www.itmag.com
September 2013
Volume 16/Number 7

TMC INTERNET TELEPHONY
The IP Communications Authority Since 1998™

Inside:
IT Excellence Awards

WebRTC Continues Its Advance

Technology Promises to Deliver 'True UC'

Software Eats the Carrier Network

Drifty Expedites Software Solutions

UNSi Explodes

THE POWER OF ANDROID™

Grandstream

IS NOW ON YOUR DESKTOP

Introducing the GXP2200 Enterprise Multimedia Phone for Android

- Android Operating System
- 4.3" Capacitive Touch Screen
- Gigabit network ports with PoE
- Bluetooth, USB, SD
- 6 Lines, 5-way Conferencing
- Virtually Unlimited Apps

Contact info@grandstream.com for more

www.grandstream.com

**Android is a Registered Trademark of Google Inc.*

Follow us:

E-Discovery & Chicago Revisited

When people use Google to search for something on the web, they're typically happy to get a few relevant results, which they check and then move on with their lives. But when it comes litigation, every piece of data counts, so organizations need solutions that deliver comprehensive results – returning every single document that mentions the subject in question. With Relativity, kCura provides this kind of e-discovery, explains Andrew Sieja.

Sieja is CEO of kCura, which delivers e-discovery solutions that businesses and their legal teams use to locate internal documents. The company's Relativity solution can run on premises or be delivered as a SaaS-based solution via one of kCura's partners.

Release 8 of Relativity became available in June. This version is faster, more scalable, and can run more cases and users in the same footprint than previous releases. Key feature improvements include e-mail threading; faster search speeds; easier calculation of precision, recall, and F1 in Relativity Assisted Review; and the ability to process EnCase Logical Evidence Files. The product currently addresses processing, review, analysis and production, says Sieja, but over time kCura expects to expand Relativity to address additional parts of the e-discovery lifecycle, which also includes information governance, identification, preservation, collections, and presentation.

Differentiators of the kCura solution include the ability to handle more data in its system, flexibility in how the product can be used (it doesn't demand a prescribed work flow), and ease of use, Sieja says.

Relativity is in use by 95 of the largest 100 U.S. law firms, the U.S. Department of Justice, corporations with high litigation portfolios, and various consulting firms that offer litigation support services. In all, the solution has more than 75,000 active users worldwide.

Litigation is a messy business and takes a lot of people and time, notes Sieja. But now we have technology that can amplify one attorney to make the decisions for which 20 would have been required in the past, he says. It's called predictive coding, which involves making correlations between data in sources like e-mail, he says. Through this technology, he continues, we can bring more justice to this world, because it lowers the cost of litigation, and allows the dispute to get down to the facts.

I met with Sieja this summer at TechWeek in Chicago.

As an aside, this event took place at Merchandise Mart, which I found out later while on a fascinating architectural boat tour was a significant contributor to the Kennedy family fortune. The art deco-style Merchandise Mart was the world's largest building at that time.

The boat tour guide did a great job describing and providing history on some of Chicago's other great buildings within view of the river tour.

One of the most interesting modern buildings discussed was Aqua Tower, which as it turns out was designed by a grade school classmate of my husband. She's now internationally known; in fact, the Art Institute of Chicago had a large exhibit dedicated to the work of Jeanne Gang.

If you're in Chicago and have an hour to kill, I would highly recommend taking one of the boat tours offered through the Chicago Architecture Foundation. The Chicago Cultural Center, which used to be the city library, is pretty awesome as well. It's not on the boat tour, but it's great. Free lunch concerts and art exhibits are housed at the center, but just going in and looking around at the Tiffany dome and beautiful mother-of-pearl mosaic walls is a great experience. **IT**

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 Noya, ext. 299 (lnoya@tmcnet.com)

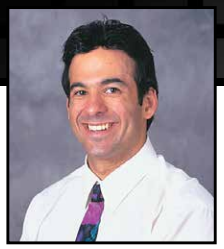
SUBSCRIPTIONS
Circulation Director, **Helen Juden, ext. 157**
(hjuden@tmcnet.com)

***INTERNET* TELEPHONY®** magazine is published monthly except February and August. Annual digital subscriptions free to qualifying U.S., Canada and Foreign subscribers. Annual print subscriptions are free to 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.

POSTMASTER: Send address changes to: ***INTERNET* TELEPHONY®**, Technology Marketing Corporation, 800 Connecticut Ave, 1st Floor 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

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.



Americans Don't Know They Want Wearable Tech – Yet

Recently a headline stating that most Americans don't want wearable tech caught my eye and reminded me of many past of articles regarding consumer choices that were just plain wrong. The piece can be summed up with the following paragraph:
The April telephone poll of 1,011 Americans 18 and older found that only 34 percent of those polled who make $100,000 or more a year would consider buying or wearing a consumer-grade smart watch or smart glasses. For those with a significantly smaller income, $35,000 annually, the percentage of those interested in the technology increases to 47 percent.

The implication of the headline is the wearable market will remain a niche and while this could very well be the case, the reality is consumers and analysts have no idea where markets that haven't been invented yet will be in the future.

If we go back in history, here are some incorrect headlines and industry sentiments I remember, which are worth pondering:

Early 1990s
IBM's OS/2 will be the operating system of the future replacing both UNIX and Windows.

Late 1990s
IP telephony/VoIP is a hobbyist toy, no company or carrier would consider using it.

Being a web portal is a much better business than being a search engine.

Publicly traded companies are better off not making a profit so their valuations can increase beyond a traditional price/earnings multiple.

No one wants to buy Apple computers.

No one would share every aspect of his or her life voluntarily online.

No one will ever buy music again.

Brick-and-mortar stores are all doomed.

Early 2000s
Intel will have a near-monopoly position in processors forever.

Consumers will leave Google in a heartbeat if a better search engine comes along.

No one would volunteer to communicate with others in 140-character increments.

Internet Explorer market share will never decrease dramatically.

No one wants to host CRM or anything in the cloud.

There is no market for tablet computing.

Microsoft will win the smartphone war over RIM because it is a more-open platform.

No one wants the Amazon Kindle. (I really got that one wrong).

Apple will never have products in the enterprise (no one anticipated BYOD was coming).

There is no way Google will make an OS that becomes widely used in the enterprise.

Mid-2000s
No one wants a smartphone without a keyboard.

Living in the U.S. means we don't have to worry about government surveillance like in third-world dictatorships.

There you have it: a list of predictions from researchers – often based on interviews with end users and experts that were just so wrong. It's shocking when you see them all together.

Does this mean wearable tech is the future? No. But it means that consumers decide to buy things once they get to see and touch them. Many iPhone users today swore they would never ever give up their BlackBerry keyboards. If they start to see amazing wearable tech products, they will quickly climb on board and buy them. And many amazing wearable tech products were showcased and discussed this summer at the Wearable Tech Expo in New York City. And many more are to come. IT

TMCnet (www.tmcnet.com)

TMCnet EDITORIAL
Group Editorial Director, **Erik Linask**
Senior Editors, **Peter Bernstein, Tony Rizzo**
Assignment Editor, **Stefanie Viscusi**
Contributing Editorial: **Paula Bernier, Susan Campbell, Gary Kim, Ed Silverstein, Rich Steeves**

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**

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.

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

You are the Service Provider.
You should be in the driver's seat.

VoIP Logic gives you the best platform using the leading technologies to run your Hosted PBX business.

Control:

VoIP Logic allows you all of the control associated with facility ownership. This allows you to **adapt** your offer, **differentiate** from your competition, **evolve** with the market, **retain** ownership of your customer data, **add** new services, features and devices, **choose** network and **prioritize** your technical objectives.

Flexibility:

VoIP Logic provides you the flexibility to determine your cost basis and the options which give your business a distinct advantage. This flexibility puts the key decisions about choosing your **network carriers**, **bandwidth access**, **devices**, **services**, **features**, **platform add-ons** and **external integrations** in your hands.

VoIPLogic

Let us be your pit crew.
We'll leave the driving to you.
www.voiplogic.com

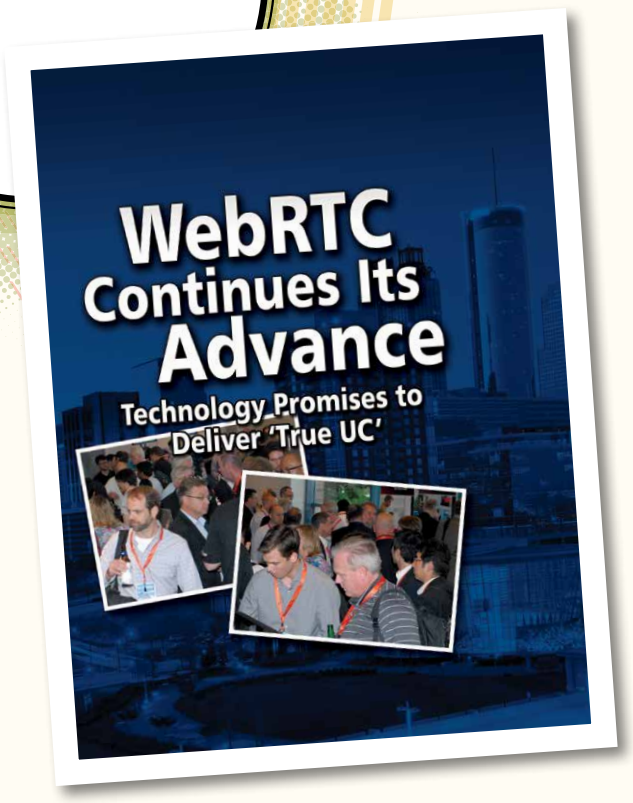
Vol. 16 – No. 7 September 2013

Contents

COVER STORY

WebRTC Continues Its Advance

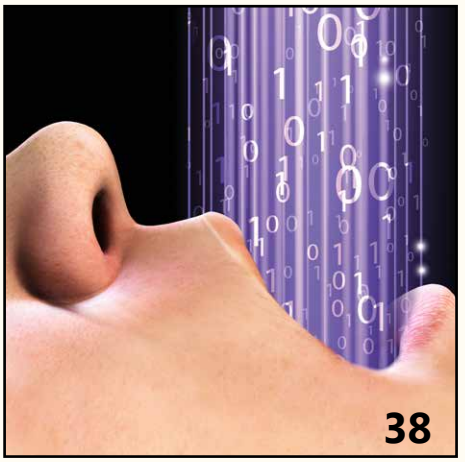
24



Subscribe **FREE** Today!

COLUMNS

Departments



GoTo: Table of Contents • GoTo: Ad Index

Dynamic. Flexible. Intelligent Access.

UNSi provides the most complete and cost-effective MPLS solution for businesses with multiple locations. **We can deliver EVERYWHERE!**

One Grid, Dozens of Networks

UNSi is the ONE provider that offers multiple Internet access methods to accommodate various budgets, speeds and geographic locations all on ONE bill. We have over 150+ carrier interconnects, 29 Core POPs in the USA, access to over 155,000 lit buildings and a network supported by 24/7 Network Operation Centers geographically dispersed with the most stringent disaster recovery and redundant standards.

Several Flat Rated Access Options Via Our Nationwide Network

- Industry-leading MPLS Exchange Platform (MEP)
- ILEC Ethernet (EoF) with any type of port
- Ethernet over Copper (EoC) “anywhere” with any type of port

Value Added Managed Services with Pro-Active Network Monitoring

- Same IP Failover (SIF) is our award-winning IP redundancy product

Partner with UNSi, the fastest growing next generation provider.
Contact us at 855.UNSi.999 or partnerships@unsi.net.

unsi.net

UNSi
united network services, inc

By Barlow Keener

What's Needed to Make FirstNet a Success

The 2012, U.S. Congress created the First Responder Network Authority, or FirstNet. It is the second time at the plate to try to create a dedicated nationwide, interoperable, highly reliable LTE network for the nation's 2.5 million public safety workers. The purpose is to replace the rugged and always working, two-way radio system in use since the 1930s.

Progress has been made, with a few bumps in the road, and much complexity, politics and risk are ahead. Congress allocated $7 billion of TV Incentive Auction funds to FirstNet. The auction is on track to be completed next year. However, it is the most complex auction attempted.

FirstNet does not have its own website but uses NTIA's website. Nevertheless, there is a lot of action. The FirstNet Board has been appointed and has held six board meetings. In April 2013, it appointed Verizon Wireless executive Bill D'Agostino as chairman. A 400-page startup plan was produced by consultants. FirstNet held six regional consultations; administrative funding for full-time employees has been received; and the board authorized spending $20 million in 2013. Short-term public safety spectrum leases with BTOP grant state winner were recently entered into. And ten RFI's have been issued primarily for equipment and vendor information.

To succeed, the FirstNet Board must build a nationwide cellular network that equals or exceeds the working two-way radio system.

By 2011, the mobile environment had changed and the typical public safety workers were toting smartphones, allowing easy texting, voice, and data communications with co-workers. They also carried the two-way 470MHz radios, computers with data cards using a cellular carrier, and a smartphone like the iPhone. The two-way radios were very reliable and, unlike the cell phone, would work from a building basement. They were rugged. They worked when the cellular network went down. And local public safety controlled the location of the antennas, power, and base station radios.

But the old radios were much more costly (around $3,000 per radio) than smartphones. One agency could not talk to the other easily. And no text, data, or video could be received or transmitted on the devices. However, local public safety agencies will not give up their working, reliable, basic voice radio networks for a new federal LTE interoperable network that partially works. We all know that cell phone coverage even after 20 years of constructing cell sites is not reliable. Calls drop. Service is often spotty in some areas. Thus, FirstNet has a challenge.

After 9/11, where public safety helpers in the towers were hampered with interoperability issues, the chief of the NYPD and other local public safety officers, sought help from the federal government to build a nationwide, redundant cellular network designed for public safety. One of the other issues with 9/11 was that cellphone service was lost due to huge demand on the network by the public during the crisis and loss of critical infrastructure.

In response, Congress authorized the auction of the D-Block consisting of 20MHz of 700MHz spectrum. A private company would build the network and public safety and commercial users would pay for the network through subscriptions. But the D-Block auction failed when bidders did not meet the $1.3 billion reserve price (Qualcomm bid $472). The concept was scrapped by the FCC, and public safety's needs were put on hold.

Public safety officials, in particular local municipality town and police chiefs, then began pressing Congress for new alternatives to the D-Block. After Congressional wrangling and amending, on Feb. 22, 2012, Congress passed the Middle Class Tax Relief Act and used it to create FirstNet, an independent authority within the NTIA. The mission of FirstNet is to design, build, and operate the nationwide interoperable network.

However, industry consensus seems to be that $7 billion is not enough to build a nationwide LTE network for public safety. However, if – and this is a big if – FirstNet works closely with local municipal and state police departments, existing tower municipal-owned or leases structures in each town now used for T-Band and other radios can be used for FirstNet. Also, existing town fiber and conduit could be used by FirstNet.

Working with local agencies could be a solution but it will have to begin in the planning stages this year. One project that could ensure success is doing a ground-up inventory of all 60,000 state and local agency assets. State and municipal public safety agencies could be relied upon, with professional assistance, to locate and place local LTE radios on municipal towers and roofs, which would increase the probability of constructing the network on budget, on time. IT

Barlow Keener is the principal with Keener Law Group (www.keenerlawgroup.com) out of Boston.

YOUR SECRET WEAPON for Wholesale IP Services

GIGLINX

WHOLESALE BANDWIDTH | CDN & COLOCATION

- WHOLESALE TRANSIT (direct port to carrier)
- CDN | Streaming & Storage
- TRANSPORT (Long Haul, Metro, Opt-E-man, DF)
- WHOLESALE COLO
- USAGE ONLY TRANSIT OPTIONS
- PARTIAL ROUTES & PAID PEERING
- INTERNATIONAL & RURAL CONNECTIVITY
- VOIP

Level(3) COMMUNICATIONS · at&t · zayo · integra TELECOM · cogent COMMUNICATIONS Optical Internet · Sprint · gtt GLOBAL TELECOM & TECHNOLOGY · TATA TATA COMMUNICATIONS · PhoenixNAP · CenturyLink Stronger Connected · PACNET · TeliaSonera · CORESITE A CARLYLE COMPANY · TATA COMMUNICATIONS · comcast · latisys · INTERNAP The intelligent way through the Internet · Time Warner Cable · telx THE INTERCONNECTION COMPANY · XO · IntelePeer · windstream communications · TelePacific COMMUNICATIONS · CARRIERS World-Class Infrastructure Partners · Velocity Networks Business Grade Voice & Data Solutions · MegaPath · JIVE COMMUNICATIONS

CALL FOR INFORMATION

1.800.856.5960

@giglinx · GIGLINX, Inc.

P: 310-374-1350 | E: SALES@GIGLINX.COM | WWW.GIGLINX.COM

By Hunter Newby

FirstNet – Where Are We Now?

It has been a while since the last update on FirstNet, the independent authority within the NTIA, to provide emergency responders with the first high-speed, nationwide network dedicated to public safety. So, what has happened in the past six months?

On April 23, FirstNet announced at its board meeting that it has hired as its general manager Bill D'Agostino, who most recently served as executive director, network for Verizon Wireless in Southern California from 2008-12. Prior to that, he held executive positions at Sprint PCS, Airtouch Communications and Pacific Bell.

Obviously the FirstNet board had already known that D'Agostino got the position, as they were prepared with the announcement that went out that day. It is not unusual for members of a board to have information about what will be disclosed during a board meeting before it occurs of course. That is what an agenda is for, but then there are times when someone says something that is not a part of the agenda.

In that same meeting board member Sheriff Paul Fitzgerald dropped a bombshell that left a trail of fallout all the way from the board meeting minutes to The New York Times. He disclosed that he believed FirstNet was being secretly run by commercial interests and even moved to have a formal review of the matter conducted.

"Sheriff Fitzgerald said that the planning effort had already been tainted by secret meetings of small groups of directors, the withholding of financial information from some board members, conflicts of interest in the hiring of consultants and the exclusion of police and fire officials from the planning process," according to The New York Times.

What was interesting was that FirstNet Chairman Ginn warned Sheriff Fitzgerald that he believed the motion would fail if it was brought to a vote and instead advised that another board member make a motion for the matter to be tabled for further discussion. Why was Chairman Ginn so confident it would fail? The first to comment on the allegations and provide that motion was fellow board member Mayor Wellington Webb.

Sheriff Paul Fitzgerald dropped a bombshell [saying] he believed FirstNet was being secretly run by commercial interests and even moved to have a formal review of the matter conducted.

Insomuch as he expressed surprise at Sheriff Fitzgerald's comments, it is equally surprising that Mayor Webb's comments at the very same board meeting, during which he compared the effort to the Manhattan Project "for the military", did not make it into The New York Times article.

FirstNet is viewed as equivalent to the Manhattan Project and is for the military? There are probably a few people in the United States that are a little taken back by that notion. In light of the recent news regarding the NSA surveillance program with Verizon, the role that FirstNet plays and how it is all coming to be is quite relevant. Nevertheless, Sheriff Fitzgerald assured everyone that he would not shirk his duty.

Also on April 23 FirstNet unveiled its new logo, which includes four images representing police, fire, medical emergency and wireless. I noticed the similarity between the image that is meant to represent police and the Story County, Iowa Sherriff's Star. Maybe that image was added in along with the others to assure the public and certain members of the board that FirstNet is in fact for public safety, on a non-exclusive basis of course. If Sheriff Fitzgerald's suspicions are correct then perhaps the "commercial interests" are represented by the wireless signal image.

Aside from these developments, on May 6 FirstNet announced that it would begin consulting with states, tribes, territories and localities. These entities are critical to FirstNet as they possess control of the right of way in each of their respective geographic areas, which FirstNet needs access to in order to be successful.

So, upon further review, the last six months has brought a few twists and bumps in the road. With a project like this it is to be expected. It is difficult to keep a lid on something so large that is government funded and requires disclosure. The FirstNet board has done a masterful job of navigating around these issues thus far and remains on track to go from zero to building the largest wireless network infrastructure and operating business in the history of the country. Stay tuned. IT

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

TAKE THE LEAP TO THE CLOUD

easyCloud phone

BENEFITS

- No significant upfront costs
- No maintenance costs
- No upgrade costs
- No need for support staff

ADVANTAGES

- No wires to install
- Use your existing phones
- Be ready in a short time
- Administration by web browser
- Easy to use

ENTERPRISE SERVICES

Ask for a 30 DAYS FREE TRIAL

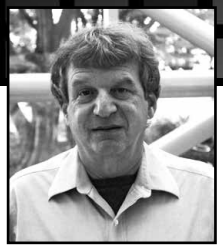
CLOUD BUSINESS PHONE SYSTEM

CLOUD CONFERENCE BRIDGE

iFAX VIRTUAL FAX SYSTEM

www.easycloudphone.com

info@easycloudphone.com +1 (512) 412 3051 TOLL FREE 1 800 219 1844



By Peter Bernstein

The State of Voice Services

Don't look now but deregulation of voice services is coming to a state near you. Multiple states have passed, are considering, or plan to consider requests by VoIP service providers that their services be considered as information services and thus exempt from traditional common carrier regulation. The latest instance is going on in New Hampshire. It relates to a continuing battle between Comcast and the New Hampshire Public Utilities Commission over the subject, now muddied by the passage of a bill that has yet to be signed into law, which would exempt Comcast from regulation of its VoIP and IP-enabled services.

Without going into the history of all the petitions, rulings and remands, the one that matters most is New Hampshire PUC Order #25,542, issued on July 9, Comcast phone of new hampshire, llc and comcast ip phone ii, LLC: Effect of SB 48 on VoIP and IP-Enabled Services, Order Suspending Order on Remand for Further Consideration Pursuant to RSA 541:5.

