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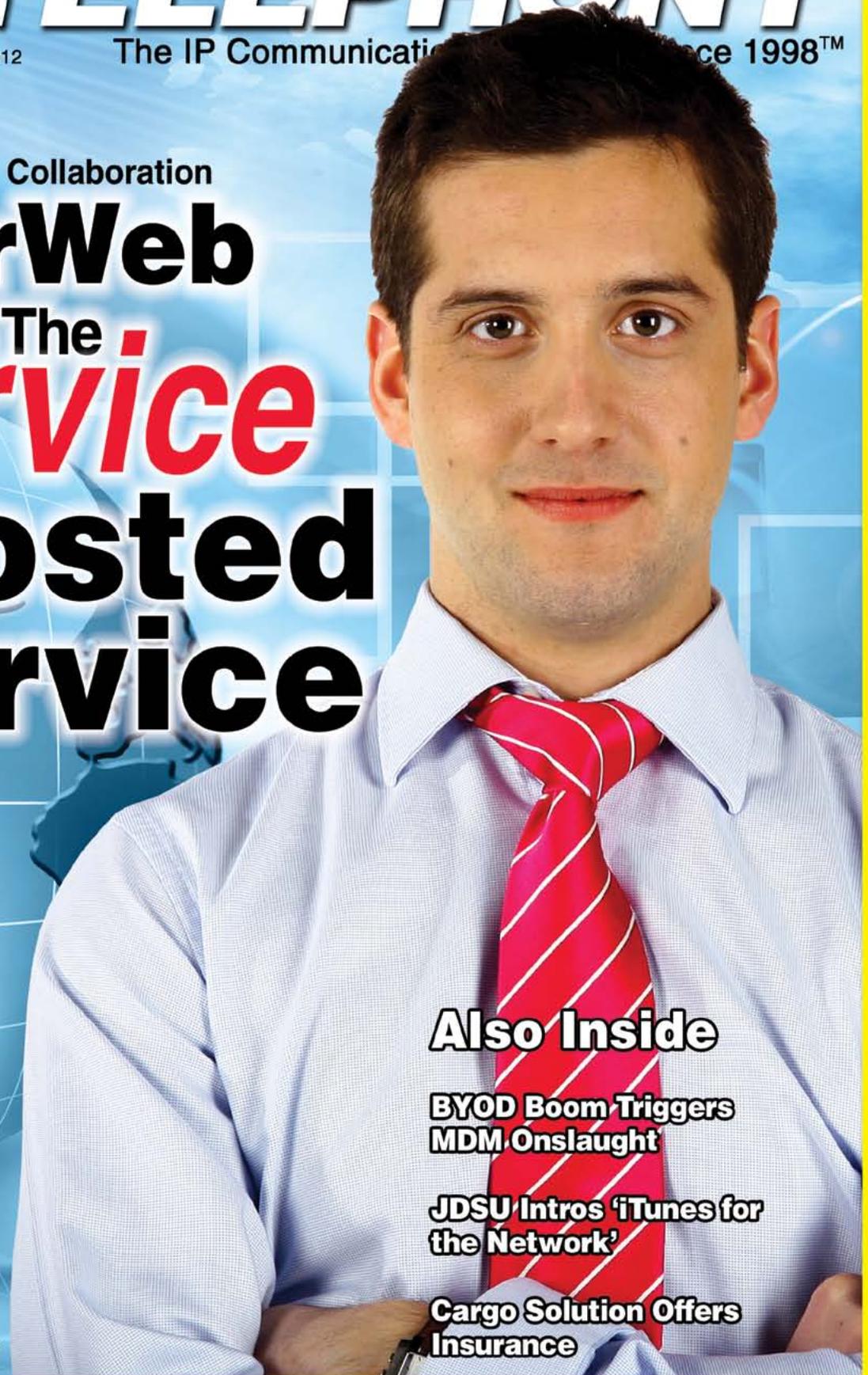
SherWeb's Matthew Cassar

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Communications At Home and Abroad

In an effort to ensure 911 and other critical communications infrastructure is available to all customers not matter what technology they use, the Federal Communications Commission in mid-February issued a report and order that will hold interconnected VoIP service providers to the same outage reporting requirements as traditional operators. This comes at a time in which nearly a third of U.S. residential telephone customers use VoIP service at home.

The new rules for interconnected VoIP service providers were generally well received.

Brendan Kasper, senior regulatory counsel for Vonage, told *INTERNET TELEPHONY*: "We applaud and appreciate the commission's willingness to take into account issues identified with the original proposed outage reporting rules and to craft well-targeted rules focused on advancing the commission's mission to protect critical communications. The new rules will help ensure that the commission can protect critical communications, while at the same time avoid subjecting VoIP providers to substantial and unnecessary development and implementation costs."

8x8 Inc. CEO Bryan Martin commented to *INTERNET TELEPHONY*: "This ruling would provide service providers with a requirement to notify the FCC of any outage or interruption of services and emergency calling capabilities. I think it is further validation of the significant penetration and use of IP-based services in the U.S. communications services marketplace. Businesses of all sizes are now relying on cloud-based, hosted communications as their primary communications infrastructure, and the FCC is acknowledging this simple fact with these new rule proposals."

On an altogether different front, I recently spoke with Diane Landau, founder and CEO of consulting firm Global Resources Inc., about important developments abroad as they relate to the communications space. Since 1991, Landau has worked with developing and emerging countries to design and implement ICT and infrastructure projects.

Landau earlier this year headed off to South Africa – which has one of the largest and most developed telecommunication networks in Africa, but where broadband penetration is just 7 percent – for an engagement with the U.S. Trade and Development Agency. The agency selected Global Resources to identify and develop projects for potential USTDA funding.

Other areas of the world that present exciting opportunities for the ICT space, according to Landau, include Azerbaijan, Egypt, Morocco and Turkey. The prime minister of oil-rich Azerbaijan has named ICT as the country's second area of focus, says Landau, who was recently hired on by that country's leadership to help expand efforts on that front. With the recent elections in Morocco, that country has seen a fair amount of change recently. But Digital Morocco 2013 is one of the best national initiatives Landau has seen developed. The effort aims to position Morocco as an ICT leader and technology hub by making broadband more available and accessible, by developing national digital content, by leveraging its human and digital resources to attract business from overseas, and by reinforcing cooperation between Morocco's research institutes and the private sector to turn the country's existing national research potential into marketable technology and products.

BT obviously sees the appeal of these parts of the world as well, as it just announced expansion plans on this front. According to BT, the addressable market in Turkey, the Middle East and Africa was worth a combined $8.5 billion in last year, and IT spending growth across the regions is expected to top 10 percent this year.

"The Middle East already hosts some of the world's main business hubs, and is a crucial region for many of our customers," said Jeff Kelly, CEO of BT Global Services. "New opportunities are rapidly emerging in the region, and we are now expanding from our thriving base in the United Arab Emirates. Turkey is a key business bridge between Europe, Asia and the Middle East and is growing rapidly. Sub-Saharan Africa remains largely a new frontier for ambitious businesses and is currently showing strong growth rates in a number of countries." **IT**

Cisco Underestimated Skype's Value

Cisco is far from the most open company in tech, so it is ironic that the company is concerned about a monopoly over videoconferencing, a result of the Microsoft acquisition of Skype.

The company's Martin De Beer said, "For the sake of customers, the industry recognizes the need for ubiquitous unified communications interoperability, particularly between Microsoft/Skype and Cisco products, as well as products from other unified communications innovators." This statement coincided with Cisco challenging an EU court over the acquisition.

One has to wonder, however, if Cisco underestimated Skype's value. After all, the company has been sold twice in the last few years, and the networking company didn't close the deal either time.

The thesis that Cisco did not realize Skype's importance is backed up by Cisco's other actions – launching its consumer video service Umi, a Skype competitor. As you may recall I immediately said this service would fail and backed up that statement with 10 reasons why.

What is Cisco's stance on video openness? In October of last year, the company responded to critics regarding its somewhat closed video ecosystem and decided to become more open. But this was five years into selling its telepresence products.

If anything, Cisco has been one of the more closed vendors in the market.

Remember what happened when Cisco announced it would buy Tandberg? Well, Stefan Karapetkov, emerging technologies director for Polycom, said the following: "Cisco announced today that they will acquire Tandberg, and this will have significant impact on the video communications market. It will reduce competition, and limit customers' choices, especially in the telepresence space. It will, hurt Radvision who now fills the gap in Cisco's video infrastructure portfolio".

