with advanced optical access services like gigabit Ethernet, Active Ethernet and GPON, with technologies more commonly found in core networks like DWDM, CWDM, scalable carrier Ethernet, OTN and ROADM. The advanced solutions, typical of core networks, have been edge-optimized so that they can be deployed with less capital and with only minimal training thereby improving deployment time and reducing costs. ONE is the only solution on the market that combines and accommodates packet optical transport system functions with advanced access technologies within a single device, while competing solutions require multiple boxes to terminate transport and access technologies. Further, with ONE's modular design, instead of a new box, operators can simply add a card into the system when necessary.

AVI-SPL
Unify ME VNOC Symphony
www.avispl.com

Unify ME VNOC Symphony is a managed service offering customers the ability to perform scheduling and management of videoconferencing endpoints and infrastructure using Apple iPhone, iPad, and BlackBerry smartphones. Conference hosts, owners and administrators can directly schedule and manage their systems through the touch-screen interfaces and intuitive GUIs. Using your mobile device or PC browser you can view scheduled conferences, view schedules for individual endpoints verifying availability, create meetings with both internal and external participants. You can also select a desired videoconference layout, such as 2x2 or 4x4 even-sized squares, or .uneven layouts such as 1x7 (one large square, seven smaller squares), and many other layout choices. The layout choices enable you to have the speaker featured in a large video square and the attendees in smaller squares.

In addition, you can view usage and performance reports – i.e. system usage, number of calls per system, conference type, and success rate. The platform also features a unique geo-spatial interactive map, which lets users see how many miles would have been needed to be traveled to conduct a specific scheduled meeting in person. Unify ME VNOC Symphony is available to customers using AVI-SPL's hosted or managed services for their videoconferencing needs. MCUs, gatekeepers, proxys, etc., can sit on premises or in the AVI-SPL VNOC.

AVI-SPL tells TMC Labs, "Many videoconferencing vendors have a management suite for their specific systems, but Unify ME VNOC Symphony is vendor agnostic. As long as the system is standards based, Unify ME VNOC Symphony can manage it. With Unify ME VNOC Symphony, scheduling and management of calendars are now in the hands of the users. No longer do people need to hope a system is working or available when they schedule a meeting. They have this knowledge at their fingertips with a few simple steps."

The current version of VNOC Symphony 2.5 was recently released with many new customer requested interface changes to include the addition of many VNOC facing support tools like VNOC Maestro, which allows technicians to view over 75-live statistics within a video conference.

Digium Inc.
Switchvox 5.5
www.digium.com

Digium practically invented the open source telephony movement when the company launched Asterisk in 1999. The organization has continued to innovate. and made a smart acquisition of Switchvox back in 2007. Five years later, Switchvox 5.5 now has extensive unified communications features, and version 5.5 now works with Digium's new family of HD IP phones. Importantly, its plethora of features is offered at an affordable price that SMBs require.

Switchvox 5.5 is built on Asterisk and offers a comprehensive communications solution for small and mid-sized businesses. This unified communications system integrates all office communications, including phone, fax, chat and web mashups. You can access call queues, view presence, and see the applications you need right on your desk phone.

The Digium Phone Management is a key component, and it includes auto-discovery, auto-provisioning of the Digium phones as well as simple installation. It offers complete control of the IP endpoint with changes that can occur in real time, without having to reboot the phone, thus saving the customer time and eliminating service interruptions. There is also "application integration" with the Digium phones. Users can see call queue statistics, access parked calls easily, see real-time status/presence information about callers, and completely manage voicemail messages with visual voicemail.

Digium tells TMC Labs, "We've integrated a unique web-based Switchboard in Switchvox. It is supported on any browser and allows people access to real-time presence, drag-and-drop transfer, mobile phone numbers, call queues, call recording, monitor, whisper, barge as well as the personalized phonebooks, the internal directory and call parking. Not to mention, users can add other web mashups easily such as CRM integration and more. This is available at no extra cost to every user of Switchvox. Users have access to more than 300 API methods within Switchvox, allowing them to integrate other application with the IVR, call reports, and more.