Here is the language that is most relevant from the order: *HB 542, if it is enacted into law, would exclude VoIP and IP-enabled service providers from the definition of a public utility under RSA 362:2 and the definition of an ELEC under RSA 362:7, I(c). The RLECs have requested that the Commission consider the prospective potential effects of HB 542 on these proceedings, should it become law, and Comcast has indicated in its motion and cover letter that it may also seek to have the Commission consider this new legislation.*

Should HB 542 become law, the Commission believes its consideration of the effects of HB 542 as part of its decision on the merits of Comcast's motion for rehearing would serve the interests of judicial economy and administrative efficiency and would clarify the effect of this recent legislation on the Commission's prior determinations. We believe our consideration of HB 542 in such context falls within the spirit if not the letter of the Court's remand order dated October 12, 2012.

The Commission has notified the Court today of its interest in considering the effects of HB 542 in this docket and has informed the Court of its intent to reconsider its prior orders, including Order No. 25,513, in light of the passage of HB 542, should it become law, in connection with its decision on the merits of Comcast's motion for rehearing….Based upon the foregoing, it is hereby ORDERED, that Order No. 25,513, the Order on Remand issued in this docket, is hereby suspended pending further consideration pursuant to RSA 541:5.

That is the long way of saying that if it becomes the law of New Hampshire that VoIP and IP-enabled services are henceforth not to be regulated, then the PUC will have to reconsider its decisions that found Comcast to be offering services the PUC felt were common carriage.

It should be self-evident why all of this is non-trivial. As VoIP becomes the dominant means of voice communication for customers of companies offering communications services over fixed lines, a Pandora's box of state vs. federal jurisdictional issues will have to be confronted. Indeed, with the death of the public switched telephone network, by the Federal Communications Commission's own admission, now looming large in the window (as in, before the start of the next decade), all of this calls into question the role of communications services regulation at all levels.

The history of the telecommunications industry in the U.S., going all the way back, involved policy-maker concerns that only the "haves" would have service, and that was not in the public interest. It was a major, if not the major, reason Congress passed the Communications Act of 1934, which created the FCC with a mandate to oversee the industry so that all citizens had access to basic services at reasonable prices.

Ironically, it was the FCC that, in no small measure, sowed the seeds for the current problems. During its Computer Inquiries, which started in 1966 and went through to the 1980s, the Commission attempted to set rules and policies for regulating telecommunications and computer services under a regime that imposed restrictions that best promoted competition and protected ratepayers from improperly being assessed the cost of competitive activities. The FCC tried in vain to draw bright lines between what were competitive services versus what should remain regulated utility services.

Technology had a nasty habit of re-drawing the lines. The advent of the Internet and VoIP, in fact, destroyed those lines and threw things into a cocked hat that does not fit modern realities. IT

Peter Bernstein is senior editor at TMCnet, the online entity of INTERNET TELEPHONY parent company TMC.

YOUR CONFERENCING SOLUTION

YAMAHA

ProjectPhone

It's no secret that conferencing has forever altered the way we communicate. It has changed the way we interact, collaborate, and perform tasks at work. It has helped friends and families separated by distance reconnect, regardless of time and place. The Projectphone series of conferencing units are now found in business environments in which conference calls and face-to-face interactions via video conferencing are the norm. With implementation, conferencing has changed greatly, companies now rely on the ability to see the faces of the other conferencing parties and in addition these participants can share various materials which encourage strong, sound, two way talks.

---

fōntəl inc.

Fontel, Inc. understands the importance of offering our customers cutting edge solutions to carry them into the future. We are a Premier Distributor that offers the latest in digital sound and VoIP.

800.238.0787 www.fontel.com

By Jon Arnold

The Downside of Personalization

This month I'm continuing the theme from my last column where I explored how end users see collaboration. The virtues of collaboration have been taken as gospel lately by senior management, and since most UC vendors are banking their future on it, this is the current almost everyone is swimming with.

I say almost since collaboration presents some new challenges for IT, and I've touched on this in recent columns here. They certainly support the rationale and can see why this is important to management, but from a network perspective this places new demands on IT without much reward for a job well done. Employees, of course, are the bigger issue, and that's what I started assessing last month. They have enough on their plate already, and for many, greater collaboration is more about pleasing management than making their jobs easier.

What I'm really talking about here is positioning collaboration in a way that is relevant to employees. The underlying tools and technologies work well and can drive great results, but only if end users buy into the concept. Getting this buy-in is tricky on a few levels, and even if you dangled financial incentives with achievable targets, there are both obvious and not-so-obvious factors that can get in the way of using UC to collaborate more effectively.

Remember the me generation? You probably haven't heard that term in a while – and maybe never at all – but this was a defining characteristic of the baby boomers from the 1960s that essentially created the template for today's consumer society. This was the first generation that had the gall – or confidence, depending on your values – to put greater emphasis on personal needs and wants than those of others around them.

phone now and nobody answers the home phone anymore, let alone call someone else's home phone. The same holds true for every form of technology that is commonly used, and if we so choose, the tools are there to live full and happy lives with hardly any human interaction outside a virtual setting. This isn't the world I live in, but I'm sure you get the picture.

Bringing the conversation back to UC, my message here is that the further along that path people go in their personal lives, the more hard-wired these behaviors become. Once this spills over into the workplace, it becomes increasingly difficult to encourage collaboration when there are so many options to perform tasks using personalized tools that cater to our individual preferences. Of course, these are learned behaviors, but given how pervasive personal-use technology has become, there is a real challenge in getting

Personalization has fantastic utility for consumers [but] this can also make it difficult for younger employees to see how UC tools can have value beyond serving their personal needs.

I'm not trying to dismiss the merits of collaboration – it definitely has value – and it's not an issue of making employees do things they're not qualified to do. Far from it – most of us are perfectly capable of using UC tools to improve teamwork. The pushback comes if collaboration is imposed with expectations of working harder for the good of the business.

This becomes even more of a one-way street if the definition of productivity is vague and there are no incentives tied to improved performance. While it may be clear why management wants these things, if employees appear more as an after-thought, you don't have to wonder any longer as to why UC has been slow to gain traction.

Over time this has become the new normal, and today's youth culture takes it for granted that the world revolves around them. I'll save the moralizing about sliding standards for another forum, but the evolution of today's consumer technologies have only served to reinforce, encourage and reward these norms. The concept of seeing movies in a theater, watching TV with the family or playing board games where you interact and share with others are starting to look like quaint pastimes. These are real-time, in-person social experiences that cannot be duplicated with today's technologies.

Virtual experiences continue to gain currency, and the majority of technologies, services and applications are designed for personal use. Everyone has his or her own

employees to use these same tools to support team or business-level collective objectives.

Personalization has fantastic utility for consumers and has made vast fortunes for the likes of Apple, Nintendo, Sony, etc. At the same time, this can also make it difficult for younger employees to see how UC tools can have value beyond serving their personal needs.

Turning the me generation into the we generation will never be easy, but when UC can strike a viable balance here, it comes much closer to fulfilling its true potential. IT

Jon Arnold is principal of J Arnold & Associates, an independent telecom analyst and marketing consultancy.

CyberSecurity You Can Depend On

The Ultimate Secure Data Vault

Secure Messaging ⋆ File Sharing ⋆ Secure Storage ⋆ Collaboration Platform

- Solutions built for the speed of business
- Ensures file exchanges are authorized and secured
- Customized solutions sure to exceed your expectations

No Need to Fear This "Box"

Visit us at www.certainsafe.com for your Free Trial

(719) 323-6684 or email us at info@certainsafe.com

MicroTokenization™ Technology

Eliminates the Risk of a Mass Data Breach

Integrates Any Platform to Any Other Platform

- Uncompromised Speed and Accessibility
- PCI Level One Certified Datacenters
- PCI-PFI-PHI-PII-HIPAA Compliant
- Full System Integration
- *MicroTokenization*™ of all data types

Our cost effective solutions nearly eliminate the need to add additional hardware, additional IT staffing, post implementation training, and other very costly integration expenditures.

TransCertain
beyond platforms

(719) 323-6680
www.Transcertain.com

MicroEncryption™ ⋆ *MicroTokenization*™ ⋆ Impenetrable CyberSecurity Platform

By Steven Johnson

Call Center Dials-Up SIP Trunking

The high-volume, high-availability, fast pace of the large call center is ideal for SIP trunking. SIP trunks can be nimble enough for extremely fast deployments, so call centers can expand rapidly when needed. They're also ideal for the high call volume, with SIP trunks able to route the bulk of calls over IP, resulting in call savings opportunities in moving calls to IP. And with the resiliency of IP, disaster recovery is also faster. The result: Call centers see an exceptionally fast return on their investment

Working with solutions integrator NACR, a recent Ingate deployment showed how SIP trunks can support the fast growth of a successful call center. The customer was using a heavy-duty dialer application that processed collection calls using SIP trunking. The existing E-SBC, which was limited to setting up 15 calls per second, was unable to take on the growing number of calls that needed to be made. Call denials were sent back to the dialer, which redialed the same number. The result was an increase in total call volume with reduced call throughput.

By adding an Ingate SIParator 95 to the mix, the customer was able to handle up to 1,800 concurrent voice calls and 50 call setups per second – and be well-positioned for future growth.

SIP trunks plus an E-SBC can add an enterprise-level of security that's simply unavailable with traditional telephony: a benefit that can make all the difference for sales prospects. Also, with quality of service measures, voice quality over SIP trunks rivals that of traditional phone systems.

What about WebRTC, which many are heralding as a disruptive technology that will transform the industry? WebRTC and SIP are both protocols that are being used for unified communications applications. And with upcoming Ingate WebRTC additions to its SIParator product line, SIP and WebRTC will be able to work seamlessly together for optimal call completions and maximum cost savings.

An E-SBC is the key that unlocks the potential of both SIP trunking and WebRTC, applying security layers, ensuring business-class voice and video quality, and paving the way for fast, simplified deployments. IT

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

AudioCodes

AudioCodes One Voice for Microsoft Lync

A comprehensive product and service program, simplifying voice-enablement of Microsoft Lync with a product portfolio of voice network elements, advanced support services and consulting expertise.

One source for all voice network elements

One expert team for voice professional services

One point of contact for voice support

To learn more, visit: www.audiocodes.com/Microsoft

Lync

Microsoft Partner
Gold Communications

By Frank Yue

Content Routing & Network Virtualization

In 1989-1990, a new technology was introduced. It enabled devices to learn MAC addresses on their Ethernet ports and only send traffic out the ports that had the associated MAC addresses. This was the birth of switched Ethernet. No longer would a PC or device on the network receive all the traffic on the local network even when the traffic was not destined for it. This greatly reduced the congestion on the network. The technology to support this meant that the Ethernet hubs (switches now) had to have the ability to learn layer 2 information and leverage that information when making forwarding decisions.

Routers became more powerful and hardware based as well. The routers make their forwarding decision on the layer 3 information (IP address). Hardware-based routers upped the ante in the mid-1990s with the release of flow-based technology. Many Internet engineers know of these flow technologies as a statistic collection of protocols to understand what kind of traffic is seen on the network. When they were created, though, it was to improve the performance of the router. The statistics were an afterthought.

These flow technologies utilized a forwarding information base that pushed local routing information from the central management to each interface card in the router. The typical FIB stored source IP, destination IP, source port, destination port, and IP protocol, what we now consider to be a 5-tuple. But Internet engineers discovered that most of the traffic seen consists of TCP and UDP flows that have large numbers of packets in each flow. One central search for the first packet will result in a FIB match for all the following packets in that flow. The FIB introduced the ability to store forwarding information at the interface for layer 3 information and ultimately layer 4, but that is leveraged later.

In the mid-late 1990s, several companies developed customized hardware solutions that did what we typically refer to as server load balancing. SLB meant that these devices were managing traffic to multiple servers on a per application basis. And, when we say application, we really mean TCP and UDP port number. Layer 4 load balancing is popular. To provide the necessary performance, these companies design FPGAs and memory models to store the layer 4 information at each Ethernet port. They typically store a 5-tuple in memory and are able to direct traffic to different ports and servers based on any characteristic within the 5-tuple. These devices were the first true layer 4 routers.

Move forward a few years and layer 4 is no longer enough. Multiple applications use the same layer 4 port. Servers are hosting content based on the type of information. It is necessary to take a major step forward. Up to this point in time, all the routing and forwarding decisions are based on content within the packet header. This information is based on Internet standards in specific formats. It is easy to create FPGAs and ASICs that can parse the packet header since the information is in a relatively fixed format.

When we break into the packet payload, identifying the key information becomes complex. There are many different protocols that need to be understood such as FTP, SMTP, LDAP, RADIUS, DNS and more. Then there is HTTP, which is a world unto itself. With HTTP, there are many protocols within the protocol. I have claimed HTTP to be a higher layer transport protocol in the past. Application protocols such as XML, RTSP, SOAP, TR-069, and many others utilize HTTP as a convenient transport method. It has become essential to look into this content to determine the application and properly route this data to the appropriate resource.

Hardware performance has improved so much since the 1990s that it is possible to do full layer 7 content routing at high speeds. It is possible to do layer 7 inspection and decision making at speeds beyond 1 gigabit and 10 gigabits per second.

Here is the really cool part of this discussion. Once the device is doing layer 7 content inspection and routing, it becomes possible to do much more than just vanilla SLB. We can now inspect the content for potential buffer overflows before they hit the application server. Content can be cached and delivered to offload the workload from the servers. We can look for malicious content and identify the source. We can optimize the content being delivered through compression or content consolidation. Policy controls can be implemented based on client/server details and specific content. We can even insert additional functions in the application path for security and authentication.

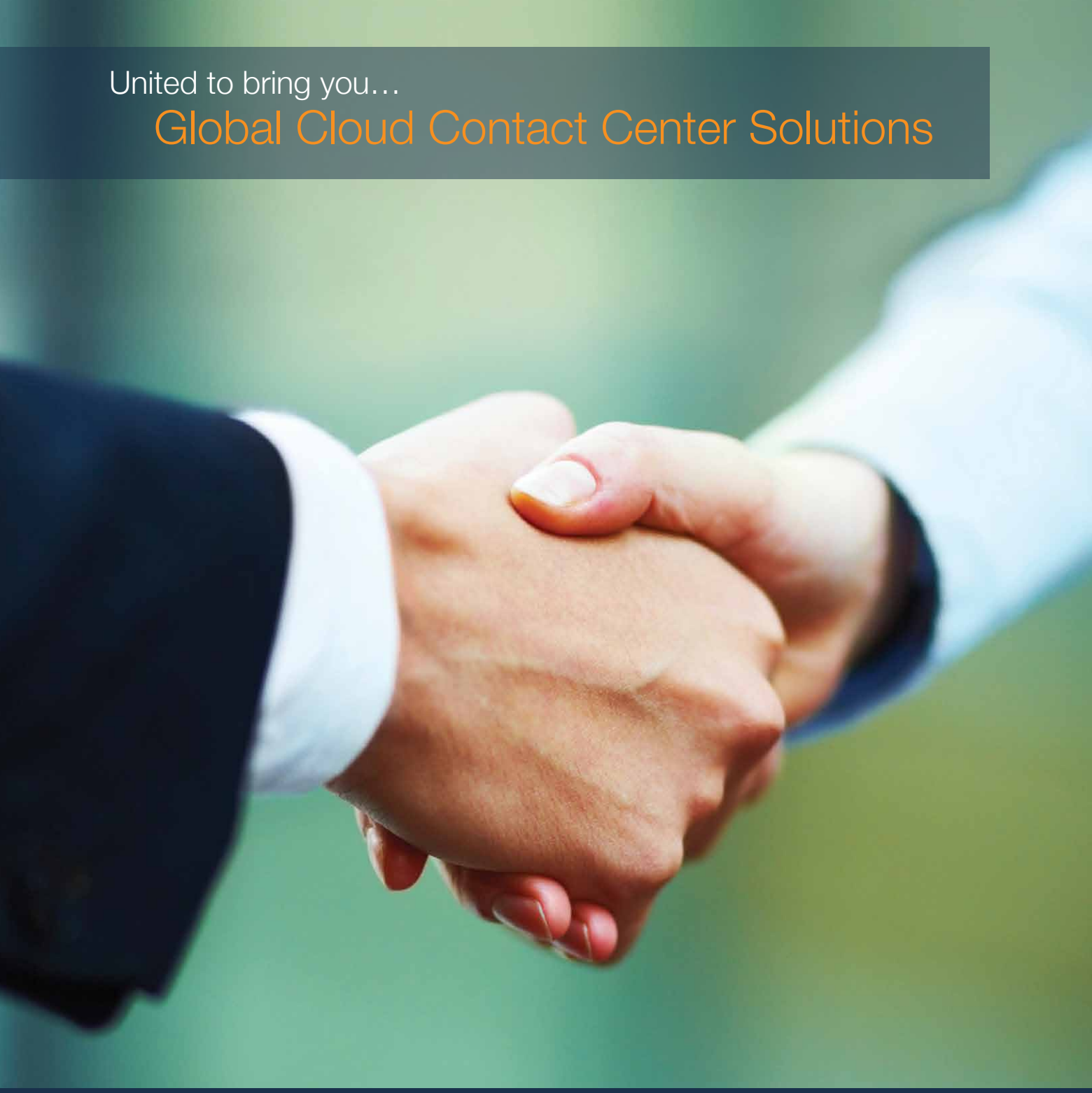
Many of the new technologies we hear and talk about are based on layer 7 content inspection and routing. The IDS/IPS is a content router that looks for specific security signatures and acts upon what it sees (usually logging and dropping the malicious information). A UTM/NGFW looks at content from a client perspective and permits/blocks traffic associated with that client, usually from a security and policy perspective. A WAN acceleration device caches duplicate content and optimizes content and traffic for high latency and low speed circuits. The server load balancer is your original traditional layer 7 content router.

The communications service providers have acknowledged that they need to leverage the content within the data traversing their network. There is a value in managing the content within the network from a value-added service perspective and enabling the virtualization of the evolved packet core through technologies and strategies such as software-defined networks and network functions virtualization. All of these solutions are leveraging the same base technology to deliver different functions. Ultimately, all of these niche solutions are going to disappear and the base technology will encompass any and all of these functions in a solution consisting of a platform sharing a common architecture, design, management and functionality. IT

Frank Yu is technical marketing manager at F5 Networks (www.f5.com).

United to bring you…

Global Cloud Contact Center Solutions



The Genesys | Angel Saas Platform gives your business:

- Fast and flexible IVR and contact center solutions to meet your unique needs.
- An open, configurable and scalable cloud-based platform.
- On-demand business intelligence and caller analytics.
- True multi-channel communications including SMS, mobile, chat, and more!

Discover More about the robust Genesys | Angel SaaS offering:

angel.com | 1.888.MyAngel

Genesys | Angel

Appification

By Michael Stanford

Mobile device platforms and form factors are proliferating like weeds. IT departments have conceded BYOD to their users, so now they are faced with supporting a rapidly evolving array of client devices. In response to this problem, solution providers have come up with a new category of product, the mobile enterprise application platform, or MEAP – though each vendor has its own name for this category, like MADP, mBaaS or AMP. But a portmanteau solution may not be appropriate.

The world of consumer apps has evolved away from big do-everything products to a plethora of narrow, specialized, tools optimized for particular uses. If recent history is a guide, the enterprise world will follow this example. It is easier to think about how this can play out if we divide legacy IT applications into two categories: apps with web client interfaces and ones with proprietary client interfaces. The ones with proprietary client interfaces remain tough to get onto a phone. But for applications with web client interfaces, a company called Capriza has an ingenious solution that appears to be easy to deploy.

Capriza has a Firefox plugin that anybody can use (no technical skill needed) to design a custom web app. You operate your legacy corporate web application in the usual way from your desktop browser. The Capriza plugin places an image of your phone next to the web app page in Firefox. The plugin lets you drag fields and buttons from the corporate web app page and arrange and reformat them on the on-screen representation of your phone. That's it!

Then you log in to the Capriza server from your smartphone. The Capriza server logs in to your corporate application pretending that it's you on a PC browser, and passes the data back to your phone using the field mappings you designed earlier on. For each activity that you habitually perform on the corporate network you can create a little custom app, recasting the user experience into a more modern mold with very little effort. IT

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

Leverage – Use It

By Max Schroeder

The lever is a simple device using a bar (long stick) and a pivot. It is one of the first tools used by man due to its simplicity. A bar 10 feet long can move a 200 pound rock if the pivot point is set 2.5 feet from the rock. The mechanical advantage would be 4:1 so the person only encounters the equivalent of 50 pounds of peak resistance.

Leverage is also a great tool for resellers. A reseller would be considered the bar and the vendor's advertising vehicle the rock. In this scenario a marketing advantage ratio would be calculated instead of a mechanical ratio. A $5,000 a month advertising site with a 5:1 marketing ratio would cost the reseller $1,000 a month for site participation.

My personal experience in managing reseller programs has proven that proactive resellers were generally at the top of the charts when year-end sales totals were posted. Take the initiative and ask your vendor(s) what marketing assistance is available to your company. There is no downside to asking, and your aggressive posture could put your company on the short list of partners targeted to participate in shared marketing programs.

Today's cloud-driven environment is ideal for shared programs. Social media can be most effective in regional markets where local knowledge is critical. Vendors will look to their partners in these markets to provide the local market minutiae and guidance. Larger resellers can partner with vendors to target specific national market segments. For example, if a reseller is providing cloud-based solutions like hosted VoIP, hosted/managed fax, cloud hybrids or other application service provisioning solutions, the local market advantage is less of a factor. These solutions can generally be installed and managed remotely so geography is not really important.

TMC's Online Community platform is an excellent example of shared marketing venues for vendors and resellers. Each community has a sponsor, and many solicit partner participation. The partner gets some very visible exposure at a fraction of the full cost. The sponsor gets confirmation that the partner is committed to its product and is taking a pro-active selling posture. The marketing advantage ratio benefits both parties, so it is a true win-win situation.

Go to www.tmcnet.com and select communities from the top menu, then look for possible partners. IT

Max Schroeder is vice president emeritus at FaxCore Inc. (www.faxcore.com).