I am, however, more concerned about the standards compliance that has been the pillar of the video communication industry for years. Tandberg and Polycom worked together in international standardization bodies such as ITU-T and in industry consortiums such as IMTC to define standard mechanisms for video systems to communicate.

Cisco, on the other hand, is less interested in standards, and considers proprietary extensions as a way to gain competitive advantage. The concern of the video communication industry right now should be that the combined company will be so heavily dominated by Cisco that standards will become last priority, far after integrating Tandberg products with Cisco Call Manager and WebEx.

Telling is the fact that both Tandberg and Cisco declined participating in interoperability events over the last few months.

But this doesn't mean Cisco hasn't done the correct things for its shareholders by being more closed than most other companies. After all, if you are a dominant provider of a solution you aren't required to open up your product unless a government forces you to. And this is why Cisco has inserted itself into the regulatory approval in Europe of the acquisition of Skype by Microsoft. De Beer continued, "Cisco does not oppose the merger, but believes the European Commission should have placed conditions that would ensure greater standards-based interoperability, to avoid any one company from being able to seek to control the future of video communications."

And this is the challenge Cisco faces. Microsoft had a Lync Pavilion at ITEXPO East 2012 in Miami and it was mobbed – lots of attention and buying – and it will expand in ITEXPO in Austin, Texas. And this was before Skype integration. Based on what I saw, enterprise buyers and resellers want UC solutions from Redmond.

But when FaceTime is a fast-growing competitor and is very closed, do we need to force Skype and Microsoft to open? In fact, I predict that in five years Cisco will have to worry more about Apple in the enterprise than Microsoft and Skype. **IT**

INTERNET TELEPHONY®

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By Hunter Newby

Muni Efforts Should Stick to Property Management

In an effort to gain monetarily from their investment while adding value to their community, the city of Farmington, N.M. has articulated for all of us the apparent options for their municipal fiber network. These are the options and challenges that all municipalities face when contemplating the business model for a new, or existing, municipal fiber network. Their findings are as commonly applied as the laws of physics itself.

Here are the highlights from the Feb. 9, 2012, article by Kurt Madar, which appeared in the Farmington, New Mexico Daily Times.

• City officials are trying to find the best way to light up Farmington's 80 miles of fiber optic cable
• The city uses the cable to run its electric utility system, but it only needs a fraction of the available strands.
• The extra strands, called dark fiber because fiber optic cable transmits information in the form of light, are a case of unused potential, experts and officials say.
• If harnessed, the available bandwidth could become an economic boon for the community by attracting big businesses.
• It also would provide much higher levels of connectivity for everything from hospitals and colleges to private residences.
• The city hired Elert & Associates, an IT consulting firm, to perform a feasibility study on how to best use the available cable.
• Representatives from the firm and a financial expert from Front Range Consulting presented a list of those options to the city council.
• Options ranged from doing nothing to what is called a triple play, where the city would become a provider of Internet, telephone and television service.
• The consultants, Wendy Chretien of Elert & Associates, and Dick Treich of Front Range Consulting, recommended that the council stay away from the triple threat option and instead lease available cable to already existing service providers.

"Several of the providers expressed an interest in leasing fiber and said they would provide service where the city doesn't now," Chretien said. "The city's system is well above the national average, it has a tremendous amount of capacity."

While the triple threat option would bring in the most revenue, it would also cost $100 million to extend the cable to all of Farmington Electric Utility System's 32,000 customers, and it would very likely face strong opposition from major service providers like Comcast and CenturyLink.

"They won't sit still for that," Treich said. "First they will challenge the legality of whether you can get into that option, possibly tying you down in court for a long time. They will also start the whole argument of public money being used for starting a private business. It would be a two-pronged attack."

While the council didn't make a decision, according to the article, council members were leaning toward leasing the fiber

and were trying to decide whether they would provide the bandwidth or allow the service companies to do it for them. The article went on to report that it would cost the city $1.5 million in infrastructure development to extend the fiber to the various interested companies. And it quoted Assistant City Manager Bob Campbell saying: "Five companies have expressed interest. Assuming that those companies would each use approximately 10 miles of fiber, (they) would provide $170,000 annually leasing dark fiber."

The greatest power that the municipalities possess is the power of the pen to grant access to the city's rights of way to place empty conduit and dark fiber. This enables, rather than competes with, all of the carriers and lit network service providers, which eliminates their opposition to a municipality entering their business and opens the doors to multiple networks entering the market to offer competitive services at competitive prices. Every step of this city's thought process is identical to that of any other, and others would be well served to follow this path.

The ultimate logical conclusion is for the city to stick to doing what it is best at, essentially property management, and not trying to get in to an active business that it does not understand – which adds rather than removes challenges and uncertainty.

When a city faces a dwindling tax base from businesses and people leaving for better lands, it is easy for the city to be lured in to the belief that a broadband network will save the day. It is true that a broadband network, if it is done right, has a direct positive impact on the economy, and today there is no denying it. The means to the end is what should be questioned.

It might be scary for a municipality to imagine the perceived relinquishing control of their future over to a carrier, especially when it is usually the incumbent carriers that have no competition and therefore no sense of urgency or motivation to do anything about building a proper broadband network. This fear drives the city to contemplate building their own broadband network with all of the bells and whistles of fiber to the home, video, voice, Internet access, etc. The city wants control over their destiny, and some believe that it can only be accomplished if they do it all themselves. This is inaccurate.

By providing an open dark fiber system for any and all service providers to access and use on reasonable rates and terms, it acts as a magnet to attract the broadband providers that will come and offer to build lit networks for the enterprise customers (tax-paying employers/businesses) and the triple-play network and packages for the home user customers (tax-paying citizens) because of the cost and red-tape savings of not having to build a large count fiber cable themselves when all they need is a pair of fibers. **IT**

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

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By Eric Leiserson

Trying out E-bills Gives Consumers the Confidence to go Paperless

Tryvertising is the promotion of goods offered risk-free, often through a free trial period, to give consumers a chance to try before they buy. It's a successful tactic often used by large companies to help cautious consumers feel more comfortable with selecting a new product or service that they have yet to see or experience in person. It works for cookware, satellite radio subscriptions and other purchases. Tryvertising works not just for the sale of new products, it can also change the way people receive and pay bills.

than paper. Some have used contests to encourage customers to sign up for e-bills. These traditional marketing programs have swayed many customers to convert to e-bills at both bank and biller websites. Yet some customers still refuse to move away from their paper bills, likely because they are comfortable paying their bills in a conventional way, or aren't aware of e-bills. When the Fiserv Billing Household Study asked what would convince consumers that do not yet receive e-bills to sign up for e-bills, 19 percent said the ability to try e-bills before turning off the paper bills.

Qwest customers receiving e-bills either at their bank sites or at Qwest.com site had higher levels of retention, profitability and product bundling then paper bill customers.

The wave of Internet commerce has enabled companies to offer customers an alternative to paper bills. Millions of consumers are receiving electronic versions of their paper bills, known as e-bills, at service provider websites or through their online banking bill payment services. The reason they cite most often for electing electronic rather than paper bills is convenience, according to the Fiserv 2011 Billing Household Study. In addition, customers also indicate that they value e-mail reminders about bills, the enhanced ability to manage finances and the elimination of paper that e-bills provide.

E-billing also offers big benefits for companies that send monthly bills. Hard cost savings are generated from the elimination of paper, printing and mailing costs. In addition, biller cost savings are derived because customers who receive e-bills make fewer calls to contact centers, and when they do need to make contact, they frequently do so by using the less costly channel of online customer care. Research conducted with Con Edison in 2011 found that e-bill customers make more timely payments, which facilitates cash flow for billers. Additionally, a study with Qwest Communications in 2009 found that Qwest customers receiving e-bills either at their bank sites or at the Qwest.com site had higher levels of retention, profitability and product bundling then paper bill customers.

Although there are many consumer e-bill enthusiasts, some segments of customers are still reluctant to try paperless e-bills. In the past billers and banks have used direct mail, online and e-mail campaigns as well as local public relations campaigns to convert customers to e-billing. The green movement has been leveraged by some billers to convert customers to e-bills rather

To provide billers with the ability to offer their customers e-bill trials, Fiserv created a tryvertising program called eBill Easy Activation. The program provides customers who are already paying bills online through their bank with the option to receive an e-bill there as well as a paper bill for a 90-day introductory period. At the end of trial period, customers have the opportunity to opt to continue with e-bills and cancel paper. If they do not activate the e-bill and turn off the paper bill, then the e-bill is discontinued.