Ensim Corp.
Ensim Unify Service Provider Edition
www.ensim.com

Ensim Unify Service Provider Edition enables service providers to rapidly deliver, bundle, and differentiate hosted services at lower cost and higher ARPU. Ensim Unify provides a centralized, relational platform that manages creation, activation, configuration, and administration of an entire hosted application and service offering. It works with or without HMC and MPS components and easily overlays any existing HMC, competitor, or self-built Microsoft-based hosting environment. It supports connectors for over 40 applications and services and the ability to add custom connectors via its SDK. Service providers can easily connect to any billing system or other OSS/BSS/SDP systems via web services (XML/SOAP) and offer hosted applications from their own data center or cloud-based services from third-party providers.

Based on a modular, scalable, extensible, carrier-grade architecture, Ensim Unify is designed to address the most critical operational challenges in deploying and managing hosted applications and services. Ensim Unify service delivery platform enables service providers to centrally create, control, and deliver hosted IP and application services for improved deployment times. With the latest release, Ensim Unify Service Provider is the only control panel that provides full management and provisioning for Microsoft Lync Server 2010 and the Multitenant Pack for Partner Hosting. Ensim Unify offers four fully internationalized web management portals including service provider, reseller, organization, and end user. Lastly, it includes the ability to support a wide range of cloud desktop, computing, and application management applications from Citrix, VMware, and Microsoft.

Grandstream Networks
GXP2124 Enterprise HD IP Telephone
www.grandstream.com

TMC Labs has always viewed Grandstream's products as being the best bang for the buck due to their advanced feature sets and affordable prices. We might even argue Grandstream has been a major force in driving down the costs of everything from VoIP ATAs to IP phones to IP cameras. The new GXP2124 Enterprise HD IP Telephone is no exception with a list price of $169.

The GXP2124 is the first HD telephone from Grandstream with electronic hook switch support for Plantronics headsets. Users can answer and end calls using only the button on the headset, eliminating the need to touch the desktop phone. Features includes four line keys with up to four SIP accounts, 24 speed-dial/BLF keys, expanded native language support, and five-way conference. It also has context-sensitive XML programmable keys and up to 32 call appearances. It sports a 240x120 backlit graphical LCD with up to eight level grayscale and dual 10/100mbps Ethernet ports with PoE. This truly is an international IP phone with support for multiple native languages including Chinese, English, French, German, Greek, Italian, Japanese, Korean, Portuguese, Russian, and Spanish.

Most mid-range to higher-end IP phones now include HD wideband audio, and this phone is no exception. It also features a full-duplex speakerphone with advanced acoustic echo cancellation. It is able to perform a five-way conference by leveraging the excellent audio performance of DSP Group's XciteR chipset. One advanced feature is it supports personalized application services such as weather, stocks, currency, RSS feeds, music ring tones, music streaming, and more. The phonebook supports up to 2,000 contacts, and the call history holds up to 500 records, both of which are more than those supported by many IP phones. It also has advanced security protection (TLS/SRTP/HTTPS/802.1x) and auto provisioning (TR-069, HTTPS, and AES encrypted XML configuration file).

Knowlarity Communications Pvt. Ltd.
SuperCaller
www.knowlarity.com

Knowlarity makes business telephony intelligent and accessible for SME in emerging markets by providing cloud-based telephony solutions. Cloud telephony-based products replace on-premises hardware-based telephony solutions, which require hardware setup, maintenance and up-front costs. Knowlarity's solutions offer pay-as-you-go pricing and target both enterprise and SMEs. Knowlarity provides a suite of hosted voice applications for call tracking, call notifications, call forwarding, call automation and interactive voice response. These technologies help businesses manage, measure and automate voice communications.

Knowlarity was incorporated in August 2009 and in the short span of two years has grown from a garage startup to a 200-plus people company with revenues in the several million dollar range and with more than 40,000 customers in India.