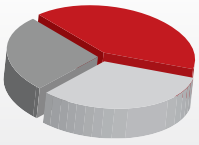
The Channel – Magnified.

Since 2001, iAgentNetwork has provided tens of thousands of channel partners the latest information on products, services, promos, conferences, training events, roadshows, magazines, newsletters, webinars, press releases, career opportunities and much more via our industry leading e-blast service.

We have the most comprehensive email database of Agents, VARs, VADs, System Integrators, Carriers, Resellers & CLECs in the telecom industry. We have established long-standing relationships with key publications, conferences and associations within the telecom channel. What does that mean to you? We've done all the legwork to identify the potential partners to help you resell your telecom product or service!

iAgentNetwork offers design services for our clients. Our designers are uniquely talented, highly specialized and have years of design experience within the telecom industry. E-mail advertising remains a highly effective form of marketing. iAgentNetwork designers not only have the talent to make your e-blast ads look great, they employ best practices of email marketing to ensure the highest deliverability of your e-blast ad to iAgentNetwork's database.

iAgentNetwork Database



9,000
Master Agents, Agents, International Agents

7,000
VARs, VADs, Interconnects & System Integrators

6,000
Carriers, Resellers & CLECs

E-Blast Examples

Database + Design + Deliverability = RESULTS

iAgentNetwork
Targeted Telecom Marketing

Contact us today to reach the channel tomorrow!
(877) 867-2553 or **sales@iagentnetwork.com**

By Ken Osowski

Does Big Data Equal Big Answers?

The amount of data getting generated by businesses of all types has been exploding, and analyzing this information will be key to maintaining a competitive stance in the market. This is the essence of the big data movement. This phenomenon is happening across all industry verticals, but it is especially being felt in the communications industry where network bandwidth is increasing by at least 50 percent a year to accommodate all of the network traffic getting generated.

The ideal is to get the metadata in as close to real time as possible from the DPI platform to the big data analytics solution. The contemporary approach to this is to use an IP protocol called IPFIX.

The big data opportunity is to use the network and subscriber metadata – i.e. data collected about network traffic and subscriber profiles – to help service providers make better network investments and optimize their business models. So, for service providers, big data is about generating the right business intelligence to make better business decisions.

Fixed, mobile and cloud operators continue to make significant investments in policy/DPI platforms and OSS/BSS systems to commercialize innovative subscriber-based services. These systems generate or maintain much of the network and subscriber metadata needed to enable big data analytics solutions. The challenge for suppliers of big data analytics solutions is that the metadata can be spread across many disparate, geographically dispersed platforms in a service provider's network that are key to operationalizing the network and back-office systems that house much of the subscriber metadata. This includes a DPI platform to generate traffic statistics that identify and classify network usage by subscriber, device, network, and content in real time. Other metadata sources such as IPDRs, OSS, BSS, DNS and DHCP logs can also be used to provide information about billing events, subscriber-specific service plans, and subscriber demographics.

But when it is feasible for all of this data to be gathered and fused together, many different analytics solutions are possible including:

- network planning and optimization based on long-term trends;
- OTT content and video analytics;
- correlation between network events and call center activity;
- marketing segmentation for campaign management;
- upsell and cross-sell opportunity identification;
- targeted advertising; and
- advanced churn detection based on inactivity.

To realize these solutions, a big data analytics platform must be tightly integrated with the DPI platform, especially since the volume of statistics generated in a large service provider network can overshadow the amount of data from the other metadata sources. This has traditionally been implemented in a batch model where data is extracted from the DPI platform in flat files or spreadsheets and then ingested by the big data analytics platform. This may work for solutions like long-term network capacity planning, but would not be effective for targeted advertising or providing enough bandwidth to an OTT video user on an economy broadband data services plan.

So the ideal is to get the metadata in as close to real time as possible from the DPI platform to the big data analytics solution. The contemporary approach to this is to use an IP protocol called IPFIX. This allows the DPI platform to stream subscriber and network metadata statistics in real time while the big data analytics platform is accessing information from other data sources to ascertain what service plan the subscriber is on, to see for example if there is a real-time upsell opportunity in progress. IPFIX also offers a rich set of customization capabilities by specifying data field mapping and the time intervals for passing information between the DPI and big data analytics platforms. By using a standard protocol it is possible for the DPI platform to easily integrate with many different big data analytics platforms to feed them Internet intelligence.

This technical approach creates a rich set of capabilities that deliver on the promise of big data analytics for service providers of all sizes and types. It puts powerful business decision-making tools in the hands of many different departments inside service provider organizations – from engineering and capacity planning, to marketing and service planning – empowering them to get the big answers they need to run their parts of the business. For them big data does equal big answers. IT

Ken Osowski is director of solutions marketing at Procera Networks (www.proceranetworks.com).

By Jim Machi

SDN vs. NFV: What's the difference?

Hype is rising around software-defined networking and network functions virtualization. But along with hype, there is also a lot of confusion. Some people are even swapping between these two technologies as if they're the same. Both technologies are about to play a critical role in the next generation of telecommunications, data center and enterprise networking. However, both the definitions and scope of SDN and NFV are still evolving.

Adding to the confusion, the benefits of NFV and SDN are similar: cost efficiency, flexibility, ease of scalability and quicker service introduction. To make this even more perplexing, the terms come from two origins. The NFV terminology comes from the telco world, while SDN is from the IT domain. Part of the problem is that, so far, the telco world hasn't seen much in the way of direct vendor positioning for NFV, despite the fact that many analysts and experts predict that it will likely have more of an impact on the network equipment market than SDN will.

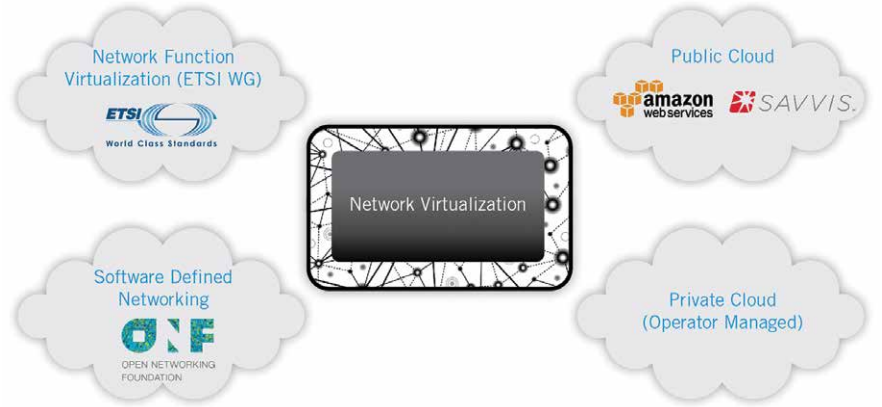
What makes NFV and SDN possible? The capability of processors has finally reached a point where network functions can be deployed on commercial off-the-shelf hardware. The multi-core, virtualization and hypervisor technology enable multiple functions to occur on the same processor. Today's processors are clearly capable. IP networks have enabled easier connectivity to network nodes and connectivity to network nodes that have been disaggregated, all at the speeds required. This allows separation of the control plane and data plane, for instance, enabling SDN in the first place, or separation of the application from the media server, making NFV possible.

Let's examine the benefits of a software approach.

Capex reduction: NFV software would run on COTS hardware and when that has happened in other industries costs for that product set and solution typically come down. A related piece to this reasoning is savings on chassis. An NFV node can run on a single board computer and that goes into a common chassis with multiple other network nodes, also on single board computers. This results in savings on chassis as one wouldn't need a chassis for each network node. There would also clearly be sparing savings since the COTS components are less expensive, and they would be more commonly available, obviating the need to as much on-site sparing.

Opex reduction: A side benefit of managing NFV is if network functions as described above sit in a common side running on single board computers, then management of the nodes becomes easier. One could also make an argument that managing multiple vendors would be easier with SDN, especially if standards are in place for how the software interacts on the network. I have heard for instance talk of an SDN controller that would manage the apps interacting with the network functions. This would be able to configure the network and collect performance on the entire network.

Service delivery: Another important consideration is that service velocity is increasing. New services are being rolled out quicker. Agility with respect to the network elements are required to be able to meet these needs. Software-based network elements enable this agility because of ease of scalability and ease of adding newer functions such as transcoding. And what about needs based services? That is, there might be a spike of traffic or service and you need more service capability instantly? With a software-based network element, adding more capacity can be enabled much, much quicker. And what about if you're not sure if you need a network element, or not sure how much of the resources of that node you need? NFV is a great way to get started. If you don't know how many resources you need, then you can get started using this and scale it up relatively easily.



Is there a clash of technologies between IT and telco when it comes to NFV and SDN? My opinion is that NFV is a step on the way to SDN. They can co-exist within the same infrastructure – for example, the network operator data center that feeds into the enterprise network. They do not compete. IT

Jim Machi is vice president of product management at Dialogic Inc. (www.dialogic.com).

inGate®

ITEXPO

NEW SIP Trunking-Unified Communications Seminars

Get the Facts About SIP Trunking and Unified Communications

Learn everything you need to know from the industry's top experts at these educational seminars, ***free*** for all ITEXPO attendees.

WebRTC School Training and Certification Program

Monday, August 26, 2013

Learn and Qualify! ITEXPO and WebRTC School offer one great package to get WebRTC Certified.

Tuesday, August 27, 2013

SIP Trunking Academy (Certificate Program)

9:00am	Welcome
9:10am	SIP Explained
10:00am	Service Providers: An Overview
11:00am	The IP-PBX
11:30am	Hosted SIP Trunking
1:00pm	SIP Trunking with Microsoft Lync
2:00pm	Managing FoIP over SIP Trunks
3:00pm	Case Study: Large Call Center Dials-Up SIP Trunks
4.00pm	SIP Trunk security with E-SBCs

Wednesday, August 28, 2013

Unified Communications (Certificate Program)

8:30am WebRTC Introduction and Overview

10:00am Enabling WebRTC in the Enterprise

- A) How Can WebRTC Enhance the PBX/UC Solution?
- B) Will SIP Trunking E-SBCs Include WebRTC Support?
- C) Can Carriers Provide a "WebRTC-Ready" Access?

11:30am TOWN HALL MEETING: SIP and Unified Communications

12:30pm Making FoIP Work with RFC 6913

1:30pm Open Source IP-PBX Software

Thursday, August 29, 2013

BOOT CAMP

9:00am	Building Your Business with SIP Trunking and Unified Communications
11:00am	Q-TURN: The Firewall Traversal TURN Server for WebRTC in the Firewall
11:30am	The Ingate WebRTC & SIP E-SBC Companion
12:00pm	SIP Trunk "Basic Training" with Ingate

Las Vegas, ITEXPO, South Pacific Meeting Room J

For more information: www.ingate.com

Platinum Sponsors:

ANPI — COLLABORATE. INNOVATE. DELIVER.

Broadvox™

Sponsors and Guest Speakers:

ShoreTel — Brilliantly simple

nacr.

Microsoft

WebRTC STRATEGIES

FAXCORE — WHEN EVERY FAX IS MISSION CRITICAL

Phone.com — Communicate Better

Grandstream — Innovative IP Voice & Video

TelecomReseller™ — The Voice of UC Networks

By Paula Bernier

WebRTC Continues Its Advance

Technology Promises to Deliver 'True UC'

The sun is setting on the PSTN and narrowband voice networks, while the WebRTC ecosystem and the number of solutions based on the new technology are growing. Already, WebRTC is supported on more than 1 billion endpoints, says Google, one of a raft of important tech companies driving this new technology. And Disruptive Analysis expects that to grow to 3.9 billion by 2016.

Yet there are few value-added solutions based on WebRTC, and the jury is still out as to whether tech giants Apple and Microsoft will endorse, ignore, or – worst case scenario – interfere with, the advancement of WebRTC.

That was some of the commentary from speakers at the WebRTC Conference & Expo this summer in Atlanta.

The Missing Piece

"The big issue with Microsoft and Apple is that if they did nothing it would be better than if they did something completely different," Ian Small, CEO of TokBox said, adding that with new Firefox support for WebRTC, the clock starts ticking on these other companies.

Here, Small gets to the fact that WebRTC is not ubiquitously available because it's not built in to all browsers. Rather, only Google's Chrome and Mozilla's Firefox browsers currently support WebRTC.

When and whether Apple and Microsoft eventually follow suite with Safari, a lesser used browser but one that's built in to the popular iPad and iPhone devices, and Internet Explorer, which according to Netmarketshare is the leader by far with 56.15 percent market share, remains to be seen.

Rich Tehrani, CEO of TMC, which puts on the WebRTC event in partnership with PKE Consulting's Phil Edholm and Crossfire Media, asked Small and other experts on a panel in Atlanta whether Microsoft's recent move to buy Skype may make it less likely to embrace WebRTC.

"Skype's value is not their endpoint, it's the service. So why would WebRTC be anything but a good thing for them?" responded Jan Linden, senior product manager for Google.

Small seemed to agree, pointing out that Skype has a network and has users on the service that network enables, and commenting that getting the users is the hard part.

Bistri's Arnaud Budkiewicz

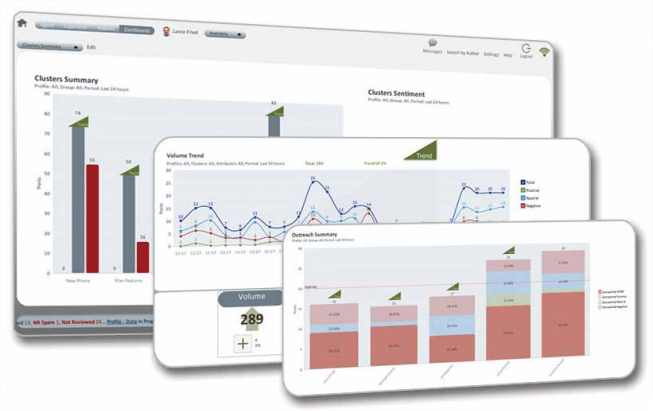
"WebRTC is just a transport, and I think they'll get there in time," Small said of Skype and Microsoft.

Band of Brothers

While WebRTC thus far has failed to get the green light from Apple and Microsoft, the technology certainly has a strong stable of supporters. In addition to Google, which got the party started, Alcatel Lucent, Dialogic, Ericsson, GENBAND, Genesys and many others are WebRTC proponents. And Graham Holt, vice president of sales solutions and engineering at software engineering services company Daitan Group, which has a client list that includes large carriers, over-the-top providers, social media companies, and anybody that needs help with big data projects, said that everyone in videoconferencing wants to bridge over to WebRTC.

The popularity of WebRTC is also evidenced in the growing attendance at WebRTC Conference & Expo, which doubled between the November event in San Francisco and the June gathering in Atlanta, Edholm noted in a recent blog.

"The WebRTC ecosystem and community is growing," he added. "It started in 2010 with a small group at Google, expanded in 2011 with a strong group of standards advocates and then in 2012 with early evangelists and companies. In Atlanta, we saw an upswing in service provider attendance and interest as



well as explosive growth in applications and services that were delivering key values with WebRTC as an adjunct."

Going forward, Edholm expects enterprise telecom teams and customer service teams to move into the fold. To date, these teams have been on the sidelines, he said, but as they begin to do their 2014 planning, WebRTC is moving into the picture. The next WebRTC Conference & Expo, this one to take place Nov. 19-21 in Santa Clara, Calif., will address that trend.

Trends with Benefits

So what's attracting this growing list of converts to WebRTC?

Plenty, noted Google's Linden.

More from the WebRTC Conference & Expo

Bistri has expanded its WebRTC-based free video calling service to support up to four people per conference, said Arnaud Budkiewicz, Bistri's co-founder and CEO. Budkiewicz explained that when a person creates an account, the company tells his or her friends on Facebook that he or she has done so and announces that the individual is now available for video calls at the link. More than 1.3 million people have created Bistri accounts to date. This is a free service for end users. In the future, Budkiewicz said, Bistri expects to provide some premium options so users can customize their links with a company name, logo, or other graphics.

Bolder Thinking is promoting its new webRTC Connect solution, the company's approach for helping brands connect with their customers. John Jasper, Bolder Thinking founder, said that customers frequently start their interactions with companies via a web search or response to a marketing activity. With webRTC Connect, companies can make the most of those interactions by providing visitors with a rich communications experience based on a solution that tracks customer behavior on the web, Jasper added, so when that customer is ready to escalate his or her communication with the company, there's no need for annoying IVRs or for the customer to repeat or re-enter information he or she has already provided via the web. While click-to-call capabilities have long been available on many companies' websites, Jasper said that WebRTC makes it more simple and seamless. If a person is doing a live text chat and then wants to escalate to voice, enabling that is a complex CTI problem, he said, but that's not the case where WebRTC is involved.

CDE is a 15-year-old software development company that mainly does CTI development to address such applications as call center solutions like ACD, predictive dialing, IVR, and multichannel distribution; as well as mobile telephony server and voicemail. Matej Zvan, CTO of CDE, said that WebRTC allows for much better communications between businesses and customers. WebRTC also lets you do everything on the cloud so you can spin up new capabilities more quickly, he said, and it enables customers to provision call center campaigns much more easily via web portals.

Digium introduced WebRTC with the delivery of Asterisk 11, which it made available last year. New in that version is support for DTLS-SRTP, which is a secure transport for RTP media streams used by WebRTC and SIP endpoints; support for ICE, a framework that tries to find the best path for each WebRTC session; support for STUN and TURN, standards that provide your public IP address and send data flows, and a cloud fallback for P2P; Motif, a channel driver for supporting the Jingle protocol and Google Talk; and WebSockets SIP transport, which allows browser-based SIP clients to connect with Asterisk and establish media sessions.

Brazilian call center platform provider **Instant Solutions**, of which Paolo Mannheimer is CEO and founder, aims to make life easier for IT folks who have to cope with growing complexity and user needs related to telephony support. It's doing that by introducing a zero-configuation, zero capex call center, which leverages WebRTC. Most people talk about WebRTC from the customer perspective, noted Mannheimer, but Instant Solutions looks at it from internal corporate standpoint, he says. The actual product, called InstantVoice WebRTC, is a gateway that can either be offered as an appliance or as a cloud-based solution.

OpenClove in August was set to launch the WebRTC version of Live Board, a reference application that allows users to enter into a multi-party video call directly while browsing, playing or shopping on any web site. Shubh Agarwal, vice president of marketing, said that Live Board, which is available in the Apple and Google app stores, showcases the WebRTC concept so people can browse any content, chat and share the same screen on any end device. What's unique about this platform is it's optimized for

mobile use and is enterprise grade, said Pulin Patel, OpenClove CEO. Agarwal added that OpenClove caters to enterprise users and web developers with the aim of enabling them to insert WebRTC capabilities into their apps within five minutes.

Priologic at the WebRTC Conference & Expo in Atlanta unveiled and demonstrated tawk.com. The solution, targeted at 13- to 30-year olds, allows users to create free, secure, anonymous video chat rooms with fast startup, and better privacy. Priologic CEO Doug Pelton explained that tawk.com is a consumer product built on top of easyRTC Enterprise. Priologic's first WebRTC solution was easyRTC, which offers front-end and back-end pieces that let developers use their laptops to build WebRTC apps. The company then introduced easyRTC Enterprise, which adds monitoring, logging, and signaling service to the above. It built this second offer as a platform to support its own products and the products of others. And tawk.com is its third product. The company is seeking large distribution partners for its products.

Quobis, a seven-year-old Spanish company focused on security, interconnection and integration related to unified communications, recently unveiled SIPPO, a corporate WebRTC softphone used by corporate users but deployed by service providers, that can interoperate with network elements from any vendor. SIPPO supports SIP over web circuits and also supports REST and other signaling methods. The solution implements all UC methods – audio, video, web chat, call recording, screen serving, file transfer, the ability to work with LDAP, and address book (which can be stored locally or in the cloud).

Temasys, a video as a service provider, came across WebRTC about a year ago and immediately saw its potential, said Bill Lewis, managing director, so it built a development team around it. The Singapore government is funding Temasys to develop intellectual property within Singapore. That backing gives Temasys access to a built-in user base. And that's no ordinary user base, he said; Singapore is incredibly connected – probably the most connected per person in the world. It's a center of greater Asia; and, of course, this area is seeing big population growth, and big economic growth. "We are probably in the hottest spot in the whole world," said Lewis, adding that Temasys is the most significant WebRTC player in Asia following Huawei and Samsung.

TokBox is doing all it can to simplify WebRTC and make it an enterprise-grade platform for commercial services. That's the word from TokBox CEO Ian Small, who at the WebRTC Conference & Expo in Atlanta unveiled some solutions aimed at enabling this simplification. That includes the new Cloud Raptor, and additional features for the recently unveiled Mantis solution. Cloud Raptor delivers centralized command and control of WebRTC communications. It does timing, analytics, and more. The solution, which includes a Java SDK, centralizes business logic for your OpenTok app, and enforces policies for face-to-face video connections. As for Mantis, it is TokBox's media routing solution, which also does scaling and shaping, enables you to scale a video communication from a single endpoint into as many endpoints as are desired, and now has intelligent signal adaptation.