In 2011, Fiserv conducted a pilot of eBill Easy Activation with a major U.S. telecommunications provider. The company has millions of customers who already pay their paper bills online through online banking. The telecommunications provider offered a no-commitment trial of e-bill to 400,000 customers that lasted through three billing cycles. At the end of the trial period, customers could opt to continue with e-bills or paper bills. The rate of trial period customers choosing e-bills was through the roof – three times higher than customers that were not involved in the pilot.

The telecommunications company very successfully changed the financial services behavior of many customers, 75 percent of which were first time e-bills users. Easy Activation also created an exciting draft effect because nearly 70 percent of the new e-bill customers added at least one more e-bill from another biller. Such impressive results show that tryvertising is a proven path to conversion and permanent adoption for e-bills. **IT**

Eric Leiserson is a senior research analyst at Fiserv (www.fiserv.com).
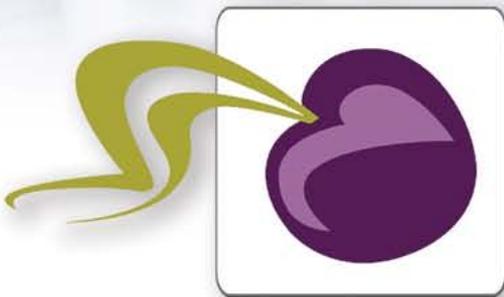
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By Mike Sheridan

Is Bring Your Own Device the Next Wave of Productivity or Chaos?

I joke that I pay for two iPhones: my wife's and my daughter's. Until very recently, it was just a BlackBerry for me, sadly. But there's this idea today: bring your own device to work. What does that mean exactly? One thing we know it means is that this is the evolutionary process of streamlined and enhanced productivity. And if your organization hasn't already begun preparing for it, you better get on it.

Think about cell phones 10 to 15 years ago. They were the cool and unique gadget, but their function was distinctly defined. They were either company or personal phones, and were only for making calls – just as laptops were only web browsers, and business applications were only business applications. And as much as people tried to keep those worlds separate, with the way the industry and the world have changed, the lines have blurred. Today, smartphones, tablets, etc. have a great deal of functionality overlap. There is minimal distinction between them, so there is chaos having so much unknown.

And chaos applies to trying to manage this environment. Vendors that sell to consumers want each device to obsolete the last, creating a pace that corporate IT groups cannot keep pace with. There is also a challenge for IT organizations when it comes to managing the data – your company e-mail and personal music and pictures are now on the same device – so whose data is it anyway? But while these tools may not be business productive today per se, they make employees happy and that, in turn, can equate with productivity. Individuals are communicating and collaborating better and faster on a personal level than corporate can do on an enterprise level.

So with all of this hype around BYOD, organizations need to learn to manage the middle, or bridge the gap between the consumer and the corporation. In order to make progress toward productivity, organizations need to find a way to put security and storage structures around the permitted devices without limiting use. Because let's be honest, your employees are also consumers. Understand them and you'll better understand your customers. This is engagement evolution. Inward-looking companies have better understanding when it comes to ramifications around BYOD and make the outward connection to the customer experience.

It's similar to the principles of unified communications: connecting and collaborating – on your customers' terms. What has your organization done to adapt to this ever changing culture? **IT**

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

By Steven Johnson

The Need for an SBC with Microsoft Office 365

Cloud services can streamline installation and reduce operational costs for enterprise telephony services. They can also increase efficiencies with network consolidation, simplifying IT administration. Microsoft Office 365, the hosted platform for the Microsoft Office suite of applications, is being widely adopted by the industry for just these reasons.

In many cases Office 365 is being used with an IP PBX that is located on the customer premises. An enterprise session border controller plays a critical role in these deployments. By solving network address translation traversal, an E-SBC makes it possible for IP PBXs to connect successfully with Exchange Online UM from behind the enterprise firewall, enabling the use of the Microsoft Office suite of applications hosted on Microsoft Office 365.

Microsoft Office 365 has specific connection requirements that can be easily addressed by an E-SBC. For instance, Office 365 requires support for secure real-time transfer protocol and transport layer security. SRTP provides one of the most secure environments for VoIP applications available with advanced encryption, confidentiality, message authentication and replay protection. TLS authenticates voice traffic as well encrypting the signaling. Together, this powerful SRTP-TLS combination effectively stops eavesdroppers, hackers and spoofers.

The E-SBC also provides critical TCP/IP-to-UDP conversion. Microsoft Office 365 connects using TCP/IP while most IP PBXs support only UDP connections. The E-SBC makes this conversion enabling Office 365 to be used with any IP PBX that is installed at the customer site.

E-SBCs play an important role in enabling the use of Microsoft Office 365. **IT**

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

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By Michael Stanford

Smartphone Virtualization

Server virtualization is an essential technology driving the cloud computing revolution; desktop virtualization lets me run Windows and Linux in windows on my Mac. And now virtualization is coming to smartphones.

On a traditional server, the operating system runs directly on the computer processor. With virtualization, a software layer called a hypervisor is sandwiched between the operating system and the computer processor. The hypervisor enables multiple instances of the operating system (or even multiple different operating systems) to run concurrently on a single processor, each instance ignorant of the others. The hypervisor layer can slow things down, so for some years now Intel and AMD, the main server processor manufacturers, have enhanced their hardware to improve virtualization performance.

All smartphones, and many embedded systems (like cars and set-top boxes) use processor cores developed by ARM. The latest version of ARM's architecture, ARMv7-A, is the first to include hardware support for virtualization. So at the end of this year, the first smartphones with hardware support for virtualization will start to ship.

For some years, smartphone makers have occasionally used software-only flavors of virtualization to simplify porting and to reduce costs. But hardware support and a growing problem may make virtualization common on smartphones.

The growing problem is BYOD. Bring your own device is a nightmare for IT departments; historically, they have kept chaos at bay by supporting only a limited number of devices and software setups. But in the era of BYOD, employees demand to use a vast and ever-changing variety of devices. Virtualization enables them to add a standard corporate software load to any phone.

This way, a single phone has a split personality, and the hardware virtualization support keeps the two personalities securely insulated from each other. On the consumer side, the user downloads apps, browses websites and generally engages in risky behavior. But none of this impacts the enterprise side of the phone, which remains securely managed by the IT department. **IT**

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

By Nick Maier

What Does E911 Really Mean?

If you ask people in the communications industry the question: "What does E911 really mean?" you will likely get different answers.

More often than not, even seasoned veterans confuse E911 with public safety answering point equipment. However, PSAP equipment only makes it possible for trained emergency response operators to answer 911 calls and dispatch first responders to a caller in need.

Most PSAP equipment manufactured over the past 10 years allows these operators to accept the 911 voice call while the PSAP equipment bids for the location record that is associated with the incoming telephone number. This location record is the enhanced part of enhanced 911 – or E911.

No location record, no E911.

If there is no location record associated with the incoming 911 call stored in the local exchange carrier's PS-ALI database or in an i2-compliant VoIP positioning center hosted by a third-party provider, it doesn't matter whether dispatchers have the most sophisticated PSAP equipment in the world. Their screen will show a blank for the location of the caller.

Many large enterprises and government entities with complex building environments have their own on-site PSAP to take and dispatch 911 calls. Military bases and universities are good examples of organizations with these types of environments.

When working with customers like these, we always stress the importance of getting their location data in order and then developing a process to keep it accurate. This is the crux of E911, managing accurate location data.

Once you have good data, you can then turn your attention to your PSAP equipment, which will leverage this accurate location data to help dispatchers send help where it's needed.

If you don't have good location data, you've got the cart before the horse and may not be spending your money in the wisest manner. **IT**

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

By Marc Petit-Huguenin

RELOAD, a Distributed Database for VIPR

While ENUM uses the DNS, a hierarchical distributed database, to store its data, VIPR uses a peer-to-peer distributed database. ENUM is designed around the idea that only the owner of a phone number should be empowered to publish the VoIP route that can be used to reach this number. This design assumes that the owner of this phone number has a motivation to do so, an assumption that falls apart with the realization that the owner of a phone number is rarely the user to whom this phone number is assigned and that the goals of a phone user have very little in common with those of its phone provider, to say the least. And that is without even starting to deal with number portability, which makes the problem of ownership of a phone number even fuzzier.