Its product suite consists of SuperFax, SuperReceptionist (hosted PBX), PhoneAll (instant blast message to group or instant multi-party conference), SuperConference (conference bridge dial-in), and SuperCaller. SuperCaller is a hosted IVR solution linked to an inbound phone number; alternately, it can be used in outgoing calls and can support a large (1,000-plus) number of simultaneous connections for both outgoing and incoming calls.

Customers only require mobile or landlines to use their services, with no setup or hardware installation required at customer premises. This is a major factor in the company's success in emerging markets.

The platform can generate hundreds of outbound calls and then transfer them to an IVR where it asks questions and stores the answers. Some of the features include Indian accented text to speech, real-time MIS reports, API for integration with software or database, schedule start and end time for a campaign, as well as retry time.

One application the company developed is a police helpline for Madhya Pradesh government, which allows any person from anywhere in the state to register a complaint over the phone. The system senses the location of the person and connects to the police station that has jurisdiction there. On the other side of the call is the police officer responsible for registering the complaint. The complaint gets registered with the voice signature of both the police officer and the person who is making the complaint. This solution allows audio logging of complaints and a definite proof through the voice signatures of the police officer that the complaint was actually registered. M.P. government is using the solution to address corruption and improve turn-around times in resolving complaints.

M5, ShoreTel's Cloud Division
M5 Intelligence
www.M5.net

M5 offers a cloud-based business phone system along with several hosted applications to improve customer service and measure important business metrics. M5 Intelligence is a hosted application that includes phone-based business intelligence and analytics that can be assessed using detailed reports and customized dashboards. M5 explains, "One powerful example is the Live Answer Service Metric. Do you know how often a client or prospect calls your business, but is unable to reach a real person? With most phone systems, this key figure is difficult to uncover outside of the call center. That's why M5 provides the Live Answer Service Metric as part of our M5 Intelligence package. Customers tell exactly how many calls reach a live person, regardless of which line is called or how many auto-attendants are used to direct the call. This sophisticated, but easy-to-use KPI lets you understand this vital statistic for your whole company or for any individual phone number."

From the web portal, administrators can manage authorized contacts and assign phone system roles, log and track service request tickets with M5 Support, manage connectivity and continuity, run detailed call reports, edit ring groups, manage 911 addresses, see current invoices and access billing history, and more. From a user perspective, they can specify personal find me/follow me controls to utilize mobile devices and home phones, enable incoming call screen pops to see who is trying to phone and choose to answer or send the call to voicemail, and remotely check voicemail and forward messages to coworkers. One innovative feature allows users to set personal disaster recovery preferences to designate where calls should go in the event of an outage. It also supports click-to-dial dialing of contacts via the web directory.

The platform is able to track and report on each leg of a call, regardless of whether the caller called an auto-attendant, hunt group or direct inbound dial. This technology also tracks calls that were routed outside the phone system to a cell phone or PSTN legs. M5 states, "We are the first to offer this type of detailed reporting outside of the contact center. Our ability to report on calls to get a true measure service, regardless of the call path or number dialed, is the first of its kind for the enterprise."

MRV Communications
Fiber Driver - High Density 10G Optical Transport Solution
www.mrv.com

MRV's Fiber Driver – High Density 10G Transport Solution enables service providers, data center collocation companies, Internet exchange carriers, web service companies, cloud and content providers, and large enterprise data centers to meet today's need for the cost-effective optical transmission of 800gbps over fiber across metropolitan areas. The Fiber Driver has been chosen as the solution of choice by top Fortune 500 cloud providers such as Amazon Web service to connect their data centers. MRV's Fiber Driver – High Density 10G Transport Solution claims to be the industry's highest density and power efficient for 10G services per minimal rack space; however, ADVA, Ciena, Cisco and Cyan are considered competitors.

The solution's primary target market includes content distribution network providers and cloud networking providers looking for high density, 40-80 channels of 10G, achieving the enormous capacity of 800gbps between their data centers. The Fiber Driver is also targeted at users with lower channel counts, including Tier 3 and small Tier 2 ISPs/CLECs; data center co-location (multi-tenant) companies; multi-building enterprises such as utility and health care dark fiber data centers; and college and university campuses.