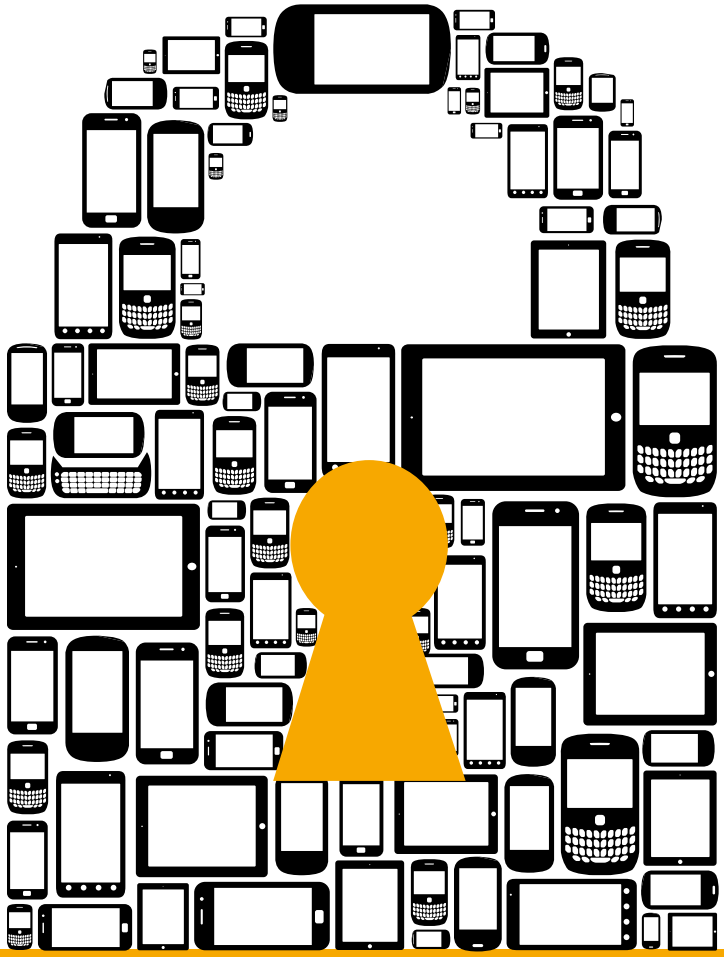
For starters, it transforms the browser into a web communications hub, he said, adding that without WebRTC there's a big gap between native and web apps.

WebRTC, he continued, is easy to use, fast, secure, freely available, and allows for simple integration with HTML5 solutions. Chrome, Firefox, and Opera update frequently, so there's lots of innovation there, he added, and the web is a better place to be for developers for the above reasons and because it's always up to date and evolving – both in terms of the browsers and the apps.

Dialogic Corp. recently did a survey to get insight on what people see as the key benefits of WebRTC. Jim Machi revealed that 60 percent of respondents indicated the primary benefit of

Bill Lewis of Temasys

Iago Soto Mata of Quobis

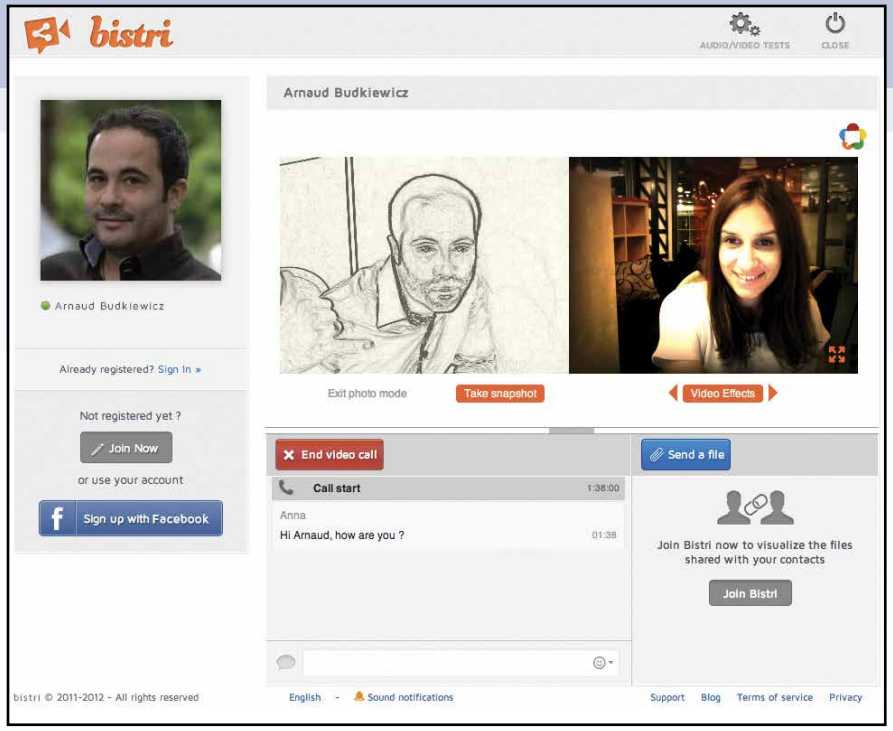


Secure your enterprise mobile apps and devices quickly and easily.

Every day new devices and apps are brought into your enterprise. Now you can implement comprehensive and secure enterprise device, content, and app management for all of your mobile platforms—with the same SAP solution. Used by 200,000 enterprises worldwide, it's fast, easy, and from the proven industry leader.

Learn more at sapafaria.com

SAP The Best-Run Businesses Run SAP™



WebRTC, as they see it, is that it allows for communications without requiring a client download. However, Dialogic's vice president of product management went on to say that what his company thinks is truly disruptive about WebRTC is it allows for true unified communications. Today's UC, he explained, is more of a Frankenstein model, where you have different components of unified communications stitched together.

Come Together

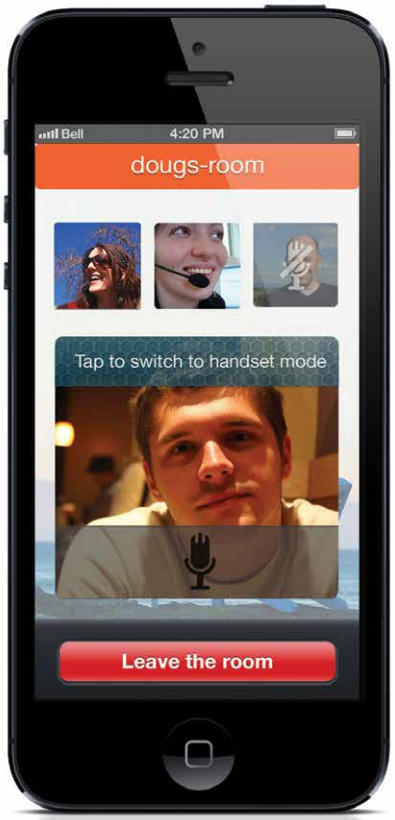
However, there's a fair amount of stitching together that is likely to take place on the WebRTC table as well. Dialogic's Machi, among others at the Atlanta event, were very clear in emphasizing that need, which by the way puts companies offering tools like media servers and session border controllers in a position to benefit. While there's a lot of talk about how WebRTC enables browser-to-browser phone or video calls, another use case can connect the browser to something else – like a browser to a gaming network or a mobile network, for example, he said. And when the browser is connected to something else, there's a need for a media server to save files, and to do things such as signaling and transcoding.

At this point in the WebRTC adoption curve, we're seeing primarily point-to-point calls and contact center extensions first, said Ray Adensamer, senior manager of product marketing at Radisys. Point-to-point WebRTC calls between two processors may not need any media processing in the core, Adensamer said. But, he added, there are many situations that will need media processing, such as situations in which WebRTC-to-SIP interconnections are involved.

To address that, Radisys this summer came out with the MPX-OS, which is the foundation for all Radisys media processing products and configurations, including the MPX-12000 Broadband Media Resource Function and Software MRF. The new OS supports KVM virtualization for cloud deployments; Radisys is working on that front with Genband. Its technology is embedded in Genband's SPiDR WebRTC gateway, which sits at the edge of the network and provides open, web-centric APIs that allow application developers to leverage the rich communications services of the telecommunications network – including voice, video, presence, shared address book, call history, instant messaging, and collaboration.The MPX-OS also features support for the VP8 video codec, which is the codec defined in the WebRTC standards.

Weemo also has introduced a solution that allows for interoperability between WebRTC and non-WebRTC environments and devices, said Soufiane Houri, head of product at Weemo.

Interoperability and interworking between WebRTC and non-WebRTC solutions, and between different WebRTC solutions, were key themes of the many demos at this summer's event in Atlanta. But the real WebRTC interoperability challenge – beyond Chrome and Firefox, of course – is the lack of support for the technology in all the popular browsers, said Linden of Google. On the up side, he added, people are becoming more and more used to having more than one browser. Even his parents have two browsers, he added, so perhaps some browsers not supporting WebRTC is not as huge of an issue as it seems. IT



Priologic's tawk

Mandalay Bay | Las Vegas, Nevada | August 26, 2013

SDN PRECON AT ITEXPO LAS VEGAS

SDN Precon at ITEXPO

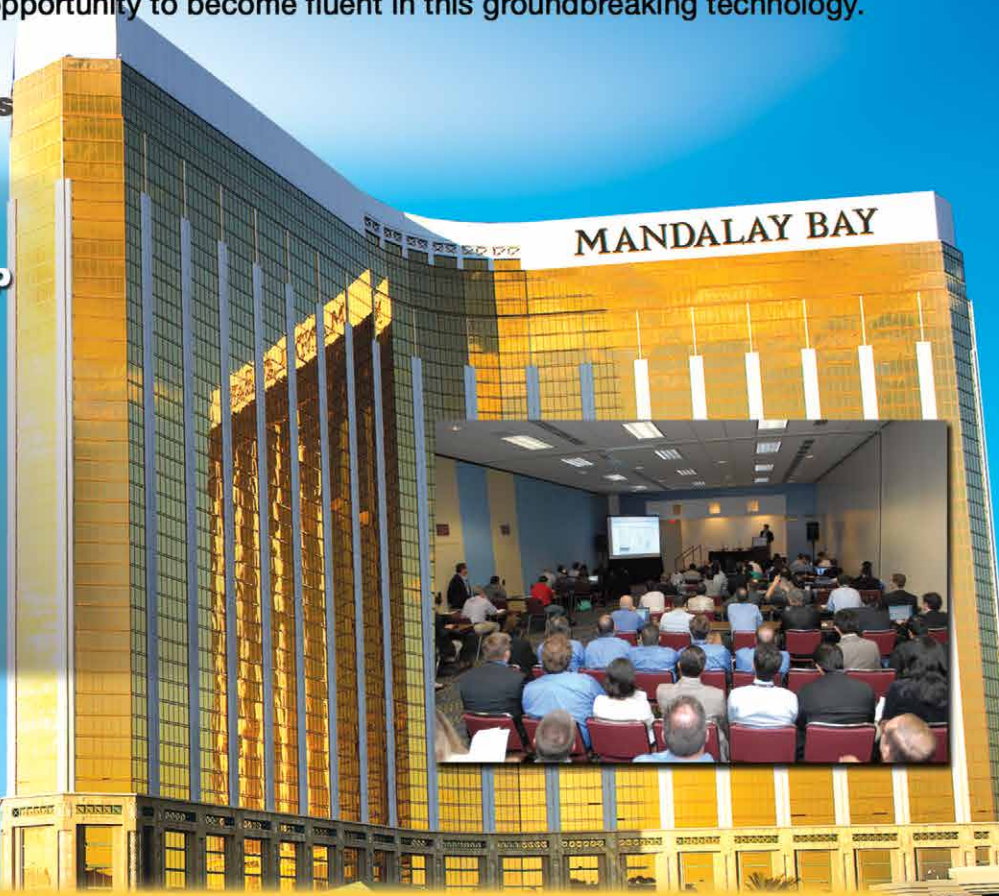
SDN is Disrupting Networking

Find Out What You Need to Move Forward

To date, networks and connectivity have come first, and applications have followed. The software-defined network (SDN) turns this model on its head, approaching networking from an application-and services-first standpoint. SDN is the future of networking and SDN Precon at ITEXPO is your opportunity to become fluent in this groundbreaking technology.

Join us for presentations on the following topics:

- **Analyzing SDN**
- **The Intersection of App Layer SDN and SDN**
- **NFV & SDN**
- **Network Visualization & SDN**
- **ONF Update**
- **SDN's Impact on Enterprise Services**



Media Sponsors:

ITEXPO

MACHINE Evolution

SDN Precon at ITEXPO will introduce you to experts who can educate you on SDN and show how you can benefit from SDN solutions.

REGISTER TODAY!

www.sdnzone.com/conference

By Peter Radizeski

Assess, Address Marketing

The big problem with most channel programs is the lack of marketing. There are three pieces usually missing from channel marketing.

The first and foremost is the branding. Any way you look at it in cloud and telecom services, there isn't much branding. CLECs have a bigger problem with it than most. AT&T, Verizon, Comcast, Cox have known brands. EarthLink has name recognition from years as a consumer dial-up ISP. Why is a brand important? It conveys trust, identity and promise, which makes selling easier. Otherwise, you have to develop trust and identity during the sales process every time.

Branding starts with how you position your company. Vision, mission, purpose and values are all components of the brand. But even just figuring out where your services fit into the grand scheme of things is a significant progress.

Channel partners already have a portfolio of services that they have to sell to meet quota and pay bills. Where will your services fit into that portfolio? In a blog for the Cloud Services Community, I wrote about the need for adjacency. Your services have to complement or be adjacent to the current crop. And it has to be adjacent in their mind, not just in the vendor's mind.

For example, cloud data backup is complementary and adjacent to selling servers. Another type of example is a Panasonic VAR would not be a good partner for your VoIP service if it is not interoperable with Panasonic phones.

The Panasonic example brings me to the third piece: Know what makes a good partner. In other words, have criteria for what your best partner would look like or at least a minimum set of requirements. The problem most vendors deal with is that they don't want to disqualify anyone from the partner program. They just can't say no, even though each partner consumes resources that ultimately have a real cost of the program.

In short, most channel programs lack some basic marketing pieces – from branding to the application. Without an appropriate brand, sales are more difficult. Without a good story of how your services blend in with the current customers and portfolio, you will be relegated to only occasional sales. A lack of criteria for partners means that you may waste resources on partners who will never produce. Get your channel marketing squared away. IT

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

Axiad IDS Integrates Wave Data Protection

Wave Systems Corp. has announced a strategic distribution agreement with Axiad IDS, a market solution provider and value-added distributor for suppliers of identity and access management and authentication solutions. The partnership will offer Wave's security solutions on a resale basis through Axiad's channel partners. Integrating Wave into its offerings allows Axiad IDS to offer end-to-end solutions to secure data and access to company resources. Customers will get boot protection, data encryption, e-mail security, secure access to computers, networks and applications, either locally, through a VPN or in the cloud – even physical access to buildings. All of this is controlled with a single credential such as a PIV-C smart card.

SaaS Offer Simplifies SMB Marketing

TIE Kinetix, a software-as-a-service provider of e-commerce and channel marketing solutions, has launched its Self-Service Syndication solution, the latest addition to its Content Syndication Platform. It lets SMBs easily distribute, manage and update their marketing content through the indirect channel in real time. In four simple steps and 15 minutes, TIE Kinetix says, companies can start their own content syndication program. The platform is available via a monthly contract with no setup costs; and no limitations on the number of partners, content or real-time content updates.

Vidtel Announces Go-To-Market Program

Cloud-based videoconferencing outfit Vidtel is promoting its new Vidtel Velocity go-to-market support program for Vidtel's channel partner community. It includes an online portal containing sales, marketing, and product management tools that Vidtel partners can use to support their service launch and to arm their sales and marketing teams. All materials on the Vidtel Velocity site, which include sales datasheets, sales training material, sales presentations, and more, can be rebranded and customized. "Vidtel is 100 percent channel-oriented," said Alex Doyle, vice president of marketing at Vidtel. "When our partners succeed, we succeed. We've built the Velocity site and our support programs in order to help our partners launch more rapidly and scale more quickly. The Vidtel team has a lot of experience in selling cloud video, and we're thrilled to be able to share this expertise with our partners."

CompTIA Study: Channel Conflict on the Rise

A new survey from CompTIA found that channel conflict is on the rise. Six in 10 companies saying the incidence of conflict has increased in the last two years and eight in 10 saying conflict has affected their business negatively, according to the non-profit association. The result has been lost business for many channel firms. More than three-quarters said they lost one or more deals in the last 12 months due to channel conflict. The most common response from channel firms to lost business is to complain to the vendor, but about a third attempted to sell a competing vendor's product to the same customer. Three in 10 dropped the vendor in question as a partner, according to CompTIA, which goes on to say that in some cases the conflict has prompted companies to make positive changes.

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

Microsoft Reorganizes

Microsoft has recalibrated, to focus primarily on devices and services. And it has moved around some of its top people to spearhead the effort, which will reorganize the company by function, such as engineering, marketing, business development, research, finance, human resources, legal and COO. Steve Ballmer detailed the realignment in a companywide memo issued this summer. "We are rallying behind a single strategy as one company — not a collection of divisional strategies," says Ballmer."Although we will deliver multiple devices and services to execute and monetize the strategy, the single core strategy will drive us to set shared goals for everything we do. We will see our product line holistically, not as a set of islands. We will allocate resources and build devices and services that provide compelling, integrated experiences across the many screens in our lives, with maximum return to shareholders. All parts of the company will share and contribute to the success of core offerings, like Windows, Windows Phone, Xbox, Surface, Office 365 and our EA offer, Bing, Skype, Dynamics, Azure and our servers. All parts of the company will contribute to activating high-value experiences for our customers."

Equinix, Verizon Partner

Verizon's Private IP service is now available in Equinix's International Business Exchange data centers located in major markets around the world. Verizon's Private IP solution is available in 147 countries and territories across six continents, via Verizon's resilient Private IP network. Verizon also offers reporting and monitoring tools and portals with its Private IP solution, which has the ability to dynamically manage and scale the network.

Rackspace Adds Brocade Router

Rackspace Hosting has announced the addition of the Brocade Vyatta vRouter to its portfolio of networking and security solutions for the Rackspace Hybrid Cloud. The new Brocade Vyatta vRouter is a software network appliance that offers a customer-selectable software image for easy-to-configure firewall capabilities that deliver increased security. The solution also provides Virtual Private Network gateway functionality and other networking services to customers, such as network address translation and routing.

Intel Adds Lustre

Intel Enterprise Edition for Lustre software is a new offering on the market intended to make performance-based storage solutions easier to deploy and manage. Lustre is an open source parallel distributed file system and key storage technology that ties together data and enables extremely fast access, according to Intel, which explains that Lustre has become the popular choice for storage in HPC environments for its ability to support tens of thousands of client systems and tens of petabytes of storage with access speeds well over 1 terabyte per second. "Enterprise users are looking for cost-effective and scalable tools to efficiently manage and quickly access large volumes of data to turn valuable information into actionable insight," said Boyd Davis, vice president and general manager of Intel's Datacenter Software Division. "The addition of the Intel Enterprise Edition for Lustre to our big data software portfolio will help make it easier and more affordable for businesses to move, store and process data quickly and efficiently."

Cisco No. 1 in Cloud Infrastructure

Cisco has taken over leadership of the cloud infrastructure equipment market, just one quarter after IBM's share of the market had hit a two-year high, reports Synergy Research Group. During the first quarter, which was a rough one for the server space, but HP and IBM "took a big hit" in cloud infrastructure equipment revenues, according to the research firm. Meanwhile, says Synergy: "Cisco had a very strong quarter in public cloud networking infrastructure, helping it to grab more than 15 percent share of the overall cloud infrastructure equipment market."

NTT Embraces Network Virtualization

NTT Communications will deploy VMware network virtualization as a core technology for its new cloud service, Enterprise Cloud. "To deliver on NTT Com's global cloud vision announced in 2011, NTT Com offers a new business cloud service that will utilize network virtualization technology in its production environment across 11 data centers in nine countries," said Motoo Tanaka, senior vice president of cloud services at NTT Com. "With advanced network virtualization technology from VMware, NTT Com will provide customers seamless connectivity between cloud infrastructures, and will support customers' cloud migration by connecting with a customer's on-premise data center. We continue to fully support customers using the cloud by offering services that deliver the latest technologies." Stephen Mullaney, senior vice president and general manager of the networking and security business unit at VMware, added: "NTT Com understands the value of decoupling the network from the underlying physical infrastructure, and is embracing network virtualization to deliver new cloud services."

VMware Offers Log Insight

A new automated log management and analytics product for the cloud is now available from VMware Inc. Ramin Sayar, vice president and general manager of cloud management at VMware, explained: "With VMware vCenter Log Insight, we're extending our analytics-based approach to provide timely and rich insight of machine-generated data to IT administrators and operations teams. By integrating VMware vCenter Log Insight with the industry-leading VMware vCenter Operations, we are enabling our customers to take advantage of our unique solution that simplifies troubleshooting in dynamic virtual and cloud environments." VMware vCenter Log Insight, which is expected to be available starting this quarter, is priced at $200 per operating system instance with no log data size limits.

NOVEMBER 19-21, 2013 | SANTA CLARA, CA

SOFTWARE TELCO Congress™

Break Free from Hardware

Carriers: Plan Your Move to an NFV World

- Lower costs with COTS hardware
- Reduce time to market and revenue for new services
- Boost performance and efficiency through dynamic resource allocation
- Build new business models with evolving software ecosystems

Diamond Sponsors: Metaswitch Networks, ADTRAN, Alcatel·Lucent

Platinum Sponsors: CISCO, GENBAND, sansay™, saisei NETWORKS

Register before July 31st and pay just $95!

www.softwaretelco.com

By Paula Bernier

Breaking Out

UNSi Explodes with Growing Partner Ecosystem, Expanded Portfolio, M&A

UNSi is positioning itself to become a communications powerhouse. The company recently moved the needle on that strategy in a big way with its acquisition of Airband Networks. The deal, which closed in May, doubled the size of UNSi both in terms of revenue and personnel. It also expanded UNSi's product portfolio with the addition of hosted VoIP, gave it a launch pad to deliver additional cloud-based services, and significantly strengthened its channel partner effort.

UNSi President and CEO Francis John

Integration has been swift.

Prior to closing the deal, UNSi's engineering staff laid out a six-month timeline to align the two companies' networks. That involves upgrading Airband infrastructure to a carrier-class Layer 2 core network, which requires the installation of new routers and other gear. Work on this front is proceeding as planned. As of mid-July, UNSi had already completed the Phoenix upgrade, and work on Dallas and Las Vegas was getting ready to roll.

As the core infrastructure and platform for all of UNSi's cloud services, it's important this network is stable and clean, says Allan Schwartz, senior vice president of strategic planning and business development. Airband experienced some outages in the past, he offers, but these core upgrades will go a long way to make the network as reliable and resilient as the one UNSi already has in place.