On the other hand, VIPR is designed around the idea that who owns the phone number does not matter as much as who is currently using it. This idea translates to the PSTN verification protocol, which is the technology used to verify the claim made by a user of a phone number that it is really assigned to

peer-to-peer technology is different from Skype or from its open standard equivalent, P2PSIP. Skype and P2PSIP replace the traditional trapezoidal model of VoIP with a new model where the mapping between a user address is stored in the overlay and the VoIP signalling is routed between endpoints through the peer-to-peer overlay. VIPR, on the other hand, uses the overlay only to store the information needed to route the PSTN verification protocol between the source and the destination of a call. Only a successful execution of this protocol will produce the VoIP route than can then be used to make a subsequent call. Note that a peer-to-peer technology can still be used for this call as VIPR leaves the choice to the implementation to use whatever model the user prefers.

One consequence of using peer-to-peer storage is that its capacity is the sum of the capacity of each the computers participating in the overlay. This creates a problem when a user wants to store data that takes more space than available in the overlay. Because a peer-to-peer overlay is open to more or less everybody, it must be designed to contend with

VIPR adds an additional safeguard to RELOAD that requires each user to provide as much storage for other users that it is requiring for itself.

her. So instead of attaching the VoIP route to the phone number, VIPR is simply storing enough information to execute the protocol that will provide this proof. And because there is no way to know before running this protocol who is really using this phone number, the VIPR system must grant to anybody the right to store this information. This requires more flexibility on who can store this information, flexibility that cannot be easily found with the DNS. This is why VIPR uses a different type of database for the storage of this information, using a peer-to-peer technology called RELOAD to implement this distributed database.

This is not the first time that a peer-to-peer technology is used for VoIP. The media streams between endpoints have always been sent as much as possible directly because any intermediary adds latency to a call and increases the probability of packet loss. Recently peer-to-peer technologies have also been considered and used for the VoIP signalling, mostly to lower the need of expensive data centers, but the VIPR usage of

users who are less than ethical or even that have nefarious intents. A peer-to-peer overlay like RELOAD is designed with these kind of issues in mind and can still be safe if a minority of users tries to take advantage of it. But VIPR adds an additional safeguard to RELOAD that requires each user to provide as much storage for other users that it is requiring for itself. This should not be an issue for a user that is using only one phone number, but for an enterprise or a provider that is managing hundreds or thousands of phone numbers, the overlay will enforce a quota rule that in simple terms says: A VIPR domain that is registering twice as many numbers as another domain must contribute twice as much servers to the overlay. **IT**

Marc Petit-Huguenin has held software architect, vice president and CTO positions at various companies in the VoIP industry since 1998, and participated in the standardization of Java APIs and Internet protocols. He blogs at http://blog. marc.petit-huguenin.org/.

By Alan Murphy

Single Application Namespace – The True Cloud Payoff

For the past few columns, I've been focusing on various topics and technologies surrounding cloud bridges, gateways, and brokers: what they are; why you should care; what they can do; where you should use them; etc. In addition to cost savings, mobility is one of the largest drivers behind enterprise IT moving to the cloud, and an extension of that mobility is the ability to chain a virtual cloud data center off of a standard physical one. Analogous to the shift away from physical resources within the data center, cloud bridges and gateways allow enterprise to move away from physical connectivity, such as dedicated links and dark fiber between data centers, and virtualize the last mile of the cloud: connectivity. But the end-goal isn't just connectivity; it's the ability to use that connectivity as part of a single data center resource.

Virtual cloud connectivity devices – in particular, cloud gateways – allow us to connect not only the resources in the cloud to the on-premises data center but also to integrate the remote services of the cloud. This extended connectivity model enables us to create a transparent and fluid hybrid cloud model for users and

The technology is readily available today, but most of these technologies are available as single-point solutions spread across multiple vendors offering many different software and hardware options. This disaggregated model makes managing a single application namespace across the cloud nearly impossible.

One of the reasons is a diversified marketplace. Enterprise IT is over-inundated on a daily basis with "cloud-ready" infrastructure options, many which require a complete overhaul of core networking in the on-premises data center and/or have limited support between multiple off-premises cloud providers. At the same time there is a rush for cloud providers to support enterprise customers by offering unique and differentiating value-add solutions – which means opening up new services that support the enterprise in different ways than the now-standard cloud model of spinning up services with a credit card then walking away. So enterprise IT is forced to choose a particular technology that will both serve their feature needs and support the dynamic environment of multiple cloud providers. Or they go the other way and first choose

We need to start moving, en masse, to cloud gateways that provide a single application namespace.

applications: the end-goal of any hybrid cloud deployment. We want to be able to move any part of any application into the cloud, transparently re-direct users to that cloud-based application as needed, and manage a single access, availability, and security policies between the on- and off-premises data center resources. This model – a single application namespace – may seem like a stretch goal, but it's not; it's completely achievable today using cloud gateways, and without much extra work for the enterprise.

Thankfully all the devices and components required to support a single application namespace exist today: presentation systems that track where the application currently lives (in the cloud or at the on-premises data center) but represent the true location as a single virtualized location to the customer (think DNS); customer portal systems that offer up multiple options for delivering enterprise applications to mobile users, such as single sign-on VPN devices that always live at the same hostname but dynamically distribute users to the back-end applications in the cloud depending on load, location, availability, device, etc.; infrastructure components, such as cloud gateways, that manage dynamic routing, verify that cloud-based applications are available and are the best option for the end users; the list goes on and on.

a cloud provider and then drill down into what, if any, solutions they offer in the way of cloud connectivity.

The true solution to a single application namespace is a cloud gateway that is integrated into both the on-premises data center as well as the off-premises cloud provider, can support the dynamicity of bouncing applications and users between multiple data centers and different cloud providers, and has a goal of delivering a single application namespace throughout the life of the cloud-based application.

The critical error most IT departments and cloud providers are falling into is focusing on network connectivity. They should be focused on managing the end-to-end application deliver solution from the cloud. The cloud was built as a new model to deliver applications to users, cheaper and faster. In order to take full advantage of applications in the cloud, we need to start moving, en masse, to cloud gateways that provide a single application namespace – transparently delivering any app to any user from any location without sacrificing IT control and management. **IT**

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

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By Jeff Hudgins

Top Three Considerations When Adopting Intel's New Micro Architecture

Intel's newly announced Xeon E3, E5 and E7 series of microprocessors, based on its Sandy Bridge micro architecture, is changing how software applications run and perform on server platforms. These CPUs require significant source code changes. Is your company's application development team ready and able to unleash the power of these new devices?

Here are three important considerations to help guide some of the transition thinking.

First, unlike the previous Nehalem to Westmere refresh, this architecture requires completely new hardware platforms. Developers must allocate sufficient budget to obtain hardware platforms for testing. But that's only the start. Allocating test engineering resources to conduct performance and interoperability tests along with marketing resources to update datasheets, websites, and product manuals can easily blow the budget. And leaving obsolete inventory behind is a direct hit to the bottom line, so proper timing and execution are critical.

Second, software applications that have traditionally been plagued by memory bottlenecks can now see greater benchmark performance on the new micro architecture. The memory read bandwidth has doubled as compared to the prior generation of processors with the addition of a memory read port. Early adopters can gain a significant competitive advantage, so look for ways to code optimize around the increased memory performance.

Lastly, general-purpose microprocessors have traditionally served within the control plane of communications and networking equipment, leaving ASICs, field-programmable gate arrays, and various accelerator cards to handle packet processing in the data plane. But that is all beginning to change as Intel's faster and more efficient processors aim to replace many of the packet processing chipsets commonly used in today's enterprise- and carrier-class servers.

So what's the final score? Sandy Bridge is designed to enhance a range of applications that run mobile devices, laptops, and enterprise-class servers. Developers have a chance to realize increased performance and cost savings, but it will take a well thought out transition plan to capture the power of these new devices. **IT**

Jeff Hudgins is vice president of product management at NEI Inc. (www.nei.com).

By Max Schroeder

A Continuing Educational Series
Exotic Office Animals

Searching for a paperless office is considered by some analogous to hunting unicorns or paperless tigers. Recently, at ITEXPO East in Miami, Erik Linask of TMC moderated a panel to explore this subject. As the Linask expedition roamed the global office jungle, some interesting footprints were uncovered.