The Fiber Driver also packs up to 80 high-speed channels of 10G transport in just 11U of rack space, resulting in up to 75 percent space savings and up to 90 percent in power savings. According to MRV, it has an excellent Telecommunications Equipment Energy Efficiency Rating (a Verizon standard) of 10.28 to 10.55 (on a scale of 1-10), while delivering eight times the bandwidth at 25 percent of the power consumption.

Panasonic
Panasonic SIP KX-UT670 Smart Desk Phone
www.panasonic.com/sip

Released earlier this year, the Panasonic SIP KX-UT670 Smart Desk Phone features a 7-inch color LCD touch screen and an open source-based operating system that is programmable in Java. Companies can utilize a variety of business-friendly applications or develop ones that are specifically designed to fit their needs. Applications can be easily loaded onto the phone using the built-in SD memory card slot. It also features web browsing, e-mail, and the ability to check daily calendar appointments with third-party applications. It even supports Adobe Flash web content.

Through the use of the high-quality video (H.264/720P) viewer and up to 16 integrated Panasonic Network Security Cameras, managers in retail environments can discreetly monitor a store from a back office or from home via a desk phone. Users can choose a specific camera feed to view or opt for all feeds to run sequentially on the LCD screen.

In the education vertical market, school faculty and authorities can monitor potential emergency situations in classrooms from a secure area by viewing live video on the phone from Panasonic's PTZ network video cameras. Users can control integrated cameras' pan, tilt and zoom functions directly from the phone's screen. The KX-UT670 is the first SIP-based phone to integrate with 16 network cameras allowing it to truly become a security monitoring device as well as a phone.

Other vertical use cases are in the health care and hospitality fields, where the KX-UT670 phone gives users the ability to develop applications to enhance business operations and could include applications such as nurse call systems and easy ordering from a touch screen for room service.

Features include two Gigabit Ethernet (GbE) ports, Power over Ethernet (PoE), full duplex speaker phone, Bluetooth, electronic hookswitch, 6 SIP accounts, HD audio (G.722), 32 ringtones, 3-way conference call support, phonebook, long handset cords, wall mounting option and a changeable angle stand. Lastly, you can surf the web while talking on the phone, which some competing products do not support.

Radware
Radware's Attack Mitigation System (AMS)
www.radware.com

Radware's Attack Mitigation System (AMS) is a security solution for cloud service provider infrastructure and data center protection. AMS is a real-time network and application attack mitigation solution that protects the application infrastructure against network and application downtime, application vulnerability exploitation, malware spread, information theft, web service attacks and web defacement. Radware's Attack Mitigation System contains three layers, including a protections layer, security risk management, and emergency response team.

The protections layer is a set of security modules including denial-of-service protection, network behavioral analysis, intrusion prevention system, reputation engine and web application firewall – to safeguard a CSP's infrastructure (billing, DNS, AAA, web portals, VI, etc.), network, and servers against known and emerging network security threats. The security risk management features built-in security event and information management collecting and analyzing events from all modules to provide enterprise-view situational awareness. Lastly, the ERT is comprised of knowledgeable and specialized security experts who provide 24x7 instantaneous services for customers facing a denial-of-service attack in order to restore network and service operational status. Radware ERT brings real-life experience in attack mitigation together with product expertise for best system tuning while under attack, as well as support and training of the CSP security team.

In the education vertical market, school faculty and authorities can monitor potential emergency situations in classrooms from a secure area by viewing live video on the phone from Panasonic's PTZ network video cameras.

Radware's AMS is the industry's first fully integrated IT security strategy and portfolio that protects the application infrastructure in real time against network and application downtime, applica-

tion vulnerability exploitation, malware spread, information theft, web service attacks and web defacement. Radware's AMS is fully suited for multi-tenancy, self-service, and automated provisioning of cloud computing environments. It supports easy provisioning of security rules per customer by orchestration and cloud management systems, and the generation of security-related reports per customer either via Radware's SEIM or the CSP's SEIM. This unique capability facilitates new potential revenues for IaaS providers from selling security services, such as anti-DoS protection and WAF services.