UNSi puts together custom connectivity solutions for multi-location business clients using both its own facilities and the network assets of a variety of local access carriers. Before acquiring Airband, UNSi's product portfolio consisted of Carrier Ethernet, Dedicated Internet Access, and MPLS services. Now, with the Airband deal, it also provides hosted VoIP running on the BroadSoft platform, and fixed wireless last mile access.

But that's just the beginning.

UNSi this month will relaunch (a now nationwide) hosted VoIP service under its own brand, and unveil new desktop-as-a-service, infrastructure-as-a-service, and software-as-a-service offerings. The cloud services will be ramped up by the end of this year, and UNSi will layer additional applications on top of the cloud platform in 2014.

As part of the effort, UNSi is completely repackaging how it offers services, which includes refocusing on certain vertical markets such as health care, legal and retail, and working to make its go-to-market for voice services a lot clearer.

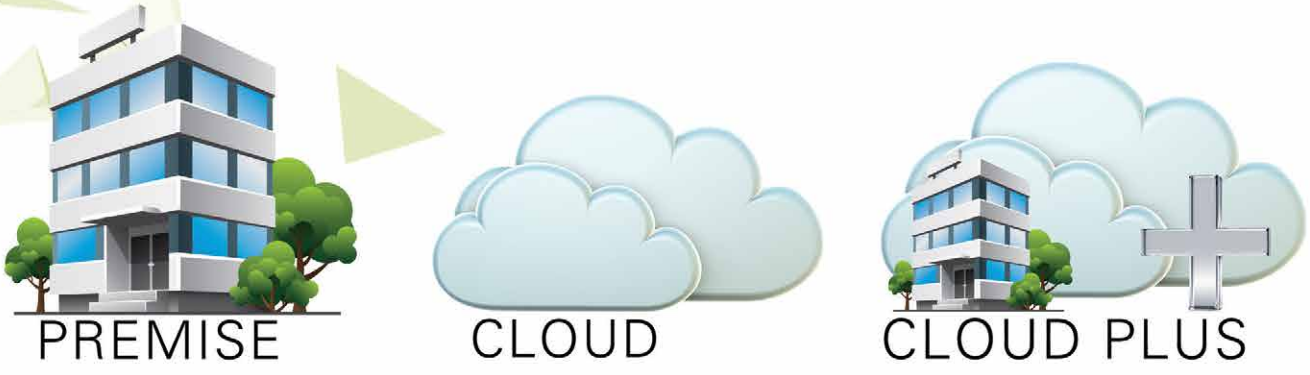
"We're going to market now and stepping up into the next echelon of cloud service providers," says Schwartz.

The new cloud solutions and strategy will be presented to the channel community at the Cloud Partners event in mid-September. UNSi, which prior to the Airband deal had what Schwartz describes as "a fledgling channel program", now has close to 100 channel partners. The company has also been doing in-person visits and webinars to educate the channel on

Teo® Unified Communications

R3ND One Solution, Made for You

Teo's R3ND architecture allows for flexibility in deployment. Whether Premise-based, Cloud, or Cloud+, Teo UC has remastered UC architecture, providing you the freedom to change deployment models as your business needs change.



Remaster your Communications.

www.teotech.com // 1.800.524.0024

its solutions, and how channel partners and their customers can get the most out of a relationship with UNSi.

UNSi also brings its services to market through a direct sales force, a large part of which it acquired via the Airband transaction. The team is now 33 people including direct feet on the street, and client account managers focused on customer retention and upselling.

The business side of things is progressing nicely as well, says Schwartz, who notes that since combining, both UNSi and the former Airband have experienced the strongest two months in their histories. UNSi recently won a 15-site deal with a nursing care organization. It garnered new business from a multi-site golfing range. And a U.S. government agency that had been in an 8-year deal with UNSi has re-upped its contract, this time extending its relationship for an additional 13 years.

Since combining, both UNSi and the former Airband have experienced the strongest two months in their histories.

"We're really building relationships, and that's ultimately success," says Schwartz. "Rome wasn't built in a day. You can't retire on a single sale. This business is about relationships."

UNSi builds relationships with organizations by helping them achieve their goals with the best available resources – be they coax, copper, fiber or wireless, says Schwartz. While the company has its own facilities, he says, it's not as heavily invested in infrastructure as are some CLEC and ILEC competitors. As a result, UNSi is open to providing whatever services and technologies make the most sense for its customers, and it has the flexibility to allow customers to go all UNSi or use its offerings as piece parts of larger solutions.

Following the Airband deal, UNSi now has more human resources to help customers put such solutions in place. UNSi gained a significant amount of engineering and other tech talent as part of the Airband deal. That included one backbone engineer, two network engineers, four RF engineers, two systems engineers, four VoIP engineers; 19 field service technicians; and 15 NOC technicians. And, as part of UNSi's streamlining effort, the engineering division now houses the service delivery unit.

Delivering the best possible customer experience is what it's all about for UNSi, Schwartz adds, explaining that's the thinking behind the company's new Customer Exceed program. Customer Exceed, which involves all 160 UNSi employees, is an effort to improve the customer experience by ensuring follow up with customers, and otherwise encouraging employees to take ownership of their work to deliver the best possible customer outcomes.

Leading the charge is Francis John, who orchestrated the Airband deal. With executive management experience as chairman, CEO and president of public and private companies in the energy, health care, hospitality and telecommunications verticals, John has led more than 100 acquisitions, and raised more than $3 billion in debt and equity. While chairman and CEO of Key Energy Services, he reorganized and grew the small West Texas oilfield services company from $15 million to $1 billion in revenues. He's also served as executive vice president and CFO for pharmaceutical and dialysis company Delmed, a publicly traded company for which he staged a turnaround.

John joined privately-owned UNSi as president and CEO about two and a half years ago. An active investor in UNSi who has served on the company's board of directors since 2006, John was tapped to take the company to the next level through both organic growth and acquisition.

And that's exactly what he's doing.

John's first move on this front involved the purchase of IPNetZone, an MPLS network provider that helped UNSi become a major player in the managed network services space and outfitting it with an advanced backbone network. At the time of the deal, IPNetZone had just five points of presence, but UNSi has since expanded the size, service capability and number of those POPs.

The Airband deal came next, and made a much larger impact. Indeed, it has transformed UNSi into a $65 million organization.

More M&A is likely on the horizon for UNSi.

The company aims to become a $100 million organization within the next 12 months and a $150 million operation by 2015 through both organic growth and M&A. IT

Lync Your Enterprise Network

More Lync Qualified SBCs Than Any Other Provider

Whether inside or outside the four walls of the enterprise, Microsoft Lync enables users to communicate securely and stay connected with colleagues and customers, from virtually wherever they choose.

Integrating Sonus SBCs into your Lync deployments helps your Unified Communications vision become a reality. These powerful network devices protect, secure, simplify and standardize real-time, SIP-based multimedia communications, including voice over IP (VoIP) and video.

A recent study from Forrester indicated an average of nearly $3 million first year savings across 12 companies that implemented Lync .

Learn how Lync and Sonus can help you increase your profitability. Call 1-855-GO-SONUS today.

Microsoft Partner
Gold Communications

Voice
Unified Communications
Business Productivity Solutions
Midmarket Solution Provider

Scan to learn more on Lync

sonus.net

Sonus

By Paula Bernier

Software Eats the Carrier Network

Marc Andreessen famously commented that software is eating the world. Boy, was he right. Software already has chomped its way through many of the applications and devices on the table. Next on the menu: communications network functionality.

Better known as network functions virtualization, or NFV, the idea here is to implement network elements and applications as sets of virtual machines, storage devices and associated network configurations, as explained by Alcatel-Lucent's website.

"This creates an infrastructure that can be shared across all applications," the ALU sites on NFV and its CloudBand solution explain. "The network infrastructure becomes a platform that simplifies and accelerates the service provider's operations and service offerings."

The concept of NFV, around which the European Telecommunications Standards Institute has been doing standards work, closely relates to and borrows from what's already happening in cloud communications in an effort to make networks more flexible – or elastic – to help network operators like the telcos reduce costs, improve scalability, and allow for faster new product time to market.

"The move to a software-based service infrastructure creates tremendous opportunities and challenges for service providers as they look to manage this transition and optimize their networks for growth," said Chris Koeneman, vice president of worldwide sales and marketing for ADTRAN's Bluesocket Business Division.

Despite any challenges there might be, however, Dave Ashby, Metaswitch's vice president of Asia Pacific sales, believes NRV and software-defined networking – which he described as two key themes in the rapid movement toward software-centricity – "will define the industry for the remainder of this decade."

He said just that this summer at the opening of CommunicAsia, at which Metaswitch discussed and demonstrated of an open source IMS core initiative called Project Clearwater; Metaswitch's Active PCE Controller for Carrier SDN; an NFV-based session border controller called Perimeta; and Metaswitch solutions for hosted business services, UC and network management.

Tom Schroer, director of service provider marketing at Dialogic, said his company too has been working on NFV solutions to give network operators elasticity and the ability to spin services up and down at will.

Dialogic recently started a couple of high-profile trials on this involving the BorderNet virtual SBC. The new solution, he said, makes the implementation of SBC fast. In the past deployments of this kind of solution required site prep, installation, etc. With virtualization, however, users just load the software on the server and it's ready for configuration and implementation, he explained.

Procera Networks, meanwhile, in August unveiled what it calls Virtualized PacketLogic, a policy enforcement solution based on ETSI's NFV standards. The vendor's solutions on this front will be available for trials this quarter and are expected to be generally available by the end of the year.

"The main promise of NFV is to benefit from commodity pricing of IT hardware, reduced power consumption and moving to a much faster service delivery method based on downloading software appliances as opposed to installing new hardware appliances," said Paul Veitch, chief network strategist at British Telecom, who was quoted in Procera's press release announcing Virtualized PacketLogic.

To get more information on NFV, join us at TMC's Software Telco Congress Nov. 19-21 in Santa Clara, Calif. For more information, visit http://www.softwaretelco.com/conference/ IT

360° Visibility

Scalability. Agility. Resiliency.

VSS manufactures unique and highly scalable Network Packet Broker systems enabling optimization for network performance and security tools, both passive and inline. Our vBroker™ Series give you total visibility, agility and resiliency to your network's sweet spot.

Find out for yourself why over 1700 enterprise and service provider customers worldwide deploy VSS Monitoring Network Packet Brokers in their networks and data centers.

VSS monitoring

What is a Network Packet Broker?
Find out here:

www.vssmonitoring.com

By Mitch Auster

Virtual Network, Real Dollars

OpenFlow SDN Solutions Increase Operator Flexibility

Operators are living in challenging times. They have entered an era where double-digit traffic growth is outpacing cost reductions. Operators are also facing increasing competitive pressure that has reduced their traditional wireline revenues and profitability. And to top it all off, they are dealing with the threat of over-the-top services capturing a larger wallet share while they foot the bill. Ultimately, operators need a new way to monetize their network assets – and they need it now.

Software-defined networking and OpenFlow can help them achieve this. How? SDN with OpenFlow provides the framework and tools to enable symbiotic linkage between the operator's network and the applications that use the network to deliver end-customer services. SDN and OpenFlow also provide tools to transform networks from an undifferentiated bit-transport commodity to a value-based resource through direct linkage with – and therefore greater relevance to – revenue-generating consumer and enterprise applications. And, it does so with both lower capex and lower opex, allowing more competitive pricing.

Big data file sets, cloud networking, and ad hoc inter-enterprise collaboration projects are all on the rise. And all of these trends result in WAN bandwidth demand peaks that are 10 to 20 times greater than their mean, with the peaks lasting anywhere from less than an hour to several weeks or more. Contracting for a private line or committed information rate sized to address the peak is at best wasteful – and for some, prohibitively expensive.

Bandwidth-on-demand services enable enterprises or cloud providers to dynamically establish or resize connectivity from the fixed or wireless access network through the core as necessary, so they pay only for what they consume. These connections can be established between subscriber locations, from the subscriber to a service gateway (e.g., a cloud data center), or from the subscriber to a third-party interconnect point.

Bandwidth-on-demand services have been offered by a limited number of operators, but the current model faces several challenges:

- The lack of automation capabilities makes it difficult to roll out self-provisioned services and respond to time-sensitive changes in bandwidth requirements.
- Frequent changes in a distributed control environment sometimes lead to transient overloads caused by the network having to manage traffic from multiple sources that share the same network link, resulting in congestion and instability.
- The lack of a standard interface – requiring operators to either redesign their control applications for each vendor or to limit their services to a single vendor.

A better approach is to deploy bandwidth-on-demand services from an OpenFlow-based SDN architecture with a programmatic northbound API to allow operators to have centralized, granular control over the networking infrastructure.

With SDN, bandwidth on demand enables customers to automatically request dynamic changes to their bandwidth and other service parameters, immediately or scheduled in the future. The SDN control layer can leverage topology-aware path computation to cost effectively enable bandwidth on demand. SDN provides a real-time topological view of the network, enables network virtualization, and allows network bandwidth reservation to provide guaranteed performance on a per-connection or flow basis to meet SLA requirements.

SDN's centralized global view of network resource supply and customer service demands paves the way for more intelligent and dynamic bandwidth-on-demand pricing that significantly increases profitability and drive new revenue streams. And the benefits of network virtualization don't end there. It also allows operators to leverage the same networking and operational infrastructure on which they deliver traditional services to create and offer flexible bandwidth-on-demand services and new billing models.

And multiple and diverse pay-as-you-go service pricing options increase so that even smaller enterprises can afford short-term, high-capacity connectivity. With OpenFlow-based SDN, the potential is limited only by the operator's imagination. IT

Mitch Auster participates on the ONF Market Education Committee. He is senior director of market development for Ciena (www.ciena.com).

Cbeyond Expands Network

Cbeyond has been busy in the past few months expanding its network footprint and continuing its work related to cloud communications. That's the word from Chris Ortbals, head of product management at the SMB service provider. Cbeyond's network footprint has been expanded significantly this year – both through new fiber builds and new partnerships. Traditionally the company has offered T1 access in 14 markets. Today it can deliver 10meg or greater access to 190,000 buildings. Over the past couple of years, Ortbals says, Cbeyond has put significant investment into its cloud, which delivers hosted PBX and unified communications services. Total Cloud Phone Systems is the name of the company's cloud PBX product offering, which it introduced late last year. The company also recently launched Cbeyond Communicator, a mobile integrator that gives authorized mobile workers access to all of the features on their company's PBX. Also on the cloud front, Cbeyond offers the Total Cloud Data Center. It has built a certification lab where it has sized apps to infrastructure. That helps new cloud customers figure out what they need in terms of cloud resources. In the past couple months Cbeyond has released Total Assist, which provides migration services to its cloud. The company includes between 10 and 100megs of data to customers that are certain plans via what it calls its Cloud OnRamp Program.

Carrier Router/Switch Market Expected to Rebound

Despite a lackluster first quarter for this category, Infonetics Research expects the long-term outlook for the carrier router/switch market to be a healthy one. "The first quarter is normally down for routers and carrier Ethernet switches, so it's better to look at the longer-term trends," explains Michael Howard, principal analyst for carrier networks and co-founder of Infonetics Research. "The main growth drivers – the transition from TDM to packet and rising video traffic – are still in effect, the U.S. economy is slowly improving, and a number of large operators in the Euro zone intend to spend. Given these factors, we expect the router and CES market to grow at an 8.8 percent% CAGR through 2017." Pushed lower by weakness in Europe, global service provider router and switch revenue declined 17 percent in first quarter from the previous quarter, and was down 6 percent from the year-ago quarter. North America was the only geographic region to buck the usually down first quarter, posting a 7 percent sequential gain.

Cisco Issues New Traffic Growth Forecasts

Global IP traffic will grow three-fold between 2012 and 2017, reaching an annual run rate of 1.4 zettabytes – more than a trillion gigabytes per year, according to Cisco's new Visual Networking Index. That means that by 2017, more traffic will traverse global networks than all prior "Internet years" combined, according to the vendor. By 2017, there will be about 3.6 billion Internet users – more than 48 percent of the world's projected population (7.6 billion). The average Internet household (globally) will generate 74.5 gigabytes per month. Globally, the average fixed broadband speed will increase 3.5-fold from 2012-2017, from 11.3mbps to 29mbps.

Dell'Oro Visits the Enterprise Edge

The enterprise edge market, which includes enterprise-class wireless LAN and campus Ethernet switching equipment and related software, reached $3.3 billion in the first quarter 2013, according to a new report by Dell'Oro Group. "Vendors such as Alcatel-Lucent, Avaya, Brocade, Cisco, Dell, Enterasys, Extreme, HP, and Juniper have shipped tens of billions of dollars of Ethernet Edge devices over the past few years, and each now ships WLAN devices to address the transition in the market towards wireless. At the same time, nearly a quarter of the enterprise edge revenues over the same three years were enterprise-WLAN related, a large percentage of which was from vendors with no Ethernet switch installed base," says Chris DePuy, vice president of enterprise edge research at Dell'Oro Group. "Today, many of the WLAN pure-plays are introducing Ethernet devices, and most of the traditionally Ethernet vendors are launching unified wired/wireless devices which interoperate primarily with their large wired installed bases."

E-SBC Market is Hot

The enterprise session border controller market place is a busy one, with many vendors hawking their wares, and strong growth in demand, points out Infonetics Research in a recent report on the subject. "Competition in the enterprise SBC market is very dynamic, with more than 20 vendors offering some form of SBC functionality, either integrated in another network element or as a standalone device," notes Diane Myers, principal analyst for VoIP, UC and IMS at Infonetics Research. "And it's extremely tight at the top, where Cisco, Acme Packet and Sonus Networks were within 1 revenue share percentage point of each other in 1Q13. Meanwhile, many of the smaller enterprise SBC vendors continue to make inroads on the big 3." Infonetics expects about a 30 percent jump in global revenue in 2013 for enterprise SBCs. And in North America sessions are expected to grow 27 percent year-over-year in 2013. Enterprises with between 101 and 5,000 employees made up the largest segment of sessions in 1Q13, with 73 percent of shipments.

Overture Secures $10 Million Venture Loan Facility

Metro edge infrastructure vendor has secured a $10 million venture loan facility with Horizon Technology Finance Corp. This follows a recently announced $8 million equity investment that includes an opportunity to secure up to $11.7 million. Gerald A. Michaud, president of Horizon, says: "This $10 million facility will strengthen the company's ability to help network operators and service providers globally to greatly improve operational efficiencies and introduce new revenue-generating services. Overture, with its advanced solutions and experienced leadership team, is well positioned for continued growth."

By Paula Bernier

Drifty Helps Expedite Prototype-to-Development of Software Solutions

It's an exciting time for Ben Sperry and Max Lynch. They launched their little company just last year, and already Drifty has launched three products, been accepted into the incubator project TechStars, and gotten accolades from jQuery Mobile and Rackspace.

Drifty offers cloud-based tools to make mobile and web developers' lives easier.

The Madison, Wisc., company's first product was Codiqa, which CEO Sperry and CTO Lynch created for fun before formally launching Drifty. Leveraging the HTML5-based user interface system jQuery Mobile, this solution enables developers to realize faster time to market for their applications. Codiqa does so by enabling developers to take software prototyped by marketing and design people and customize it on the back end, rather than starting development from square one, explains Chris Kiser, Drifty's support and product manager. That, he adds, allows an organization's product and developer teams to be more in sync.

Sperry and Lynch understand the importance of that connection, as Ben is a graphic designer, and Max is a programmer, explains Kiser.

As for Kiser, he is doing double duty at Drifty while getting an education at University of Wisconsin-Madison. TMCnet met with Kiser at TechWeek Chicago.

Drifty hired on Kiser four months ago to help with marketing and sales, but before that the company was relying mostly on word-of-mouth for product promotion. And it had the good fortune of making it on to the home page of jQuery Mobile, which Kiser says generated a lot of leads for Drifty. (One report says it garnered more than 10,000 users in the month following Codiqua being spotlighted by jQuery Mobile.)