First, panelists and audience participants agreed that hunting for the paperless tiger would be ineffective and reasoned that tracking repeating printer parrots, duplication dinosaurs, paper burying squirrels, data donkeys and workflow warthogs would be more practical – hunting animals that should be extinct but are still surviving quite well. Herds of these creatures roam throughout many organizations and are leaving their droppings everywhere.

Paper manure doesn't stink, so you can ignore it for quite a while. But it consumes a lot of space and energy. It also requires a lot of time to move around – definitely the antithesis of a global mobile workforce. But paper is simply a symptom of inefficiency and antiquated procedures, and analogous to a runny nose being symptomatic of a cold or allergy. Therefore, you also need to track down time-wasting tortoises, inefficiency insects and energy elephants.

It is time to muck out the office and annihilate these beasts. Weapons of choice are the workflow war hammer, unified communications crossbow, fax flamethrower, IP messaging missile, SaaS shillelagh, Sharp OSA, hosting Howitzer, Xerox EIP and other technologies displayed daily on the TMC website. Break out the SaaS shillelagh and a hosting Howitzer and take out a few of these beasts. It will work out some frustrations and really do some good for your organization.

I hope you enjoyed having a little fun with the term paperless office. However, as the Linask expedition revealed, the real problem is not paper but outdated office technology and procedures. These are the true profit-eating beasts in your office. In fact, the expedition concluded that attempting to go completely paperless would be counter-productive. Businesses simply cannot control government regulations or how other businesses choose to operate, so some paper usage is unavoidable. But there are plenty of solutions available to make your people more productive with reduced paper and energy consumption. Good hunting. **IT**

Max Schroeder is senior vice president of FaxCore Inc. (www.faxcore.com) and managing director of the DPCF.

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By Paula Bernier

SherWeb Puts the Service in Hosted Service

Many of the best companies are founded by people who themselves discovered the need for a solution, and then went on to establish businesses to deliver a product or service to meet that need. Such is the case with SherWeb, a Canadian company founded by brothers Peter and Matthew Cassar in 1998.

Back in the late 1990s Matthew had created a website for a personal project and was looking for someone to host that website. But he couldn't find many good options, especially in Quebec, at the time. So Matthew and Peter decided to launch SherWeb.

The company got its start as a traditional web hosting business, offering dedicated servers and the like. But, over time, SherWeb evolved into the hosted services provider it is today.

SherWeb now offers hosted Microsoft Exchange 2010, hosted SharePoint Foundation 2010, cloud-based e-mail archiving, and hosted CRM, as well as its traditional web hosting solutions.

The company in 2005 embraced the SaaS model, began its partnership with Microsoft, and started aggressively marketing its services via the web. That enabled it to move to the next level – becoming a rapidly-growing enterprise, and expanding from 12 to close to 150 employees, says Matthew.

He adds that SherWeb was among the first companies in the world to offer the various versions of hosted Exchange and SharePoint. For example, in November of 2010 SherWeb announced the release of hosted SharePoint Foundation 2010, the latest version of Microsoft's web-based collaboration solution, and one of its fastest growing products with over 100 million licenses sold worldwide. This solution enables teams to communicate easily and more effectively and collaborate through a central location accessible from anywhere.

SherWeb's pioneering work was recently noted through its selection as the winner in the Hosting Partner of the Year category at the 2011 Microsoft Partner Network IMPACT Awards.

"Our annual IMPACT Awards celebrate the great work done in the partner community to help customers respond to their business challenges through the benefits of technology," says Eric Gales, president of Microsoft Canada Inc. "Technology partners like SherWeb are always finding new and exciting ways to develop and deliver innovative technology solutions, making them true leaders in their respective fields."

But SherWeb is not relying on Microsoft technology exclusively. SherWeb has a homegrown archiving solution that's an op-

tion of its e-mail offering. The company in January introduced the SkyNox cloud data backup solution, which allows seamless backup operations and fast recovery for both workstations and servers. It features round-the-clock support, flexible storage, and three data recovery options. SkyNox employs 448-bit Blowfish encryption, transferred via a proprietary protocol, and stored in SherWeb's Tier 3+ data center.

"We are thrilled to add online backup to our cloud portfolio," says Peter. "The launch of SkyNox further expands our decade-long commitment to providing innovative high-end hosting solutions to SMBs."

While small and medium businesses with between one and 1,000 users have been SherWeb's sweet spot, and continue to contribute most heavily to the company's business and growth, the company is gaining traction with large enterprise customers as well.

Matthew attributes that to several factors, including the recent acceptance of SaaS and cloud models by enterprise customers; the economy, which has more companies looking for savings

Matthew Cassar

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and ways to free up their balance sheets via opex vs. capex spending; and the fact that SaaS and cloud models have now been proven. The fact that major software companies such as Microsoft and Oracle have recently gotten behind the cloud and are promoting its benefits has played a key role in enterprise customers' embrace of this new model, he adds.

SherWeb reaches out to potential customers via the web and channel partners. The company has an aggressive SEO strategy and an affiliate program, through which affiliated websites that direct traffic that results in sales on the SherWeb site get a cut of the business. And while the channel, which includes resellers and large distributors, generates less than 25 percent of SherWeb's business, Matthew says that's definitely the go-to-market channel that's growing the fastest.

In all, SherWeb serves more than 20,000 business customers in at least 100 countries. More than 65 percent of those customers are in the U.S. While SherWeb has done one acquisition in its life (the April 2011 purchase of the DNAmail division of Ikano) in an effort to expand its customer base, M&A is not key to the company's strategy.

"We don't want to lose focus," says Matthew. "We really believe in focus at SherWeb."

And he adds: "We're growing quite rapidly organically."

Matthew declined to provide specific financial details of SherWeb, which remains a privately-owned business held exclusively by him and his brother. But Matthew did say the company has been profitable since the early days and that margins in this kind of business are strong. SherWeb, he says, has gross margins around 60 percent-plus, and profit margins at around 20 percent.

That helped SherWeb grow 1332 percent from 2006 to 2010, leading to its appearance last year on the North American Technology Fast 500 list from Deloitte.

"We are living proof that Canadian technology companies with high added value can be competitive in the North American market and our entry into the Technology Fast 500 demonstrates how SherWeb can claim its place among the most important hosted services providers in the world," says Peter.

SherWeb attributes its success to delivering a product line of messaging and collaboration and related solutions that all companies need, and to providing exceptional customer service relating to that product portfolio.

SherWeb is also very competitive on price, adds Matthew.

"We don't try to be the cheapest around, but we understand in today's world that price is important," he says.

Matthew says that SherWeb customer service is available 24x7, and that customers can reach the company for assistance via any medium they like – whether it be the phone, e-mail or chat. SherWeb makes sure customer onboarding is as quick and effective as possible. Noting that e-mail has become mission critical for business, Matthew adds that SherWeb guarantees 24x7 uptime on its services, and offers strong SLAs to back that up.

Customers of SherWeb also have at their disposal a web-based control panel through which they can control, configure, and set policies for their accounts.

"We want to make this easy to use, easy to adopt," says Matthew of all of SherWeb's hosted and cloud-based solutions. "We really believe cloud is an important model, and an important trend that is here to stay, but it needs to be easy to use and very reliable." **IT**

By Peter Radizeski

What is a Trusted Advisor?

We use the term trusted advisor to describe the role that the agent or VAR should play to the owner of a SMB. We make it seem so easy to become this trusted partner about communications and technology to the business owner.

Selling on price is not new. Since the long-distance wars, it has been about saving the customer money. In this recession, savings has been one familiar way to get the owner's attention.

The trusted advisor has to go beyond that, which means that the opening line shouldn't be about savings. Why not? It's like bait-and-switch. I'm going to save you money and choose the best technology solution for your business. It rarely works that way. As we have seen, VoIP as POTS replacement is a cost savings, but unified communications usually costs more – and it usually does more as well. Do you want TV – or do you want HBO?

Your opening may be about productivity, efficiency, ROI or TCO. In multi-location businesses, a case could be made to save money on efficiency and eliminate a job or two, but that would be a special business case. A story about a similar business and what you did for them – along with a testimonial – would be helpful, and might build trust.

You have to position yourself as the expert (or at least as knowledgeable). One way to do that is with recommendations, referrals, and testimonials. Another way is by asking probing questions that get to the heart of the matter – in this case, communications, technology, apps.

Another way to establish trust is by saying, "That's a good question. I don't have the answer now, but I will get it and get back to you on Thursday at 10." It shows that you know your limits. It allows you to prove that you keep your promise by following up at the designated time.