Radware explains, "As more and more service providers rush to become cloud service providers, there is a growing need for them to create service differentiation in order to attract new customers. The attraction of new customers and growth in business may bring the CSP to the attention of attackers, creating the need to protect both the CSP's infrastructure and its hosted customers' applications. AMS addresses concerns about ensuring cloud-hosted applications' availability, SLA, performance and security."

Symphony Teleca Corp.
m-Suite
www.symphonyteleca.com

Symphony Teleca offers a portfolio of services, platforms and partnerships that help enterprises accelerate their mobility strategies, retain control of their costs, and manage their mobile security. m-Suite, and associated Enterprise Mobility Services, target large enterprises and top-tier service operators. m-Suite is provided as a fully managed, cloud-based service. Customers need only have secure browser access and VPN connectivity. The following cloud-based deployments are used: Microsoft Azure, Amazon Web Services and private cloud. Symphony Teleca's end-to-end solution gives enterprises a 360-degree ability to address mobility requirements relating to end users, devices, applications and networks.

Symphony Teleca has developed its own proprietary technology stack to optimize cloud deployments, thereby delivering m-Suite from a mobile-optimized cloud. Symphony Teleca was the first to offer a truly integrated mobile device management and telecom expense management platform, including mobile apps for telecom expense management that cover all major the smartphone operating systems including iOS, Android and BlackBerry.

Symphony Teleca states, "The latest release of m-Suite CLM breaks new ground, providing enterprises with the ability to define and deliver complex mobile device and telecom expense manage workflows using a simple graphical user interface. As well as accelerating deployment times, enterprises are further able to tailor their platform usage to address their specific telecom management needs, and consequently make greater savings in their telecom spend."

In the last six months, m-Suite has been updated with Sybase's latest Afaria MDM platform (7.0). Of note is Afaria's new analytics and reporting functionality, including on-device data collection for voice/data and application usage. This gives enterprises the most advanced capability to define, implement and measure their mobile management policies. Also, it added direct integration of the cloud-based Mobile Enterprise Application Platform with the Enterprise Application Storefront.

Virtual PBX

Virtual PBX Complete with VoIP Anywhere
www.virtualpbx.com

Virtual PBX Complete with VoIP Anywhere is a turnkey hosted IP PBX business-class phone system designed for small- and mid-size businesses. Unlike other hosted PBX services, Virtual PBX Complete with VoIP Anywhere supports complete blending of analog and IP telephony, while simultaneously incorporating open SIP peering. Leveraging VoIP technology allows customers to use their smartphones and computers in and out of the office. High-quality calls can be placed over 3G, 4G, and Wi-Fi connections through any standard SIP softphone app. The service includes popular features, such as business caller ID for outbound calls, call recording, call transfers, call monitoring on inbound calls, and real-time reports.

Virtual PBX claims to have invented the first true hosted PBX in 1996, and has always used its own platform, consisting of a variety of multi-user operating, billing, voice, control, and telephony applications and services. Virtual PBX espouses its phone flexibility, saying "We can use any combination of existing phones, phone switches, analog or IP phone lines, cellular phones, or any other type of phone. Alternatively, clients can purchase standard IP telephones and VoIP registration services from us, if desired, but there is never a need for capital equipment expenditures for things like switches and servers."

Other features include ACD queuing for call center applications, call routing to a distributed workforce, find-me/follow-me call forwarding, supervised call transfers, auto-attendant greetings, and menus in a distributed environment. Other features of note include HD audio support, call preview, voicemail screening and interrupt, multi-business support, multi-stage dialing, and automatic routing based on incoming caller ID. Importantly, the product can present the business caller ID, and not the number of a personal cell phone, when making an outbound call. The product also features a greetings manager and library for customized virtual attendant greetings that allows a different custom greeting for each phone number. Administrators will enjoy the real-time monitoring of phone system activity by extension or department, including callers on hold, calls in progress, hold times, caller IDs, and more.

Tom Keating is head of TMC Labs, and CTO and vice president of TMC, the parent company of INTERNET TELEPHONY magazine.