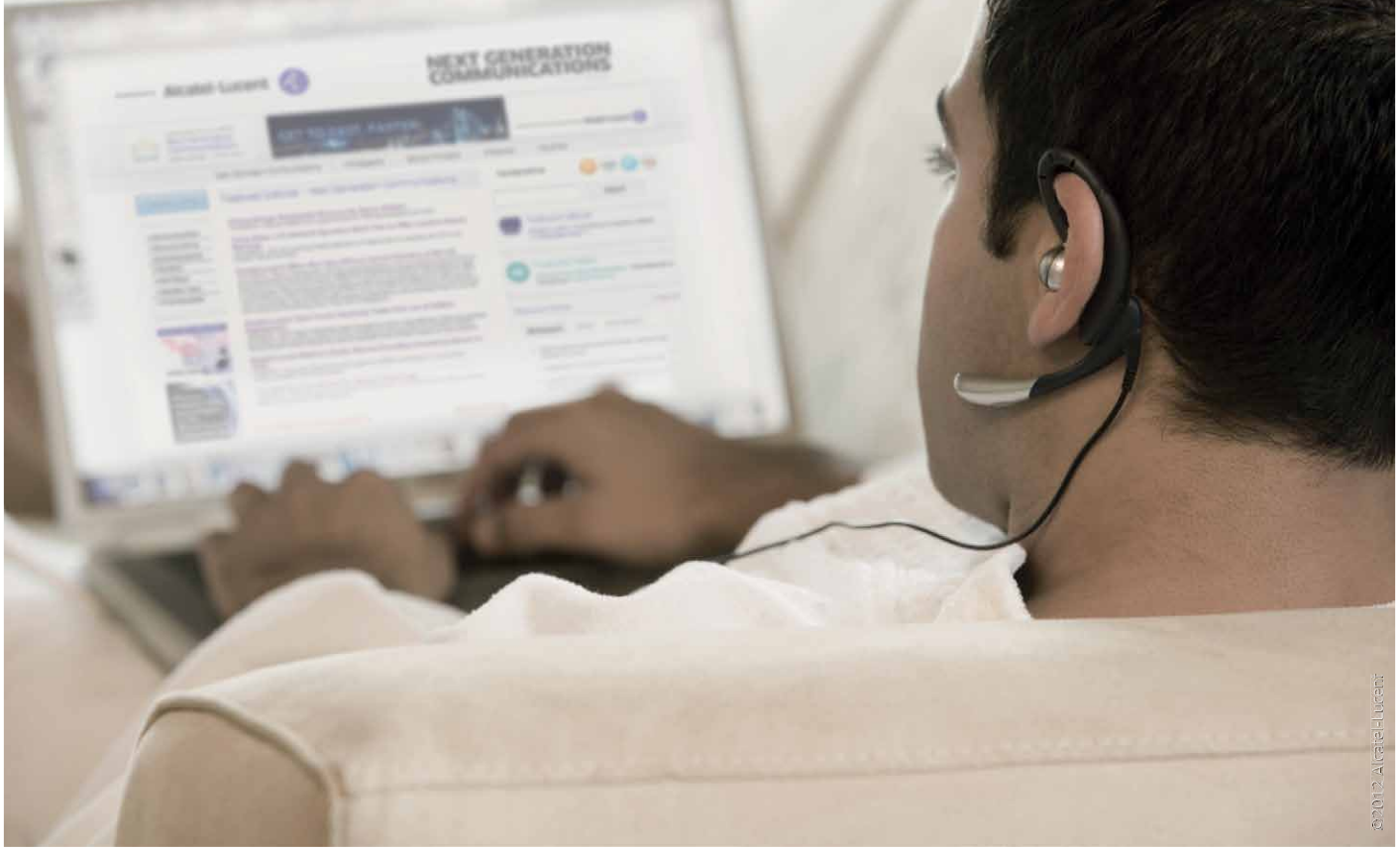
Then, in late May, leading cloud service provider Rackspace, in its blog, called Drifty's Codique and jetstrap "must-have apps."

Jetstrap is the name of Drifty's second product, which it made available in beta this March and started charging for in late April. This product is a drag-and-drop solution based on Twitter Bootstrap. Like Codiqa, jetstrap aims to expedite the prototype-to-final solution timeline for software development, but the focus here is on "empowering users to create responsive desktop websites with the popular HTML5 framework," according to the Drifty website. Kiser explains that jetstrap can help with development of sales and contracting products, collaboration solutions, and much more.

Both Codiqua and jetstrap export clean HTML5 code, so developers get CSS, JavaScript and HTML5 code that they can then customize.

Drifty is just now launching a third product called formend. Designed around the backend processes related to sending forms for stuff like surveys, formend is an add-on to Drifty's existing products.

"We see Drifty becoming a Drifty suite, kind of in the vein of an Adobe," Kiser says. IT



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 Charles Studt

Best Practices for Ensuring Cloud-based UC Security in the Enterprise

As businesses try to consolidate their enterprises and streamline processes to be more competitive in today's market, one of their most popular options has been to update and upgrade their communications systems. Within the past year, many enterprises have transitioned to unified communications connected with hosted SIP trunking connections to replace legacy PBXs connected via the PSTN – to enable new productivity and collaboration features, saving money and lowering maintenance and infrastructure costs.

Projected cost savings represent just one of the reasons that the unified communications as a service market is expected to grow from $2.52 billion in 2013, to $7.62 billion in 2018 – an increase of more than 300 percent over the next five years.

UC connected via SIP trunking isn't just cheaper. Recent innovations have yielded new capabilities that far exceed legacy networks and on-premises equipment, while sparing businesses the up-front capital costs associated with a communications systems upgrade. These new UC systems can include HD voice, HD video, direct-inward-dialing, presence, videoconferencing and generally more efficient service in a simple, hosted, plug-and-play package. Yet all these new capabilities require SIP trunking connections that support these features.

While the value proposition for UC connected with SIP trunking is compelling, there are complications and concerns related to these new communications services. One critical concern for enterprises includes questions related to security and privacy of IP-based communications.

A security option that many organizations have selected to protect their SIP trunking connections has been subscribing to a second, dedicated T1 or fiber connection reserved for UC and SIP trunking. Isolating these communications on a separate, dedicated network significantly increases message and system security and privacy.

Many organizations are subject to compliance audits for regulations ranging from Sarbanes-Oxley, HIPAA, PCI-DSS and other government or industry-mandated requirements. While security constraints may not be mandated by the regulation, satisfying auditors often includes security measures to protect regulated communications.

Yet the cost of a second, dedicated T1 connection dramatically erodes many of the cost advantages that UC and hosted SIP trunking can provide. Particularly for distributed enterprises that support multiple locations, the need to install and pay for a second dedicated connection can quickly mushroom.

With sufficient bandwidth, it's certainly possible to support UC and SIP trunking connections over the main broadband connection. But the deployment of communications over the same connection as the main Internet connection could expose the system to the potential for security and privacy breaches.

The other main option for securing communications connections is by encrypting communications, both the real-time communications media as well as the call signaling information, to protect them from security breaches, preventing eavesdropping on privileged or private conversations for reasons ranging from criminal theft to corporate espionage.

For encryption to work as part of a comprehensive UC and SIP trunking communications system, it must meet the following requirements:

- It should include the strongest possible encryption that is commercially available, which is currently four kilobit public key encryption.
- Encryption should support standard protocols, such as transport layer security and secure real-time transport protocol.
- The security should protect multimedia content and signaling as well as the communication integrity of the SIP trunks.
- Security measures should be simple to use and implement for enterprise IT administrators. It must be able to work across multiple UC systems, allowing for interoperability with Microsoft Lync, Avaya and other UC vendors.
- It should be managed by the UCaaS provider, releasing the client from responsibility of troubleshooting the encryption should something malfunction. This follows the service mentality and is a mark of quality when a service provider is willing to support its own product.

As companies look to upgrade and streamline communications capabilities while reducing operating costs, adoption of UC coupled with SIP trunking will continue to increase and even accelerate.

Yet as enterprises embrace cloud-based IP communications, it's important for them to secure and protect vital communications from hacking, eavesdropping and other vulnerabilities.

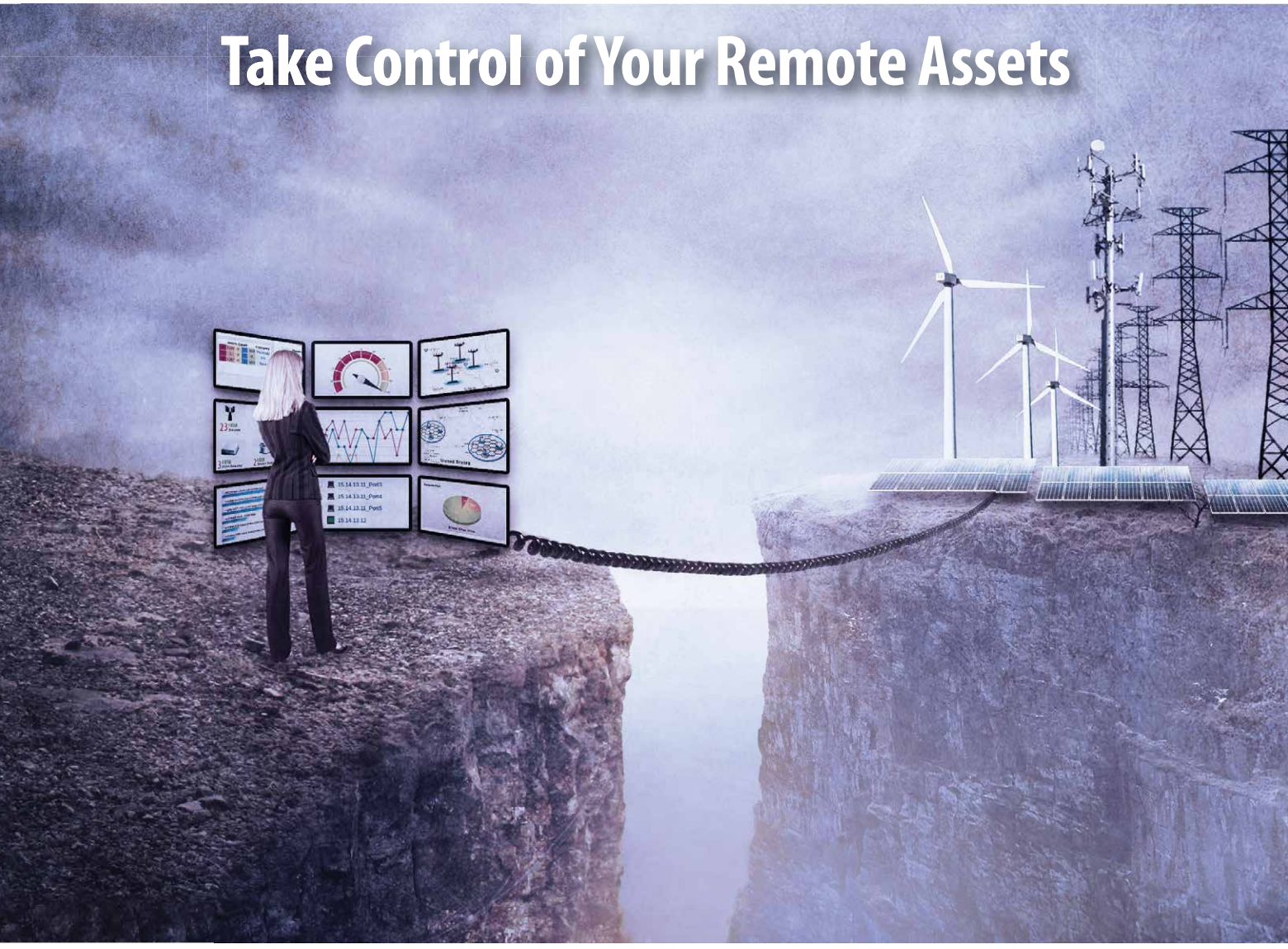
While subscribing to a dedicated communications line can improve security, it is a costly approach compared to using the organization's main Internet connection.

SIP trunking encryption offers a cost-effective alternative, as long as the encryption meets the key requirements for a successful communications system. IT

Charles Studt is vice president of product management and marketing at IntelePeer (www.IntelePeer.com).

WebNMS M2M Management Solution

Take Control of Your Remote Assets



Use WebNMS to remotely monitor and control key infrastructure. View fault conditions, performance analyics, device configuration, service provisioning, and security.

Download and evaluate for your unique environment at www.webnms.com/M2MNow or Call 732-801-9083

If it can be Measured, it can be Monitored and Controlled.

WebNMS M2M management platform is designed to be extended to match equipment vendors' and M2M solution providers' requirements. WebNMS is architected as a distributed platform for high-scale, high-availability clusters to ensure up-time and asset efficiency.

Functional modules include fault correlation, performance KPI analytics, maps, device configuration and firmware upgrades, service provisioning, and AAA security with open APIs for domain customization and easy system integration.

WebNMS

By Jamie Brenzel

Online Data Backup

Storing and Securing E-mail

For most of us in the corporate world, the very thought of losing those important messages stored in our e-mail is more than we can fathom. Unfortunately, it happens more than you would expect. A clever hacker, a bad storm or one devastating mis-click can make our e-mail, and the invaluable information stored within, disappear for good.

E-mail has brought a new era of efficiency to our day-to-day communications. Thus, the information kept in our e-mail accounts often ends up being the most crucial to protect. Who hasn't spent time searching through our inboxes and trash to find that one bit of information we so desperately need? For these reasons, backing up your e-mail should be a top priority.

E-mails Aren't as Safe as You Think

Most business owners are often spread too thin to think about something considered as trivial as backing up important data. Could your company survive if your business e-mails vanish? If not, then it is time to rethink your backup procedures.

There are a surprisingly large number of threats that can cause the loss of an e-mail (or even an entire account). It is safe to say that we have all accidentally hit the delete button, only to realize we just lost a critical e-mail from a client.

Where is Your E-mail Actually Stored?

To assess your current backup and recovery options and create a backup strategy to protect the thousands of e-mails you have been collecting, ask yourself the following questions:

1. Where does your organization's e-mail live? Is it on an application like Outlook, Eudora or Entourage, and how are you backing up this data?
2. Have you backed up your data to more than one location, in case one becomes corrupt, lost or stolen?
3. If you are using a cloud e-mail provider, like Gmail, do you know how to restore your e-mail if it is lost or your account is compromised?

Consider Online Data Backup

So how do you protect e-mail accounts from potential threats? Many companies choose to copy e-mails to a corporate server or local hard drive. Others burn this critical data to CDs or DVDs on a regular basis, while many still rely on the antiquated tape backup method.

While these methods are better than nothing, choosing to backup e-mail files to an external hard drive or flash drive is problematic. For one, they tend to be forgotten, misplaced and/or stolen. They are also vulnerable to viruses and hardware malfunction. Furthermore, the responsibility of implementing the backup often falls to those who are already overworked.

How to Choose a Cloud Data Backup Partner

Assuming you've decided to partner with an expert to backup your data, how do you know whom to trust? Ask questions and do your research:

1. Do they provide onsite and offsite protection? Is there a way to easily backup your data to a secure offsite server? Can you keep a local copy of large application and data files, such as Word or Outlook?
2. What is the backup software like? How easy is it to operate, what data does it defend and most importantly, how much effort is needed to complete your daily, weekly and monthly backups?
3. How long has the 415.989.1555x156service company been around? Lean toward companies that have been in the business for at least a few years. Cloud service providers tend to come and go.
4. Does the data center meet security certifications? A third party, such as SSAE16, should have already audited potential providers.
5. How much space do you actually need? Don't buy a motor home if you only need a golf cart. Seek out a company that will allow you to grow without charging you for space you don't need.

Ideally, find a way to set it and forget it – eliminating the possibility of user error. Finally, test your backup solution regularly.

The best cloud solution will provide your company with easy, efficient support for disaster readiness and recovery of critical data. The knowledge that your data is safe and secure is worth the trouble of a little planning.

Jamie Brenzel is CEO of KineticD (www.kineticd.com).

www.webrtcexpo.com

WebRTC CONFERENCE & EXPO

November 19-21, 2013
Santa Clara Convention Center
Santa Clara, California
@webrtcexpo\#webrtcexpo

Save the Date!
November 19-21, 2013

WebRTC Conference and Expo

is the opportunity for companies, web application providers, investors and developers to understand the exciting opportunity that WebRTC opens and how it will challenge and change much of today's communications landscape. WebRTC is making an impact, secure the knowledge you need to succeed — WebRTC Conference and Expo will help you map the course!

Business Impacts of WebRTC

Changes in Communications
- Enterprise UC
- Contact Centers and Customer Service

Economic Impacts
- Traditional telecommunications companies
- Web businesses
- Enterprises

WebRTC Areas of Focus

Enterprise Collaboration, B-B & B-C, New Business Models)

WebRTC Standards
- Standards Reports & Issues
- W3C Activities
- IETF Activities
- Browser, Codec & Oher Challenges

WebRTC Demonstrations/Products
- Experiences with WebRTC
- HTML5 and WebRTC together
- Development Activities
- Specific Developments

WebRTC Education
- How to Use WebRTC
- Advanced Techniques

Diamond Sponsors

ERICSSON · tokbox · plantronics · Temasys · GENBAND · Alcatel·Lucent

Platinum Sponsors

thrupoint · sansay · TROPO · Zingaya · XIRSYS · Dialogic · radisys · AVENIR · prīologic

Gold Sponsors

digium · AudioCodes · Daitan GROUP · hp · weemo · inGate

Silver Sponsors

Add Live! · TollfreeClicks · TollfreeRewards · Sonus · AVAYA · APEX

By Paula Bernier

ACT! Creator Finds a New Orbit

If the name Mike Muhney doesn't ring a bell for you, the name of the company he co-created probably will. The man wandering the halls of TechWeek Chicago wearing a lime green corduroy sports jacket is none other than the co-creator of ACT! These days, Muhney is representing VIPorbit Software International, of which he is the CEO and co-founder.

Despite his success at building a CRM leader, Muhney said he is not a fan of CRM. As big and successful as it is, the aggregate user base of all big CRM systems amounts to just 14 million people worldwide, he said, adding that there are 500 million iPhone users alone.

"So CRM is a very elite thing," he said, "and only good inside my company. What about for the rest of my life?"

Enter VIPorbit.

The company offers mobile relationship management software, which runs on iPhones, iPads, and – starting July 15, on Mac computers. It helps people handle their contacts, calendars, and communications – for both business and pleasure.

The Apple world has never had what the Windows world had with ACT!, said Muhney, who adds that stuns him.

VIPorbit's solution, available via the App Store, is based on the concept of orbits, or groups of people with something in common. For example, Muhney has orbits of customers, of golf buddies, of restaurants he enjoys, and of his Silicon Valley contacts, among others. Users of VIPorbit's software can have an unlimited number of orbits, and the people and organizations within each orbit can easily be added to other orbits with a quick drag-and-drop maneuver.

This may sound similar to Google Circles, Muhney said, adding that VIPorbit came up with orbits before the introduction of Google Circles. The depth of Google Circles is quite thin, he said, while orbits allow for a rich user experience. He offers as an example his use of VIPorbit to create and send a single message letting all his Chicago-based contacts (81 in all) know that he would be visiting soon, and inviting them to respond if they wanted to get together while he will be in town. He wrote the e-mail to make it sound personal, but he only had to compose and send one message, resulting in saved time and a greater possibility for connecting with more people in Chicago.

The iPhone version of VIPorbit's software cost $9.99, but became permanently free when the company launched its Mac version in July. The iPad version was $14.99, but dropped to $9 on July 15. The Mac version will be available for a one-time license price of $99, but VIPorbit has a launch price special of $49. There is also an option to have multiple Apple devices using the app, and syncing with each other, for $4.99 a month or $45 a year.

Additionally, VIPorbit offers a backup app within its app. For $4.99 a year now, or no fee after July 15, users can back up their contact information to Amazon encrypted servers with the click of a button. That way, if their wireless devices are lost or stolen, their contact information is safe in the cloud.

VIPorbit also expects to offer a workgroup version of its application starting in the first quarter of 2014. Muhney said some ACT! Certified consultants are waiting to sell this product, but that will be just one channel for this business solution. Muhney said there are also likely opportunities to join with channel partners to package and proffer the solution for various industry verticals. IT

"The quality of any man's life is in the full measure of his commitment to excellence and to victory, regardless of what field he might be in."

— Vince Lombardi

sansay™

Founded in 2002, Sansay is a profitable, cash positive, privately owned, customer focused company with over 350 service provider customers. To learn more about the highest performance, most scalable and flexible service provider VOIP session control, routing, LNP and DSP based transcoding, ask a friend in the business, visit us at www.sansay.com, or call us at 858-754-2200.

www.sansay.com

SMBs Get New IP PBX Option

Grandstream Networks, a leading manufacturer of IP voice/video telephony and video surveillance solutions, has unveiled it UCM6100 series IP PBX appliance. The UCM6100 series incorporates advanced voice, video, data and mobility features typically found in expensive IP PBX systems for larger enterprises, according to the company, but offers them in an extremely easy to use fashion at a potentially disruptive market-leading price point for the SMB market. Based upon an enhanced version of the popular open source Asterisk platform, Grandstream's UCM6100 series is an IP PBX appliance that supports up to 500 users, 60 concurrent calls, six conference bridges, and 32 conference participants.

ACT Adds ForumCast Feature

ACT Conferencing now offers ForumCast, a new feature in its ConferenceCast managed video webcasting platform that integrates with many of the multi-device presenter capabilities of ACT's Forum conferencing solution. ForumCast allows different presenters to present webinars and webcasts from a variety of different devices –including laptops and tablets – using any combination of H.323, SIP, Skype or Google Talk. "By removing the limitations of where and how webcast presenters can participate in a webcast, ForumCast is changing the game in video webcasting," said Gary Iles, vice president of product, marketing and sales for ACT Conferencing. "ForumCast brings a whole new level of flexibility to presenters, allowing different presenters to connect via different devices and protocols, yet provides the same level of customization and branding in an easy-to-use, affordable platform. ForumCast is making innovative, high-quality video webcasting a reality for business customers connecting from the office or wherever they are on the road."

AudioCodes, Ceragon Partner

Ceragon, a vendor of mobile backhaul solutions, has selected AudioCodes' products and services from the One Voice for Lync portfolio to enable migration to Microsoft Lync. "We wanted to implement a full Lync deployment throughout the company and looked for a seamless migration process that would enable smooth adoption," commented Avi Dayan, vice president of information technology at Ceragon. "We selected AudioCodes for its broad portfolio of products and reputable support and service capabilities. Using Neway Technologies we were able to get a complete solution to suit our needs, a clear support structure and effective deployment services in our tens of offices around the world." Lior Meresse, CTO at Microsoft integrator Neway, added: "Neway Technologies relies on AudioCodes One Voice for Lync portfolio of products and services as it helps us address global projects. We really value the fact that AudioCodes helped us with network planning, site survey, logistics and installation services, as we were rolling the Lync deployment at Ceragon. Our ability to get these services from our equipment vendor makes us more competitive on a global scale."

Skype Unleashes Video Messaging

Skype Video Messaging is now coming out of preview as a free feature in many of its current products, including Skype for Windows desktop (for users of Windows 7 or above), Windows 8, Mac, iOS, BlackBerry 10 and Android. As a result, users can record and share a personal video message, which recipients can view as soon as they sign into Skype.

Datatel 360 Discusses UC

Business is brisk for IP telephony and unified communications, and mobility is really hot, according to Michael Kirchhoff, senior convergence engineer at Datatel 360. That is enabling workers to do more with less, to work remotely while appearing as if they're with the walls of the home office, and enjoy new redundancy benefits. Datatel 360 provides unified communications, network integration and support, and hosted and managed services to clients throughout the United States and abroad. A Zultys dealer, Datatel 360 has been in the Atlanta market since 2004. Datatel 360's customers range in terms of verticals and applications. For example, a dental practice signed on with the company to deploy a screen pop for patient information. And an e-commerce business used the services of Datatel 360 to fully integrate its IP PBX into the company's business processes, including credit card transactions, database dips, and more.