In selling UC or cloud, people have to buy you first, then trust the vendor you are proposing. If that vendor isn't well known, like AT&T, Apple or Google, all the prospect has is your word (and what can be found on Google). Building up that trusted advisor role will be the key to your success. **IT**

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

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By Paula Bernier

Axia Expands Channel Software Initiative

Axia, a provider of converged IP services, recently launched Axia Channel Services. *INTERNET TELEPHONY* interviewed Judd Heredos, director of operations at Axia Technology Partners, about the company and this news.

Judd Heredos

Tell us about your company.

Heredos: Axia Technology Partners, headquartered in Indianapolis, Ind., provides IP services to customers nationwide. The company maintains a national footprint by way of its interconnected networks and has established peering arrangements with 29 of the nation's largest backbones. With its national central office topology and network interconnects, Axia has become a market leader in delivering IP services nationwide. Axia's current client base encompasses many municipalities, hospitals, power companies, and corporations ranging from five to 2,500 employees. The company also services thousands of customers as the primary carrier for local phone, long-distance, Internet, and toll-free services. Axia is a full service phone system, phone service, and connectivity provider. Axia was recently named one of the fastest growing companies in the State of Indiana, was nominated as an Indiana Company to Watch, and has been featured on CNBC, in the Boston Globe, as well as many other industry and trade publications nationwide.

How and when did the company get started?

Heredos: Axia Technology Partners was founded in 2008, in the midst of one of the toughest economic downturns, by brothers Josh and Jason Ross. With the emergence of IP services in the market and the evolution of VoIP, the focus was on building a national footprint and carrier network that could be sold through established corporations and their entrenched client relationships. Axia's executive staff has over 46 years of collective experience in information technology.

The company recently launched Axia Channel Services. What's noteworthy about that?

Heredos: Axia Technology Partners launched the channel services software to improve business tracking and workflows. Having had an established national partner channel for the past several years, the ACS software was originally developed for our channel success, but had such a profound impact on our partners' general business and workflows that we decided to make the software available to the open market. The software system is cloud-based and provides easy-to-use operational management tools that revolutionize business workflows, establish a rock solid foundation for organized growth, and by creating such efficiencies can improve the bottom line.

How is it different/better than other channel-related solutions in the market?

Heredos: Axia Channel Services provides turnkey implementation software that drastically improves operating efficiencies for channel partners, agents and value-added resellers. The software helps structure the foundation of the business to streamline processes and workflows that are a critical components to overall business success. Unlike other CRM-type solutions, our software is very focused and contains the foundational components of business (quoting, proposal generation, commission generation, provisioning, project management, billing, support and tracking) and doesn't require add-ons, specialized knowledge, or development staff to operate. IT

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By Paula Bernier

ITEXPO Panel Explores the Value of Channel Certification Programs

Offering certification to the channel can result in significant returns for service providers and those who sell their solutions, but the value of such initiatives drops significantly when provided for free. Those were among the key takeaways of a panel called "Educating the Channel with Industry Standard Certifications", which was moderated by Peter Radizeski of RAD-INFO Inc., at the most recent ITEXPO East.

Panelist Louis Hayner, WVT Communications Group and its wholly owned subsidiaries, Alteva and USA Datanet, said that the value in certification is a better educated channel, an elevated customer experience, and, thus higher margins. Panelist Jim Riley of business hosting provider Apptix, added that certification is a win-win for both vendors and the individuals who sell their solutions.

Hayner said his company's UC certification program offers instruction on value-based selling, a historical perspective on the technology, and the value proposition of the company's specific products. That's important, he said, because the industry needs to move to higher margin, more sticky services, so certification is a means to educate sales people that pushing cost savings is not enough.

Riley added that certification initially is just about competency, so all sales people have at least a base level of knowledge. But over time certification can help sales people to become subject-matter experts. Certification programs also can enable companies to deliver consistency in how they present their services.

Hayner says his company's certification program has been so useful that his only regret is that it didn't start it up earlier. The company offers the program at shows such as ITEXPO, does quarterly training, and is considering doing more remote training.

He went on to add that once the company started charging for the program, attendance increased. Sometimes "if it has no cost, it has no value," he added.

Riley chimed in: "Do you want to be in a room full of people who are there because they had nothing else to do that day, or do you want to be with people" who are there because they are trying to advance their careers? **IT**

Awareness Technologies Launches New Partner Program

Awareness Technologies, a provider of cloud-based security solutions, is on the lookout for channel partners. The company at ITEXPO East earlier this year in Miami is launching a program for qualified partners that can host its server software themselves. Awareness Technologies already has an existing reseller program, through which partners can deliver its services under its brand or their own.

The Awareness Technologies solution is twofold. It includes an insider threat prevention platform, which monitors employees while they're on their PCs to see what applications they're using when and to what extent. It can also record and block their activities or specific applications. Awareness Technologies also addresses data leakage by watching where data moving, and it can block movement of that data for data loss prevention purposes.

More than 10,000 organizations from a variety of verticals use security solutions from Awareness Technologies. That includes everyone from the Department of Homeland Security to insurance agencies and print shops, says Ken Totura, chief channel officer. Totura says that in the past small businesses have not been able to afford such solutions, but with the Awareness Technologies cloud-based offer they now can. "We've broken that barrier," he says.

Via the company's partner programs, value-added resellers can offer the Awareness Technologies solution, and it's attractive because no one else is selling this kind of thing, so it won't cannibalize VARs' existing services, says Totura. He adds that all Awareness Technologies partners get an online provisioning portal, so they can provision services whenever they want, can set up trial licenses, or make other additions or changes as needed.

Awareness Technologies got its start in 2002 out of Los Angeles, originally to provide software tools for national intelligence agencies. Today Awareness Technologies is a privately-owned global company listed on the Deloitte 500. **IT**

By Paula Bernier

Online Storage and Sharing Space Sees Growth in Revenue, Solutions Providers

Storage capabilities at the Bernier ranch recently hit a wall. That didn't come as a surprise. We buy music and movies like hotcakes, and our daughter is a machine when it comes to taking and making photos and videos. Look across the landscape and this is a very common scene, whether you're talking about consumer or business use. That, in part, explains why the online storage and sharing space continues to gain traction, and why the field for such solutions seems to grow wider every day.

Global IP traffic has increased eightfold over the past 5 years, and will increase fourfold over the next 5 years, according to the Cisco Virtual Networking Index released in June of 2011. It forecasts that IP traffic will see a compound annual growth rate of 32 percent between 2010 and 2015. A large part of this growth is due to video. Internet video as of this year will account for more than half of consumer Internet traffic, says Cisco. And it anticipates that, starting in 2015, one million minutes of video content will cross the network every second.

While Cisco's VNI estimates that data traffic growth will increase 100 percent year over year, some, like the veteran telecom analysts at New Paradigm Resources Group, believe that could be low by a factor of 10. But, however you look at it, there's a whole lot of data floating around out there. And if we want to store, secure and share it, online storage is starting to look a lot more attractive than investing in ever more electronic boxes.

Indeed, Forrester Research in a June 2011 report estimates that 46 million people used personal cloud services in 2010, with 10 million of them paying for services. By 2016, according to the firm, personal cloud services will generate nearly $6 billion in direct revenue from 97 million subscribers paying an average of $60 a year. And that's just the direct revenue. The online storage space also stands to generate an additional $6 billion by 2016.

A wide variety of companies are now moving to get a piece of the online storage and sharing pie, which means that those individuals and organizations that haven't yet moved their content into the cloud – or are looking for new solutions on this front – have plenty of choices.

Apple made a big splash last summer with its iCloud offer, a wireless data sync and automatic data backup service for iOS devices, Macs, and PCs. But while all things Apple tend to attract a lot of attention, iCloud was just another addition to an already crowded field.

The long list of companies offering online storage to consumers, businesses, or a mixture of the two, include Box, Carbonite, Dropbox, Egnyte HybridCloud, GoDaddy, IBackup, JustCloud, MiMedia, Mozy, MyPC Backup, OpenDrive, SugarSync, ZipCloud, and broadband service providers including AT&T and Verizon.

Rumor has it that Google could join the crowd as well. A Feb. 10 report by The Wall Street Journal indicates that a free service called Google Drive will launch in short order.

Given its strong brand, broad existing base of users, and wealth of server resources (not to mention the ability to offer free services), Google's entry could be a game-changer for the online storage space, in which Dropbox and Box reportedly are the leaders.

But, to date anyway, life has been pretty good for the existing cloud storage and sharing providers.