The Radio Star is Alive and Well on a Video-Enabled Stage

By Erik Linask

Back in 1981, the telephone was just a landline phone, TV was tied to a box in the living room, and radio and cassettes, though with some element of mobility, were available via dedicated devices. While it can't be credited for all the technological advances we have witnessed since, MTV certainly couldn't have known the impact of its launch of a video-based music station that year, changing the entertainment paradigm by bringing together two previously separate media formats, opening the door to the idea that media formats were not necessarily tied to a single end device or delivery network.

Since then, the entertainment and communications worlds have seen such change that most of today's youth don't know what a cassette tape is – let alone an 8-track or record – and can't imagine watching a black-and-white television. Instead, thanks to the convergence of different media formats with different device categories and networks, they now live their lives attached to mobile devices, communicate via instant messaging, Skype and FaceTime, and watch video on multiple devices wherever they are.

For the end-to-end video ecosystem, from content creators to CDNs, from middleware vendors to network operators, and from NEMs to device manufacturers, the opportunity is great. Video represents a largely untapped revenue stream, if they are able to capitalize on user demand for multimedia content and deliver a high-quality experience.

That includes the enterprise market, which can leverage video not only internally for training and collaboration, but also as a customer facing technology, heightening the customer experience by supplementing traditional media and experiences with video. And for the service provider (including the enterprise as a small network operator), it means understanding what the growth of video means to their infrastructure and what it will take to deliver in this new video-centric age.

There's already so much out there – in many cases, video consumers may not even realize the impact of video as they stand at a retail checkout line or at the gas station filling their vehicles. But the volume of video sharing via YouTube, Twitter, and Facebook, clearly shows the position video holds in their content hierarchy. It's quickly moving to the very top of the ladder. Of course, there's also an entire two-way communications market as well, both in the consumer and enterprise markets, whereby friends, family members, and colleagues are able to video chat, call, or conference in fixed or mobile environments (watch my interview with Entropic for a great social TV experience: http://tmcnet.com/59190.1).

The benefits of visual communication have long been heralded by pundits recognizing the value of facial expressions, gestures, and graphics and imagery to enhance messaging and experience.

As I interviewed different vendors recently at The Cable Show in Boston (watch all the interviews at http://cable.tmcnet.com/Videos.aspx), what was patently obvious was that the idea incubated by MTV three decades earlier was only gaining momentum. Whether for enterprise use or as a consumer play, media delivery, content, and use cases have changed and will continue to evolve.

At TMC, we've already seen an exponential growth in the video market, evidenced by the thousands of video segments hosted on our sites (www.tmcnet.com/tmc/videos), but also in their viewership, as subscribers are increasingly recognizing video as a valuable source of information.

The benefits of visual communication have long been heralded by pundits recognizing the value of facial expressions, gestures, and graphics and imagery to enhance messaging and experience. That value is now driven to businesses and residential subscribers alike, with new multimedia experiences launched regularly.

Whether it's using video to deliver corporate speeches or other messaging to business constituencies, or enabling consumers to follow sporting events, like the Masters, World Cup, or Olympics on any number of devices, video content is growing, and delivery networks and software are evolving to meet this growing demand.

No, video didn't kill the radio star back in 1981. Instead, it helped send it on its way to a new enhanced stage, one that has since continued to evolve and, today, presents a significant monetization opportunity for both enterprises and service providers, as they face a new breed of customer. The radio star is alive and well, with a supporting cast of experience-enhancing technologies.

This opportunity is what Video World Expo (www.videoworldexpo.com), taking place this Oct. 3-5 in Austin, Texas (collocated with ITEXPO West 2012, www.itexpo.com), is all about. The event is singularly focused on how enterprises and service providers alike can make the most of what has become an insatiable thirst for video content, from the technology required to create and deliver video content across different networks to different devices, to business strategies to using video technology to create new revenue streams. I look forward to seeing you in Austin!