Trio Joins Partner Program

BroadVision Inc. has announced three new partnerships in North America including Collective HR Solutions, i2i benefits, and Wild at Work, which will be involved in the Clearvale PaasPort Partner Program. Leveraging the Clearvale PaasPort Partner Program gives partners the ability to host and sell branded, customized business social networks in their own data centers, or to resell Clearvale networks hosted by BroadVision in a multi-tenant cloud; provides easy customization and an open API that allows partners to build custom, industry-specific applications, then sell and deliver them through the Clearvale social networking platform; and enables partners and their customers to create social intranets, extranets, and public-facing websites, or a social enterprise ecosystem, which combines all types and is managed together as a whole. "Enterprise social networking is one of the fastest growing technology sectors today. The expansion of the Clearvale PaasPort Partner Program demonstrates our commitment to enabling partners to reap the benefits of this growth market without the investment in infrastructure or engineering," said Peter Chu, vice president of strategy, products, and marketing at BroadVision. "We are excited about our new partnerships and look forward to the continued success and expansion of our partner program in North America and worldwide."

SmartNode™
The Gateway to Microsoft® Lync™

SmartNode™ VoIP media gateways connect your non-certified office communications to Lync!

• Non-compliant SIP • Fax • PBX • PSTN • Analog/ISDN phones

Now any enterprise can reap the benefits of unified communications (UC) with Microsoft Lync. Certified by the Microsoft UC Open Interop Program for Lync server, Patton's SmartNode™ products provide the "gateway to Lync" for your office communications equipment and software—certified or not.

SmartNode™ VoIP media gateways preserve capital investment by Lync-enabling your existing phones, fax, PBX and more. By maintaining your PSTN connections, SmartNode™ delivers network survivability for business continuity, plus local breakout for toll bypass. That saves you money!

PATTON® *let's Connect!™*

Get Our Gateway to MS Lync Overview

patton.com/mslync/overview

The overview shows five ways you can Lync-enable enterprise communications using SmartNode VoIP Gateways

SmartNode™
VoIP solutions that are more than just talk™

You always get free support!

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

By Michael D. Osterman

Embracing and Defending Against BYOD

Bring your own device and applications, or BYODA, is now more than just a trend – it is the norm in many organizations and becoming so in most of the rest.

Our research has found that most of the iPhones and Android smartphones in use in the North American workplace are owned by employees, not their employers.

Dropbox is used in 58 percent of organizations and many other, employee-deployed, file-sync/storage, telephony and other applications have found significant penetration in the workplace.

Corporate spending on BYOD programs is increasing, more than doubling in both mid-sized (100-999 employees) and large organizations.

Why BYODA?

There are two primary things that are driving the BYODA market forward. First, many employees want the newest or coolest devices available, and they are generally more willing than IT to spend significant amounts to acquire them. IT tends to be constrained by things like return-on-investment considerations to a greater extent than employees, and so IT decision makers are generally more reluctant to spend corporate funds on the latest and greatest devices without a sound business case.

Second, employees want to be more efficient and have access to all of their files from any device or location. The availability of tools like Dropbox, Google Drive, Microsoft SkyDrive and Skype – among many others – gives employees these capabilities at a relatively low cost. While these tools may not permit corporate policies focused on secure data storage, encryption, archiving, content screening, etc. to be followed, many employees are willing to sacrifice adherence to corporate policies in exchange for the convenience these tools provide.

The Risks of BYODA

There are number of significant risks from unmanaged BYODA, however.

Content that is created and stored on personally owned tablets, stored in a cloud-based file synchronization tool not approved by IT, or sent via personal webmail systems is less accessible to the organization at large. This makes it more difficult for IT and others within the organization to know the content it has available for e-discovery or regulatory audits; makes it more difficult to access this data when required; and makes content retention less complete, increasing overall corporate risk.

Because personally owned devices and personally managed cloud applications often use non-corporate networks for communication and storage, BYODA can create security-related risks through bypassing of corporate defenses focused on malware detection and remediation.

Recommendations

We recommend that decision makers consider the following approaches to managing BYODA in their organizations.

While some may opt for restrictive – perhaps draconian – policies that limit or prevent employees from using personally owned smartphones or tablets, or that prohibit the use of cloud-based applications or mobile apps of any kind, we recommend the opposite approach: namely, embrace BYODA and the overall trend toward the consumerization of IT, realizing that the trend is not going away and that it can provide numerous benefits.

It is vital that organizations implement BYODA policies about acceptable use of personally owned devices and self-deployed applications. This might include creating a list of approved devices, operating systems and operating system versions, cloud-based applications, mobile apps, etc. These policies should be as detailed and thorough as necessary, and should be included in an organization's overall set of acceptable use policies that are focused on use of all corporate computing resources and access to them.

Educate users about best practices related to the use of personal devices and self-deployed applications. This should include how to properly access and manage corporate data and other resources, which applications represent a risk to corporate security and which are safe to use, the types of communications that are appropriate over various types of cloud-based applications and mobile apps, where it is not appropriate to access sensitive corporate applications or databases (public Wi-Fi or certain countries, for example) if appropriate encryption or VPN capabilities are not in place, etc.

Deploy the appropriate technologies that will enable sound management of personally deployed devices and applications. These might include mobile device management systems, mobile device malware detection and remediation systems, enterprise-grade substitutes for employee-deployed applications, content inspection systems, archiving tools, encryption, etc.

The BYODA trend is here to stay, and so decision makers need to understand the new reality of employees accessing corporate data and other resources with their own devices and via cloud-based applications and mobile apps that they have deployed themselves. Consequently, decision makers must develop policies, implement technologies, and (where appropriate) deploy enterprise-grade replacements for employee-deployed applications. IT

Michael D. Osterman is president of Osterman Research Inc. (www.ostermanresearch.com).

Upcoming TMCnet™ Webinar Schedule

Archived • View Today!

Series 1: Managing Your Data Growth with Cloud Storage

Series 2: What a Private Cloud Can Do For Your Business

Series 3:IaaS Security

Sponsored by: savvis direct℠ CenturyLink®

http://www.tmcnet.com/webinar/savvisdirect/iaas-webinar-series.htm

Transition to the Cloud – Spend Less and Do More with Hosted Exchange

http://www.tmcnet.com/webinar/savvisdirect/transition-to-the-cloud.htm

Archived • View Today!

5 Best Practices to Advance Your Cloud Strategy

Sponsored by: TIER 3

http://www.tmcnet.com/webinar/tier3/5-best-practices-to-advance-your-cloud-strategy.htm

Archived • View Today!

Sweet Leads are Made of This: Integrating Social Media with Marketing Automation

Sponsored by: Marketo®

http://www.tmcnet.com/webinar/marketo/sweet-leads-are-made-of-this.htm

Archived • View Today!

Blend and Extend Approach for Unified Communications Deployment

Sponsored by: ADTRAN®

http://www.tmcnet.com/webinar/adtran/una-leverages-innovative-blend.htm

By Brian Foster

BYOD Security

Use the Internet to Protect the Internet

In many ways, bring your own device may as well be bring your own infection. Nobody can deny the productivity benefits of allowing employees to use their personally owned devices for business, but BYOD also presents a security risk, and the traditional approach to security – platform-specific policies – has largely failed to protect the network from infected mobile devices. As a result, IT organizations face a significant challenge: How do you protect the network from an endpoint you have little or no visibility into, and which you have little or no control over?

The answer isn't as complicated as one would expect. Attackers use a systematic process in the course of carrying out an attack campaign. This process is known as the kill chain. As attackers move from one phase of the kill chain to another, they leave behind clues about their activity. IT organizations can use this information to uncover hidden infections in what is known as network-based threat discovery.

Network-based threat discovery begins with an understanding of the kill chain:

- Reconnaissance – The attacker profiles the target and collects information such as the organization's structure and basic security controls.
- Weaponization – The attacker prepares malicious code to exploit a vulnerability on a target device and creates malware that will be dropped onto the device after it is exploited.
- Delivery – The attacker creates a campaign to entice the targeted user to perform an action, such as clicking on a link or visiting a web page, which exploits a software vulnerability on the device.
- Exploitation – Exploit code is executed on the target device, enabling the attacker to download the initial dropper malware and providing the attacker control.
- Command-and-control – The compromised device contacts its control network to receive further instructions or retrieve additional malicious code in the phase.
- Exfiltration – Data is removed from the network.

Applying network-based threat discovery

By profiling a device's network communications during the exploitation, command-and-control and data exfiltration phases, and asking how, when, what, where and who, IT organizations can uncover hidden infections. Evidence attributed to any one of these questions is not sufficient to identify an infection. However, if two or more questions are answered and corroborated, a case can be built to discover a previously hidden infection.

How and When?

Behavior analysis can be used to answer how and when. By profiling the behavior of individual devices, IT organizations can differentiate between human-based activity and that of automated software. Listening to the device's Internet-bound communication attempts enables the discovery of automated communications such as temporal-based anomalies (when), domain fluxing activity (how), or non-benign peer-to-peer attempts (how).

What?

The content of communications during the exploitation and command-and-control phases can serve as evidence of an infection. When a device is on the corporate network, signature-less identification and real-time analysis of the files transferred to or from a device can indicate potential infections and provide clues as to what infection is present.

Where? Who?

Profiling where a device is communicating on the Internet can reveal command-and-control activity. By comparing the where and who a device is communicating with the how and when the communication occurs, IT organizations can pinpoint a hidden infection. However, beware the amount of noise and false positives that blacklists can generate, and consider the relationships of shady Internet destinations to malware families and to the attacker, as threat actors are not limited to one type of malware or one malicious destination.

Putting the information together

Today's advanced threats are dynamic. Therefore, answers to the questions how, when, what, where and who must be gathered from the network in real time. In addition, information-gathering techniques must adapt to the attacker's changing targets, algorithms, domains and everything else they use in the kill chain.

Few organizations have the ability to build tools themselves that meet these requirements. Organizations may want to consider a solution that can gather the pertinent answers to how, when, what, where and who in real time, as well as assess those answers to corroborate evidence and discover advanced threat infections. With the proper solution – one that has a full deep-packet inspection engine and a framework that allows new detection techniques to be added as threats evolve – IT organizations can achieve the goal of shortening the time between a compromise (infection) and detection. IT

Brian Foster is the CTO of Damballa (www.damballa.com).

August 27 - 29, 2013 • Mandalay Bay Convention Center • Las Vegas, Nevada

Cloud4SMB™ EXPO

www.cloud4smbexpo.com

#Cloud4SMBExpo

Join Us In Las Vegas & Find

Answers & Solutions

Tailor-Made for Your Company

If you're an SMB, you MUST attend this event!

Hot Button Topics Include:

- Cloud ROI
- Choosing the Right Cloud Model and Vendor
- Migration Strategies
- Cloud-based VoIP
- Delivering Mobility via Cloud
- Security and the Cloud

Register Today For Only $95!

Hurry! This Special Promotional Rate Won't Last!

By Patrick McCabe

How to Deliver VoLTE with Scalability, High Performance in the EPC

It is crucial that mobile network operators re-invent themselves and find ways to preserve and replace the significant revenue that they receive from legacy voice and SMS. With the right network delivery approach, VoLTE is a step in the right direction.

VoLTE and its importance to mobile network operators

The game really changes with LTE. With the emergence of LTE, and its increased bandwidth and QoS capabilities, mobile operators can now start to deliver specific data services with more consistent performance. One example is voice over LTE. VoLTE is an operator-owned voice service offered through the user's LTE mobile data connection. It is delivered with specific performance characteristics, offering a more consistent and reliable experience to the user.

VoLTE is an important application to MNOs as it provides a way to protect their significant legacy voice and SMS revenues, which are threatened by OTT players such as Skype and WhatApp, who are finding ways to monetize mobile data. At the same time, it opens up opportunities for new data services.

Delivering VoLTE will be more cost effective per customer than delivering voice through legacy circuit-switched networks and ultimately (with ubiquitous LTE coverage) could result in the elimination of a separate circuit-switched voice network. With an IMS VoLTE infrastructure in place, MNOs will have the opportunity to use VoLTE as a bridge to a variety of other communication services such as API-based application innovation, various types of videocommunication services, and WebRTC.

The challenges in delivering a new breed of LTE-driven mobile services

In general, the explosion in mobile data, the availability of smartphones and their applications, and the shift in user behaviors have created very unpredictable demands on the signaling (or control) plane of the MNO's network. This is all about the network resources that need to process the instructions or rules on how the network should operate … dozens of chatty apps, constant idle to active and active to idle transitions, all are contributing to signaling plane traffic and result in very unpredictable demands on the signaling resources.

With the emergence of LTE, service expectations will be very high as users will no longer tolerate best-effort performance and will expect services and performance tailored specifically to their individual needs. For example, if we look specifically at VoLTE, the underlying IP packets are very small and as such demand a high packet transmission rate. VoLTE packets must be delivered with little delay but can tolerate some packet loss. However, when delivering VoLTE with, let's say, video then the requirements are almost flipped. The operator must deliver these services with widely different requirements concurrently.

In addition, many Internet services require a deeper level of packet inspection to identify specific underlying services, (e.g. social media, gaming, etc.) so that mobile operators can treat (QoS, charging, etc.) these packet flows uniquely. This is often performed with what is known as deep packet inspection technology and represents another dimension of processing that is expected today.

Mobile networks will have to deal with a lot more stringent and rigorous processing requirements than in the past. Legacy networks (in particular legacy 2G/3G) mobile gateways are not built to handle these demands. Common CPU-based architectures require the operator to trade off control plane scalability with data plane scalability. Increase one and the other falls.

The right approach to deliver VoLTE

To be successful in the new era of LTE and beyond it's all about being able to independently scale the mobile network in multiple dimensions independently. Mobile operators need to prepare for the upcoming onslaught of traffic demands in their packet core and in particular on their mobile gateways.

The packet gateway is the IP anchor point of the mobile network and represents the primary enforcement point where a lot of the heavy lifting is done with respect to service processing for each packet flow. It is essential that the packet gateway is able to support massive scale across the multi-dimensional service processing demands mentioned earlier: control plane for network instructions, the data plane for multi-services like VoLTE, and the advanced data plane for deeper levels of packet processing required for many Internet services. IT

Patrick McCabe is in senior marketing management at Alcatel-Lucent (www.alcatel-lucent.com).

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.

By Gary Sorkin

Can Wireless Devices Avoid Failures in a Crowded License-free Spectrum?

All sorts of devices – from baby monitors to building security systems – operate in the license-free spectrum of 900mHz and 2.4gHz, and the space is getting increasingly crowded. Every device has to hold its own among the conflicting radio waves from other products. It also needs to adapt to real-life conditions, such as keeping its signal strength through brick or wooden building walls, snow and rain, and a truck parked in its pathway. Even a properly operating device can be a subject to a cyber-attack, so command and control communications need to be adequately secured.

Many such problems can be eliminated right off the bat – enhancing the end user experience and saving manufacturers and system aggregators significant costs – if the devices are tested to help prevent failures.

Are Must-Haves Enough?

A testing laboratory starts with detailed device testing for adherence to specifications. These vary and may include Zig-Bee, Wi-Fi, Wi-SUN or Wi-Gig as well as requirements mandated by the Federal Communications Commission. Some manufacturers and system integrators believe that after their products have passed the required specification tests, they are ready to go for the domestic market. This belief often ends up costing them dearly when criticism comes from the retailers, installers and customers about the product's functionality failures.

Does It Work as Designed?

Knowing that the device under test performs to the specified communication is of primary concern, but knowing that the command sent to the device is acted upon fully and precisely is of equal importance. While actual functionality of devices is not examined during product certification, such testing is highly advised. For example, if a thermostat is told to raise the temperature four degrees, functionality testing checks to see that it does, in fact, raise the temperature precisely four degrees.

After a device passes functionality testing, a user can trust his or her in-home consumption graphs and the thermostat displays. When functionality issues are uncovered during testing, fixing them before products reach the consumer saves manufacturers millions of dollars in lost revenue.

Playing Well Together on the Network

While manufacturers have control over their product design, the real-world benefit of their devices stems from their ability to interoperate with other products on the network. To test how well various devices play with each other, laboratory personnel tests various products generally known to communicate with the tested device within specified application clusters to exercise a series of commands. For example, to test a device that allows a homeowner to set a thermostat from an iPhone, laboratory personnel buys two copies of every brand of thermostat on the market and evaluates how the device in question interacts with them, simulating real-world conditions.

Testing to environmental conditions is critical because rain and snow affect the limited distance radio signals, as does the EMI crowding of the bandwidth due to other devices sharing the frequencies. Even a car parked in the way of the signal, and whether the house walls are made of brick or wood, might impact the performance of such low-power devices. The more testing is done for interoperability, the more knowledge is gained, mitigating the risks associated with problems in the field.

A New Level of Security

After the device progresses through interoperability testing, some laboratories now have the capability to use a suite of cyber fuzzing and penetration attacks to establish benchmarks of hardening to adhere to various cyber-security threat levels, regulated by the emerging cyber-security maturity modeling. A typical test would involve trying to penetrate the network with false information to check how resistant it is. Giving the customer a peace of mind that smart technologies are not going to become weak security points in the home or workplace is essential for the growth of every company and the entire industry.

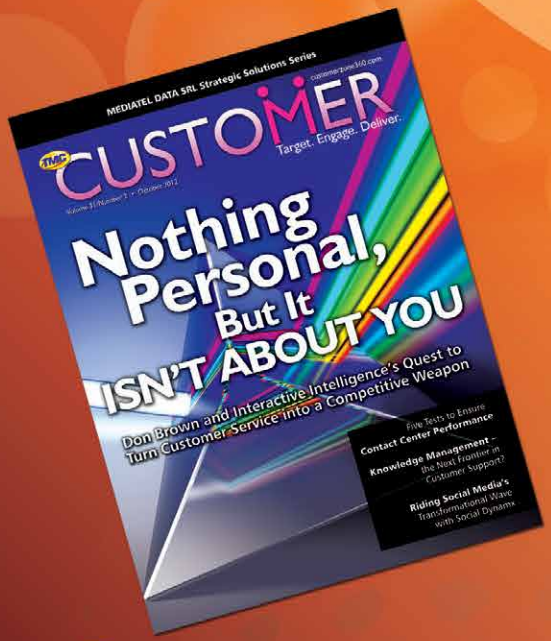
While testing beyond specification for functionality, interoperability and cyber-security might seem a significant investment, it has paid off for many brands in lower deployment costs and increased customer satisfaction. A comprehensive suite of product tests also helps companies attain credibility and enhance their reputation. IT

Gary Sorkin has a combination of project management, business development, sales, consulting and technical engineering skills. Most recently he served as the smart grid business development contractor with TUV Rheinland of North America, a global testing facility for many standards and alliances including UL, FCC, Wi-Fi, ZigBee, ANSI and others.

Examine the Best Ways to deliver the Best Customer Experience and Drive Results.

TMC CUSTOMER™

Target. Engage. Deliver.



Formerly TMC CUSTOMER INTER@CTION Solutions

Subscribe Today!

customerzone360.com

To Advertise, Contact Client Services at:
203-852-6800
or inquiry@tmcnet.com.

Technology Marketing Corporation
800 Connecticut Ave., 1st Floor East
Norwalk, CT 06854

By Collin Hachwi

A User's View on BYOD Security

As the IT manager at Digital Intelligence Systems LLC, a global IT staffing and consulting firm, I recently initiated the build out of a virtual desktop infrastructure to support our large mobile workforce. Along the way, I learned some important lessons about securing our network, and data, in the bring-your-own-device age.

Before launching our VDI deployment and overall BYOD initiative, our major concerns were securing the devices on our network, and only allowing devices that were sanctioned by IT. However, as the VDI and BYOD initiatives evolved, we became more focused on securing applications, data, and the access to them. Our users are free to use their preferred devices from an iPad to a Windows PC. By focusing more on securing applications and data, while also improving ease of access, IT no longer has to worry about the constant hardware debate they face with users concerning which devices are allowed and why. This article shares some specific tools we are using to enable secure mobile network access. In addition it provides policies, that require the agreement of both employees and network users, which have helped us successfully deploy VDI and aid in the management of BYOD use in our network.

Fundamental Planning Considerations

Before an enterprise can move forward with a VDI implementation, with or without BYOD access, there are several fundamental planning considerations that must be addressed.

First and foremost, it is important to outline what your particular reasons and business goals are for VDI implementation; in our case, it was a combination of cost savings and a reduction in IT support time. For our users it was important to have a system that could be accessed from anywhere on any device. Second, you have to know your technology environment and make sure you have the correct infrastructure in place. In our case, we were already running a highly virtualized data center, so implementing VDI would not require additional infrastructure. But, can your infrastructure support VDI now and into the future? To answer this question, you have to clearly understand your intended use cases: What are current storage and processing needs? How many users do you intend to deploy VDI? How much storage space do your users require? What will your deployment look like in six months or a year?

Third, it is essential to study the end users at your company. Look at the employees in each department. Make your decision based on usage of different devices and applications, and whether employees in given departments are mobile or rarely travel. This will help you determine ahead of time whether or not a group of employees is a good test case for a VDI pilot program.

Fourth, if the technology environment and the end users are right, execute a pilot VDI program. A pilot will allow you to see what works and what doesn't, and will help with mitigating risk when a full deployment occurs. In the long run, a pilot will allow you to deploy a VDI infrastructure that is more cost-effective and more on-target with the needs of employees.

Dealing with Key BYOD Concerns

Once DISYS was ready to move forward with VDI, our biggest concern, and main focus, was securing our data against the threats posed by a BYOD environment. In DISYS's VDI infrastructure, the internal storage system hosts the data, and we have control over managing who has access to what data within that system.