"As we head into 2012, organizations are embracing the cloud from the bottom up and the top down," said Aaron Levie, co-founder and CEO of Box. "CIOs of the world's largest companies are bypassing their traditional vendors in favor of enterprise cloud startups that are better positioned to meet the demands of today's and tomorrow's workers. This shift will transform the enterprise software landscape, establishing a new set of technology leaders and an entirely new way of working that's more flexible, mobile and social than ever before."

Box in January announced that it ended 2011 with a three times year-over-year increase in enterprise revenue as organizations like AAA, Dow Chemical, McAfee and Procter & Gamble signed on to use its services. In 2011, Box raised $129 million in funding, hired 215 new employees, and ended the year with more than 8 million users, doubling its enterprise customer base.

Last year also marked the public offering of storage and backup outfit Carbonite. The company's per share price debuted at $10 in the August IPO. That was down from the initially proposed range of $15 to $17 per share, but on the opening day shares jumped 25 percent. As of Feb. 13, when this article was being written, Carbonite stock was trading at $10.18. Given the frequent ups and downs of the stock market over many months, that doesn't seem so bad. But a Feb. 3 article on Seeking Alpha criticizes the Carbonite management team for being "lackluster in terms of presenting to investors and getting them interested in the story.

"They have been largely parroting the road show script since the IPO," the Seeking Alpha piece, which suggests Carbonite could be a great acquisition for Constant Contact, goes on to say. "They have not been effective in addressing the threat that comes from more cloud-based infrastructure like the iCloud from Apple or cloud-based solutions like Dropbox."

IHS projects that shipments of cloud servers will reach 875,000 units in 2012, up 35 percent from 2011 and nearly double from the year prior.

In reporting financial results for the quarter ended Sept. 30, 2011, Carbonite Chairman and CEO David Friend, said: "This was a strong quarter for Carbonite with revenue increasing 54 percent year over year. Our founding premise, that every device that creates or stores data needs backup and online backup is the best way to do it, continues to prove out in our marketplace. Our solution is easy to use, affordable, trusted and secure. It continues to gain significant traction, allowing us to extend our leadership position."

Meanwhile, smaller online storage and sharing outfits like MiMedia are working to compete by pushing differentiators such as ease of use.

Erik Zamkoff, founder and CEO of MiMedia, recently told *INTERNET TELEPHONY* that while companies like Carbonite and Mozy repackage enterprise solutions for the consumer, MiMedia goes beyond backup to provide media discovery capabilities that enable customers to view and select their content as they like. And unlike Apple's iCloud, he added, MiMedia is device agnostic and supports video. MiMedia, whose typical customer gets 250gigs of storage space for $9.99 a month, anticipates it will reach profitability by the end of this year or early next. **IT**

By Paula Bernier

Rouleau of tw telecom Talks Cloud, Ethernet and the Connected Enterprise

Service providers have compared and contrasted the benefits of intelligent networks vs. big dumb pipes for years, said Michael A. Rouleau, senior vice president of business development and strategy at tw telecom during his keynote speech at the recent ITEXPO East. Rouleau should know, he's been with tw telecom since November 1999 and spent the previous 15 years with US WEST's data, Internet and DSL businesses. Today, he said, the answer as to which way to go is clear: "Big dumb pipes are not what enterprise customers are looking for."

While traditional networks required organizations to sign five-year deals for fixed capacity, today's enterprise customers can't plan that far in advance. That's because the applications customers want to support are changing rapidly. As a result, CIOs at businesses and other organizations are looking for flexibility, reliability, availability and expense control, he noted. Cloud-based services paired with Ethernet connectivity, he added, have arrived to enable customers to get the services and applications they want when they need them.

Indeed, a recent report from Vertical Systems indicates that carrier Ethernet services now have eclipsed the capacity of all business TDM services combined. And Ethernet continues to evolve, Rouleau said, noting that it started out as an access strategy for point-to-point services and Internet connectivity that could help businesses drive down their costs. Now, however, Ethernet is the enabling technology for what Rouleau called the connected enterprise.

In the connected enterprise, he explained, customers can support a cornucopia of voice, video and data services, and they can access applications and services that live at third-party and other data centers. That second part of the equation will only increase in value over time, Rouleau added, noting Cisco Systems estimates that cloud computing will grow 12-fold and represent more than one-third of all data center traffic by 2015. By 2014, he continued, more than half of all workloads will be processed in the cloud, which he called "the tipping point."

While some telecom outfits are buying data center companies in an effort to create "walled garden" cloud solutions, Rouleau said, tw telecom is embracing a model of applications access and enablement. That involves providing customers with connectivity to great applications via a network that is secure, robust and predictable. Circling back to the theme of intelligent networking, he added that tw telecom is focused on giving enterprises visibility into their networks so they can manage applications end to end; enabling those customers to scale up their bandwidth immediately as needed (which even will include accepting prompts from applications on what bandwidth they require and when); and allowing organizations to prioritize certain traffic over their networks as desired.

This model, he said, will create a winning combination for service providers like tw telecom, application companies, and business customers. **IT**

Michael A. Rouleau

Subscribe FREE online at www.itmag.com

By Paula Bernier

JDSU Introduces PacketPortal, 'iTunes for the Network'

J DSU has unveiled PacketPortal, which the company says is like iTunes for the network. David Heard, president of JDSU's communications test and measurement division, tells *INTERNET TELEPHONY* that he makes the iTunes analogy because PacketPortal is an open application platform that can be used by carriers to manage many types of devices, and view and manage services across the network.

PacketPortal consists of two key components. The first is a smart network cloud-based application platform that discovers and registers all devices on the network. (By using the term cloud, JDSU is referring to the distributed nature of this solution; this is not an outsourced solution.)

The second component of PacketPortal is a microprobe. These chip-size devices can be embedded into a wide variety of network equipment (like routers or switches) or customer premises-based devices (like set-top boxes or TVs). These microprobes do what Heard describes as "light DPI" (DPI standing for deep packet inspection), and then send that information back to the PacketPortal manager for analysis and instruction.

PacketPortal was designed over five years in collaboration with 30 service providers of all stripes across the globe. A handful of network equipment providers are now testing the microprobes. The overall solution aims to help carriers reduce mean-time-to-repair, move on new opportunities to tailor service packages and fee structures based on individual subscriber bandwidth demand, decrease the network footprint and power consumption of their network management solutions, and lower their capital and network operating expenses.

Heard says PacketPortal presents a different approach to how carriers and telecom equipment managers are addressing the collision of applications, devices, traffic load and protocols on their networks. Rather than sniffing out what's on the network, he says, PacketPortal allows for more dynamic, holistic and scalable network management and, in a turn, a better end user experience and lower churn.

"Our vision is to expand the number of PacketPortal-enabled devices, eliminating blind spots across the network and providing service providers with the intelligence needed for profitable growth and a consistent, high-quality end user experience," says Heard.

PacketPortal currently supports three JDSU-written applications, two applications written by other entities, and is designed to enable additional applications by the carriers or other parties. That includes a real-time signaling analyzer for 4G/LTE networks; a customer device status monitoring application; and a triple-play analyzer, which can allow service providers to assess individual user's video quality experiences. Third-party applications supported on PacketPortal today include Wireshark's network protocol analyzer solution, and nProbe traffic monitoring.