thevpf.com

vpf™
The Voice Peering Fabric

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

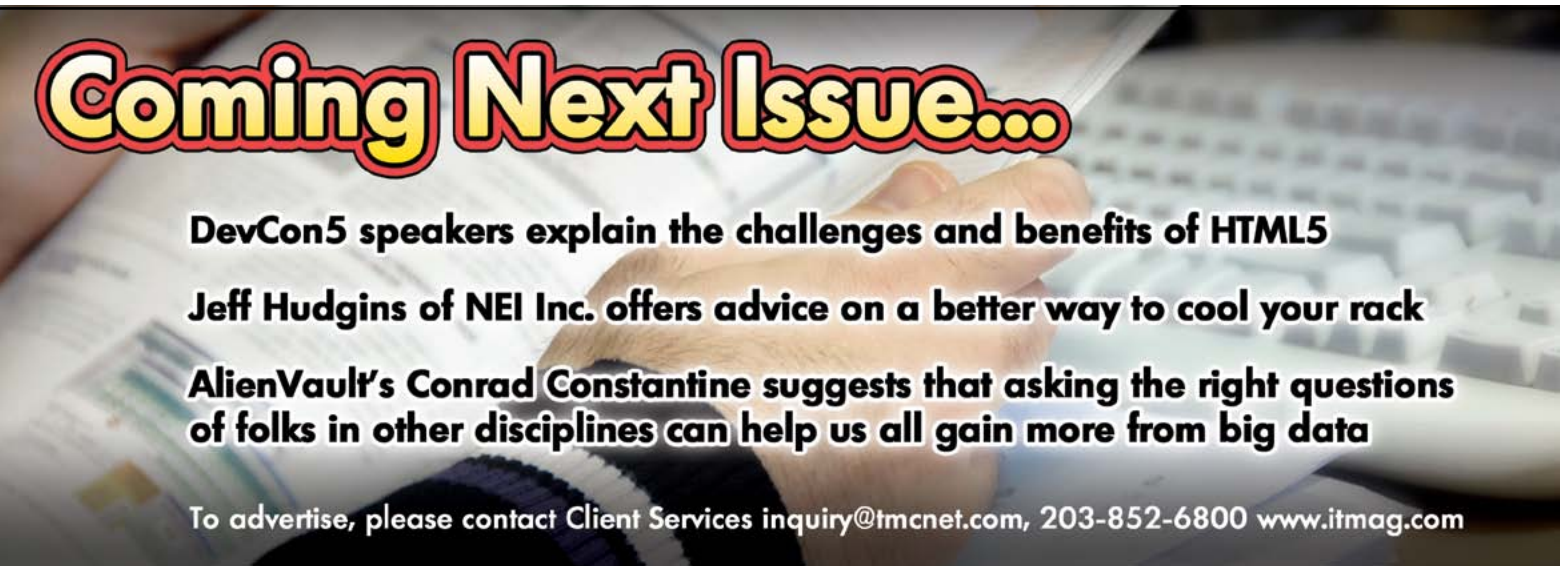
Communicate with Choice

Communicate with Confidence

STEALTH® COMMUNICATIONS

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

Advertising Index



IT'S NOT ABOUT YOU.

IT'S ABOUT YOUR CUSTOMER.

You don't buy communications products for your own benefit. You buy those products so you can better service your customers. Our products and cloud-based services let you appeal to every customer "individually" – turning that superior experience into a competitive advantage for your business. Invite them to contact you using the media they choose. Interact with them through their favorite social networks. Drive information and collaboration across your enterprise to answer their questions and resolve their concerns more quickly. Bring each customer into focus and make the experience about them. Now you can deliver more.

INTERACTIVE INTELLIGENCE®

Deliberately Innovative

www.inin.com

CONTACT CENTER • UNIFIED COMMUNICATIONS • BUSINESS PROCESS AUTOMATION

Cloud-based or On-premise

"The Secret of success is to know something nobody else knows."

– Aristotle Onassis

If you don't know about Sansay yet, ask any of the over 300 telecom service providers who rely on Sansay as the foundation of their VOIP networks.

And be sure to visit us at ITExpo East, Austin TX
on October 2-5, 2012 at booth #914.

sansay™

www.sansay.com

Platinum Sponsor of ITEXPO