Before employees can access data through their mobile devices, an employee profile is created and hosted on the network that stores information identifying each device.

We control overall access to our applications through the deployment of OneLogin, a cloud-based identity management tool. It creates a direct integration with Active Directory, allows for single sign on and user provisioning to our applications, whether they are in house or cloud based. IT only has to manage user access in one tool, AD, and the users only have to use one portal for access to all their apps.

To enable information sharing on our network, DISYS is using Oxygen Cloud. This app brings the same functionally as Dropbox, or Box, but the data resides within our internal storage systems. Users are able to access their files from anywhere on any device, without the use of a virtual private network. Through AD we are able to designate who has access to the system, and when that user leaves the account, access is immediately disabled and the files are retained within our system.

DISYS uses a VPN, from Cisco, to enable secure, remote access to the network from remote locations. However, unlike other networks, one of the benefits of DISYS's VDI implementation and BYOD strategy is that users do not have to open a separate VPN connection. Our VDI session connections are secure and can be accessed by any device with a VMware View client or any device with a web browser and an Internet connection. As a result, employees have secure, anytime, anywhere access to their data and desktop.

When it came to developing company policies governing BYOD usage on the DISYS network, DISYS took a user-friendly approach so employees wouldn't feel like their devices were at risk, or that restrictions were being placed on their personal productivity. To ensure compliance with these policies, obtaining employee buy-in was essential. The policy creation process was very transparent and users were clearly notified before they connected their devices to our network.

Implementation Specifics

Based on our experience at DISYS in rolling out a VDI that effectively integrated mobile devices, we can offer a number of

specific implementation suggestions to deal successfully with BYOD-related challenges:

- The focus is on securing the data, applications, and access to them. With this addressed, users are free to use any device they prefer – a win-win for both the users and IT.

- Use authentication tools; this reduces the time and management associated with user provisioning and control.

- Implement solutions that are easy to use and functional. The more usable the tools, the less likely users will be to try to circumvent IT and security controls. Users look to third party apps when they feel the offerings from internal IT are not functionally equivalent to their consumer counterparts.

- To allow for scalability; look at cloud-based solutions. DISYS, for example, implemented Oxygen Cloud and OneLogin. In addition, we are going to further leverage Amazon Web Services to reduce costs related to the never-ending storage problem. The future of IT is going to be based in the cloud. The process to scale up or down takes considerably less time and money than trying to build and maintain everything in house.

- Find an enterprise-grade mobile device management solution that simplifies mobility for employees while ensuring secure access. In our case, we deployed AirWatch to manage the mobile devices, including apps and content on those devices. With AirWatch, we can manage any device anywhere in the world, throughout the full lifecycle of that device, using a single console.

- If you don't have internal IT resources, leverage your partners and vendors to help with solidifying a strategy and implementing technology to implement BYOD.

- Look at the different functions of the team – where they are accessing network data, how they are connecting (via a 3G or 4G network) and what applications they are using.

The bottom line on VDI deployment at DISYS is that it has allowed our company to better secure and manage data – our most vital and strategic asset – while maximizing the advantages associated with BYOD. **IT**

Collin Hachwi is the IT manager with Digital Intelligence Systems LLC (www.disys.com).

AT&T Leaps into M&A

AT&T in mid July announced its intention to buy Leap Wireless International for $1.2 billion, or $15 per share in cash. The prepaid wireless provider brings to the table some 5 million subscribers in 35 states, network assets, retail operations, and unused spectrum licenses covering 41 million people. In the wake of the announcement Jeff Kagan, tech analyst, commented "I expect to see another wave of consolidation just like this AT&T Leap Wireless deal. Expect to see more deals with Verizon, Sprint and others. There are many other carriers that are ready for acquisition." Recent M&A action on the wireless carrier front includes Japan's SoftBank purchasing Sprint Nextel and T-Mobile buying MetroPCS. Of course, AT&T had attempted to purchase T-Mobile a couple years ago for $39 billion, but the deal was blocked by regulators.

Jennifer Lopez Launches VIVAmovil

Entertainer Jennifer Lopez is expanding her enterprise to include mobile device and services marketing via a new brand called VIVAmovil. The effort, in which Lopez is the key shareholder and for which Verizon Wireless is the exclusive service provider, will cater to the growing Latino population in the U.S. with wireless products and services – and eventually customized content as well. Other partners and stakeholders in VIVAmovil include Brightstar, the largest Latino-owned business in the U.S., and Moorehead Communications, one of Verizon Wireless' largest premium retailers and a long time partner. Verizon Wireless is not a stakeholder in the business. The first VIVAmovil store opened June 15; additional VIVAmovil stores are planned for Los Angeles and Miami. Lopez worked closely with Moorehead to design the stores and address store employee training. All customer-facing store employees will be bilingual, and the stores will feature dedicated play areas to appeal to families.

Competitors Counter T-Mobile USA Device Plans

Verizon Wireless and AT&T Mobility are moving to respond to the T-Mobile USA offering Jump, which allows customers to trade in their existing phone as much as twice a year, with payment of a $10 monthly fee, reports TMCnet's Gary Kim. In its wake, AT&T unveiled Next, which became available July 26. It allows AT&T customers to buy their devices on installment plans that pay off the device cost in 20 months, as does the T-Mobile USA plan. But AT&T customers also can upgrade after a year by turning in their old phone and beginning payments on a new phone. Verizon is expected to detail its VZ Edge upgrade option in the near future, as well.

Catavolt Offers Faster Path to the Mobile Enterprise

Catavolt's cloud-based platform, Catavolt Extender, provides mobile knowledge workers with instant and secure access to enterprise data on mobile devices. Eric Martin, director of marketing, explains that while people often think about the cloud as a place to store their files, the Catavolt solution doesn't allow any data to be stored either in the cloud or on the device. That's to ensure data is secure. The cloud comes in to play only to facilitate the access. The Catavolt solution, which is in use by at least 40 companies, can support a wide variety of applications. For example, a human resources department or sales manager might want to leverage it to enable traveling salespeople to report their mileage via their mobile devices. Catavolt's differentiator, Martin says, is that businesses don't have to hire a team of software developers or train anyone to use this platform.

By Paula Bernier

FatCloud Helps Developers Move Faster

May you live in interesting times. This wish can be viewed as a blessing or a curse. It's a little bit of both if you're a software developer these days.

On the one hand, with the rise of the smartphone and other mobile devices and app stores, and the rise of IP-based communications in general, there's no shortage of opportunity to create new applications and services. On the other hand, the fragmented ecosystem means developers never know whether their creations will go viral or fizzle out, so it's tough to figure out how much effort to dedicate to app creation and what kind of performance and scalability apps will require in the long run.

To help developers more easily and efficiently create new applications, and enable those solutions to deliver high performance, high redundancy, and be highly scalable very quickly, a company called FatCloud has delivered Fatdb, which it calls the next generation NoSQL database for Windows.

That's the word from Doug Moring, marketing director at FatCloud.

The small, Los Angeles-based company introduced its first product in October, although its first line of code was written four or five years ago, says Moring. The company on April 23 came out with version 2.6.1 of the product, which includes changes to its licensing mechanism, a RESTful API sample project and some bug fixes.

The effort started after employees at FatCloud's sister company, a custom software developer, grew tired of doing all the plumbing to code every time they build anything. They wanted a platform with the common underlying infrastructure in place, so they could realize quicker time to market.

So they created their own .NET system with asynchronous batch processing and other features, so all developers need to do is write their own unique business logic, and that is then distributed to all their servers, Moring explains. For those that don't want to completely abandon SQL, FatCloud offers the ability to see data within a SQL server so developers can pick out what they want to move over to the FatCloud platform. IT

This Month's Focus: Retail

By Ed Silverstein

Kansas City Cleaner Taps Sprint for Fleet Efficiency

Hangers Cleaners is known in Kansas City, Mo., for its commitment to quality of service, sensitivity to the environment, and convenient free pick-up and delivery of laundry.

So when Joe Runyan, owner of Hangers Cleaners, wanted to improve how dry cleaning was transported in the region through company vans, he turned to Sprint Nextel Corp.

Sprint's Sprint Connected Fleet service leverages GPS, telematics and other wireless technology to clean up logistics for delivery.

It also uses Geotab, a large telematics supplier to enterprise fleets. Geotab offers customers the GO6, a proprietary device that connects via a J-BUS adaptor and can be used with Garmin navigation, Iridium satellite, sensors, and an expander cable called the IOX. The plug-and-play solutions from Geotab, which insert into a vehicle's OBD-II port, increase a fleet's productivity and safety, and are economical, according to the companies.

Web-based tools and reporting methods let businesses follow the location of vehicles and know what they are doing. Management can review driving behavior on any driver, improve dispatch and routing, and issue maintenance reminders and alerts.

"We've stopped needless idling of some of the vans in the parking lot each morning," Runyan said. "We take pride in being the most eco-friendly dry cleaner in the Kansas City area." IT

Ed Silverstein is a contributor to TMCnet, the online entity of INTERNET TELEPHONY parent company, TMC.

AMPLIFY Your SALES

The number of B2B marketers using content marketing in 2013... Source: Content Marketing Institute

Why Aren't You Using Content Marketing to Enhance SEO and Drive Additional Traffic to Your Site?

- Limited resources to craft custom copy?
- Lack of budget to hire dedicated writers?
- Inability to hire, train and manage a team of subject-matter experts?
- Lack of interesting content to feed your social media strategy?

Content Boost is Your Solution:

- Let our team become your team by leveraging our arsenal of writers for your content needs
- Supply your site with frequently updated, relevant content
- Say goodbye to the timely training associated with an in-house team
- Pay one monthly fee for your content, proofing and posting
- Enjoy the results you need!

Content Boost™
Amplify Your Sales

TMC®

To Find Out More Call (203) 295-0195
www.contentboost.com

By Paula Bernier & Erik Linask

TMC Announces IT Excellence Award Winners

TMC, the parent of INTERNET TELEPHONY and a global, integrated media company helping clients build communities in print, in person, and online, is proud to announce the winners of the 2013 INTERNET TELEPHONY Excellence Awards.

These awards recognize the creators of technology that demonstrate leadership and innovation to the global industry. As part of this awards effort, INTERNET TELEPHONY recognizes companies whose products have shown improvements in its clients' business and honors the best IP communications solutions in the world.

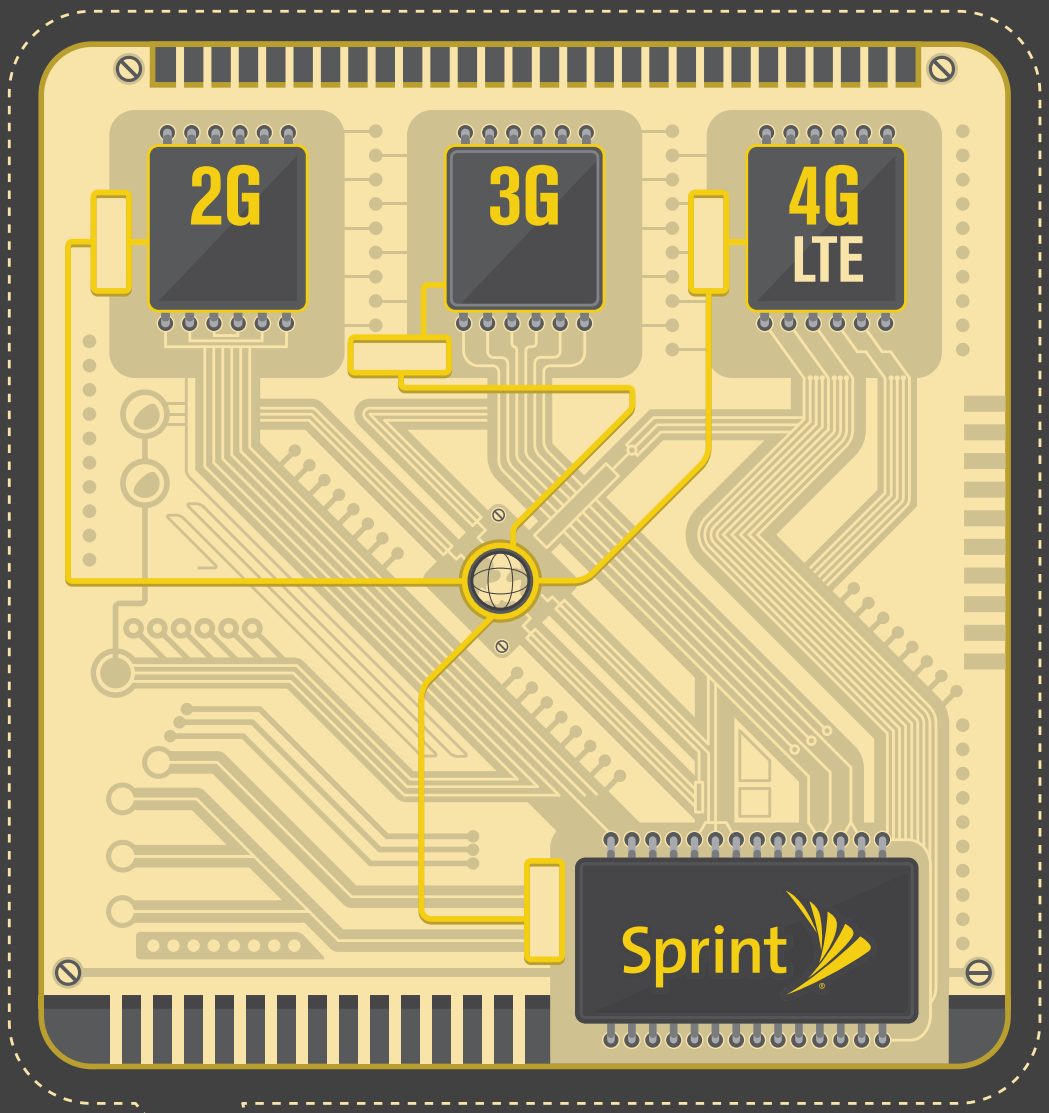
"The INTERNET TELEPHONY Excellence Awards were created to honor companies that have created products and services that excel in the IP communications industry," says TMC CEO Rich Tehrani.

As part of the application process, companies provide case studies of IP communications success experienced by one of their clients after operating the product/service over the past year. IT

WINNERS

Company	Product
ADTRAN Inc.	ADTRAN Bluesocket vWLAN
Alteva	Hosted VoIP
ANPI	ANPI Managed SIP Trunking
BullsEye Telecom	Hosted PBX
Calix	Consumer Connect
Crexendo Inc.	Crexendo's Cloud Telephony Solution
Elastix	Elastix
Fortinet	FortiVoice FVC-40S
iAreaNet	iAreaOffice 5.0
MegaPath	MegaPath Hosted Voice
Narus Inc.	Narus nSystem
One Source Networks	Cloud PBX
Plixer International Inc.	Scrutinizer 10
Radware Inc.	Alteon 5224
ShoreTel	ShoreTel Sky
Star2Star Communications	Star2Star Business Internet Communication System
Taqua	T6100 Convergence Server
TelePacific	Hosted PBX
Toshiba America Information Systems, Telecom Systems Div.	IPMobility
UberConference	UberConference
Virtela	Virtela Cloud-based Unified Communications Service
Virtual PBX	Virtual PBX Complete with VoIP Anywhere
Vocalocity	Vocalocity Desktop 2.0
Voice Carrier	Voice Carrier SIP Trunking Services
Votacall	Votacall VBX Hosted VoIP & vANA Bundle
XO Communications	Integrated Hosted PBX and Contact Center on Demand

Sprint



2G. 3G. 4G LTE. We're here for the long haul.

As a carrier committed to network choice, Sprint believes customers should be able to choose based on their custom need, whether it's 2G, 3G or 4G LTE. That's why we plan to maintain each–including 2G–for the long term as part of the overall Sprint Network Vision strategy. In short, we're in this for the long haul.

Visit m2m.sprint.com/sprint2g to learn more about Sprint's network commitment to 2G or to attend a seminar near you.

By Erik Linask

The Stars Are Aligning for WebRTC

WebRTC Conference & Expo this summer had its share of superstars, from "The Human Highlight Film" Dominique Wilkins to All-star third baseman Chipper Jones, and of course a global representation during the 1996 Summer Olympic Games. But, at the Atlanta confab in June, the stars were from a different industry, as more than 700 members of the tech developer community convened to discuss the hottest communications topic today, WebRTC.

Why is it so hot? Simply, WebRTC has the power to connect via voice or video (as well as content sharing) any web-enabled endpoint and, through WebRTC support from gateway and SBC vendors, extending those communications to any communications endpoint in the world. In other words, WebRTC will connect any device to any device.

The conference sessions were nothing short of successful, judging by the SRO crowds and a phenomenon that happens rarely at tradeshows – attendees did not get up from their seats between sessions, which means they were there to learn and understand how WebRTC will impact them and what they need to know to fully leverage WebRTC.

However, there did seem to be a shortage of questions from the audience (with the exception of Crossfire Media's Carl Ford, who always finds a way to fire up a panel). To me, that is a sign of WebRTC's infancy.

Most developers are only starting to learn about WebRTC – they will have questions once they actually begin building. This event was largely about education. But, it was also about displaying that WebRTC is ready for prime time. TMC CEO Rich Tehrani asked a panel if this technology really is ready.

Two days of demos connecting voice and video calls via WebRTC to both web- and SIP-enabled endpoints say it is. Want to try it out for yourself? Apidaze has set up a site where you can do just that: http://www.webr.tc/.

Speaking of Apidaze, Philippe Sultan, co-founder and CTO of the company, in Atlanta said that the functionality the various vendors and developers were showing isn't unique to WebRTC. This won't be a shock to WebRTC insiders, but it may cause some questions from others as to why there is so much interest around a technology that isn't going to deliver new features.

The answer is actually very simple: more than a billion mobile users (and more than three billion in four years), in addition to desktop-based connected devices. The very fact that a WebRTC session can enable communication between anyone with a web browser means instant access to, well, anyone with Internet access.

So, the issue isn't new features – it is first making WebRTC a stable, reliable option and then making it easy for developers to implement.

The demos at WebRTC Expo are evidence the technology is ready for prime time, and companies like Apidaze are doing their share to make its integration into websites and existing infrastructures easy. Apidaze does it through its JS API that simplifies the development process and allows developers to quickly become part of the WebRTC community.

"The idea is we provide the ability to build voice and SMS and WebRTC apps," explained Sultan. "We provide the DID numbers and full SIP domains and have complete control over calls made to their numbers."

Sultan and co-founder Luis Borges Quina are longtime telecom industry veterans and understand what a good enterprise system needs. Their point is that anything you can have in an enterprise system is feasible with WebRTC and they will continue to focus on the enterprise scenario, including the contact center, which Sultan sees as a great opportunity for WebRTC. But they will also set sights on the telco market, which is a massive target for all WebRTC vendors.

Are they on the right track? The announcement that it has brought on new President and CEO Richard Lalande is certainly seems to indicate so. Lalande is the co-founder of SFR, France's second-largest telco. His knowledge of and success in the telecom space meshes well with Sultan's expectations for the future of WebRTC in general, and Apidaze specifically.

There's much education still needed and standards to be ratified, but with or without standards, WebRTC is coming. Announcements earlier this year from Google and Mozilla in support of WebRTC were a major step forward and, while there is debate over whether Microsoft's support is needed, there is no question that it would be a benefit. Until then, companies will continue to also provide a Flash interface.

And if you missed any part of the conversation in Atlanta, I welcome you to review our coverage of the event at WebRTC World, and be sure to mark your calendars now for Nov. 19-21, when we'll gather again at WebRTC Expo, this time in Santa Clara, Calif. IT

TMC ITEXPO®

Mandalay Bay | Las Vegas, Nevada | August 27-29, 2013

The Business Technology Event

Review innovative solutions that increase productivity, reduce maintenance and lower costs.

- Attend Educational Sessions Focused On Cloud, UC, Customer Experience, Social
- Meet 250+ Exhibitors
- Network With 1,000s Of Attendees
- Free Workshops Focused On SDN, Asterisk, WebRTC, SIP And More!

Register Now For Best Rates! www.itexpo.com

The One and Only Event For

- **Enterprise/SMBs**
- **Government**
- **Reseller/Channel**
- **Service Providers**
- **Developers**

@ITEXPO/ #ITEXPO

Apple Co-Founder Steve Wozniak to Keynote ITEXPO Las Vegas!

Admission Included with Any Conference Pass

Platinum Sponsors:

AudioCodes

sansay

Interactive Intelligence

NETXUSA VoIP Made Simple

Gold Sponsors:

Sagemcom · Taqua · Vitelity · Sangoma · ShoreTel Sky · voxbone · Yealink · 888VoIP Distributing Success

Advertising Index

Yealink
easy VoIP

THE GLOBAL **TOP 5**
SIP PHONE PROVIDER

Ultimate Performance, Future Innovation

SIP-T46G + EXP40

SIP-T42G

SIP-T41P

Optima HD Voice

Gigabit

Paperless

Support Bluetooth Earphone

About Yealink - The Global Top5 SIP Phone Provider

Founded in 2001, Yealink, a leading provider of VoIP Phone and IP communication solutions, has been focusing on VoIP products characterized by reliable quality, easy deployment and affordable price for over a decade. Today, customers from over 140 countries rely on Yealink as the backbone of global collaboration to extend the value of network communications. Email: sales@yealink.com Website: www.yealink.com

WE MAKE IT SIMPLE

Online Quoting with MasterStream®

Service Delivery with Personalized Provisioning

Co-Marketing & Market Development Funds

24 x 7 Network Operation Center

Dedicated Sales & Engineering Resources

At ANPI, we take care of you, so you can take care of business. The ANPI VIP hosted communications solution paired with our support makes generating new revenues easier. Visit anpi.com/partners or call 877-936-3003 to become a member of our partner program today!

Come see us at IT Expo Booth 221.

ANPI PREMIER PROGRAM