PacketPortal will initially be used in 1gig optical port scenarios. The software is generally available now, the company has received its first purchase orders, and the product is in live networks of as-yet-undisclosed carriers. **IT**
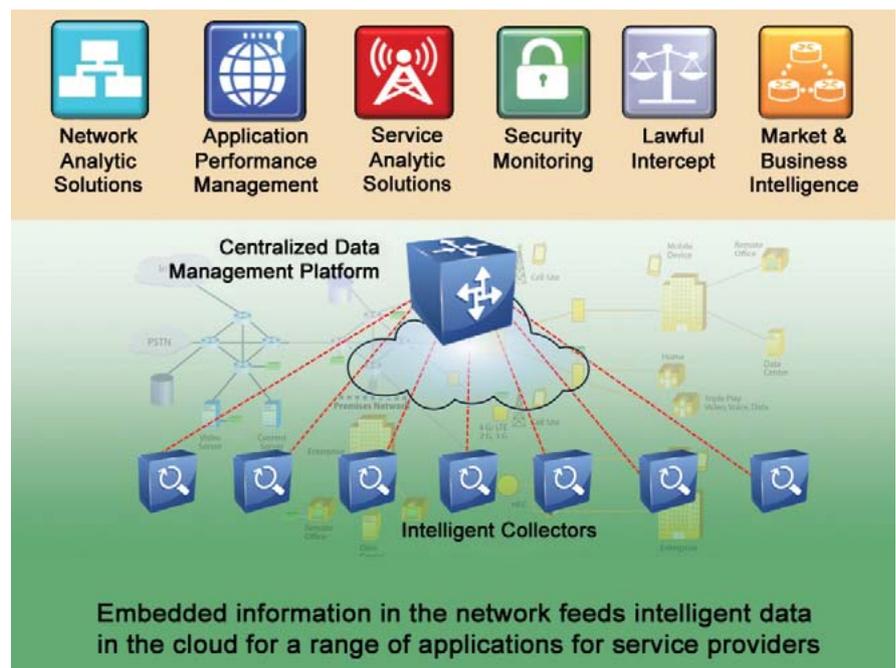
Embedded information in the network feeds intelligent data in the cloud for a range of applications for service providers

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By Juhani Hintikka

The Next Phase of Policy Control

Juhani Hintikka

As the telecom industry rapidly evolves and an exponential increase in customer usage data burdens networks, policy management strategies are taking center stage. The enhanced communications marketplace, with a focus on customer experience, is bringing a renewed interest in delivering services differently. To revamp policy control strategies and manage today's evolving communications marketplace, operators will face a familiar question: How do we balance revenue, customer satisfaction and resources?

A few years ago, operators entered the first phase of policy control, which focused on controlling the network and capping data use. Operators saw traffic volume diverging dramatically from anticipated revenues and thought the best solution was to deter the use of data services. As traffic moved away from peer-to-peer dominance and towards a more mass-market pattern of use dominated by the Internet, and particularly video, access, operators changed policy control tactics and entered a new phase that encourages data use and moves towards smarter prioritization. It involves striking a balance between promoting the use of data where resources are plentiful and operating prioritization when resources are scarce to ensure the maximum payback on network investments.

A pioneer in smart bandwidth prioritization is Finnish operator DNA Ltd., which uses policy control to offer differentiated broadband services and control traffic congestion. When DNA subscribers exceed their data cap, for example, they still get maximum bandwidth unless the network is extremely congested and more bandwidth is needed for other customers.

Results show a more optimized use of the network capacity and increased revenue by enabling customers with a choice as to the level of bandwidth and usage volume needed. This business model of smarter prioritization is now combining with an intense level of customer focus to drive the next phase in policy control.

The future of policy control is centered on content prioritization tailored to customer needs. Content prioritization is one aspect of customer experience management – the industry's current hot topic. CSPs understand that their policy control strategies must ensure an engaging customer experience. Instead of waiting for customer service calls, operators are proactively reacting to customer needs. This means monitoring the user experience and analyzing the details of customers' behaviors, so operators can react in real time to subscribers' requests. With real-time monitoring, operators can, for example, collect data from a subscriber who may be experiencing poor service, process it immediately, and proactively put out the proper discount or promotion before that subscriber reacts and calls customer service. Monitoring customer behavior also allows operators to personalize packages and improve their ability to charge customers for service features.
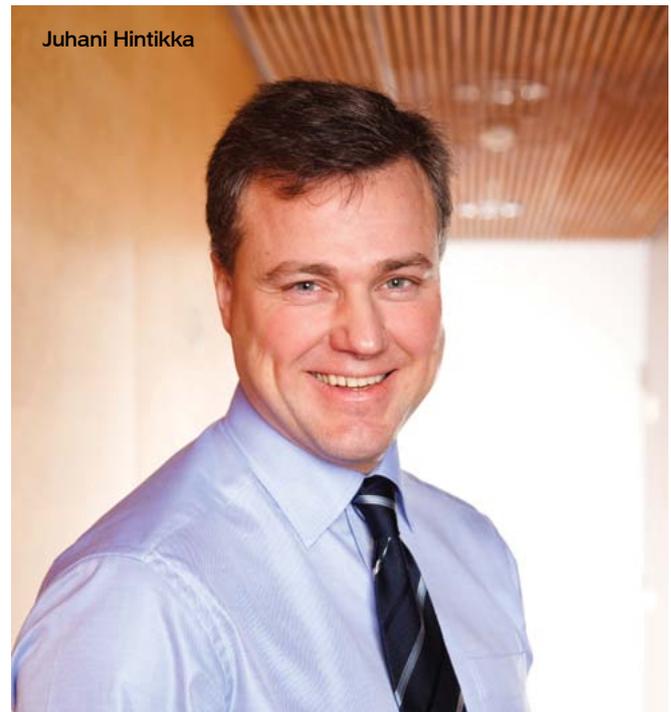
A practical example of differentiated policy is the low quality default audio and video settings that Netflix implements for its customers in locations in which Internet service providers impose data caps. The low quality allows subscribers to watch hours of content without worrying about going over the caps. Customers can change the default setting back to a higher quality in their account settings page. However, operators could also come to an agreement with suppliers of online video services to offer packages where the video usage is excluded from the cap or bandwidth is prioritized for video – a very practical illustration of policy management.

In order to successfully implement the new phase of policy control, operators will encounter challenges without the right solution. Real-time monitoring requires scalable systems that can automatically process a tremendous amount of data. OSS/BSS software needs to be dynamic and flexible to enable innovation in changing business environments, while offering support for multiple vendors, technologies and operating models. Prioritizing services means charging solutions need to manage market segmentation, revenue sharing and customer retention/promotions. With the right tools, operators can enter phase three of policy control, offering advanced and highly competitive broadband services while focusing on the foundation of business value – customer experience. **IT**

Juhani Hintikka is president and CEO of Comptel Corp.

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Survey Offers New Data on Ubuntu

A recent survey out of Canonical indicates that Ubuntu software is most commonly used in traditional applications like database, mail and web, database servers. The data also revealed that most of these servers run on desktops PCs. The majority of respondents of the survey are based in Europe, and about a fourth were in North America. Ubuntu is open source software based on Linux and out of a project called Debian, which was initiated by Mark Shuttleworth. Canonical funds the free software through its portfolio of services.

Genuitec Gives Eclipse Users More Control

Eclipse open source software can sometimes become hard to find or entirely unavailable. That's what Genuitec LLC heard when it recently polled customers on their concerns about Eclipse open source plugins. Eclipse.org removed support from its sites for last year's Eclipse, meaning enterprises that have standardized on stable Eclipse versions have to search and find archives of Mylyn and other projects. Indeed, open source software is sometimes bought and taken off the market, or returns with a price tag, for various reasons. "Open source developers are the most important members of the software community, and some have contributed to the greatest projects the Internet has ever seen," says Tim Webb, product manager for Genuitec's Secure Delivery Center solution. "Though many popular projects, like AnyEdit, FindBugs and similar community-driven projects, are often operated by only one or a few architects who at a moment's notice could remove the software intentionally or otherwise." To address this issue, Genuitec introduced SDC, which enables customers to manage their tools in their own private clouds, lock down Eclipse-based tool stacks with one click, and otherwise manage such stacks.

Report Highlights What's New and Exciting in Open Source

A recent report from The EFY Times identifies five open source hardware innovations that could, in the publication's words, "change the tech world." RepRap is one such example, according to the report. Rapid Prototyping has been in use since the 1980s and was utilized in manufacturing and making devices via 3D computer models. To cut down the cost, the replicating rapid prototyper (RepRap) was built in 2007. OpenCores is another important open source hardware innovation, according to The EFY Times. By using hardware description languages, OpenCores community members can design such items as RISC microprocessors, gigabit Ethernet controllers and cryptographic hardware, the report said. By using off-the-shelf devices known as field-programmable gate arrays, the cost is lower and configurations can include complex items. In another area, genetics, polymerase chain reactions are used but the device needed to control the temperature of DNA samples is expensive. OpenPCR, under the GPL v3 license, comes as a kit for $599. When assembled, the OpenPCR device holds up to 16 sample tubes and the temperature can be set from 10°C to 100°C, The EFY Times says. Users can set temperatures and control-related steps via a computer, the report adds. In agriculture, farmers, engineers and supporters associated with the Open Source Ecology have developed the Global Village Construction Set. It is made up of open source designs for 50 industrial machines. The OSE plans to release the 50 designs by the end of this year. The EFY Times reported that manufacturers were taking orders early this year for four of the machines: a soil pulverizer, a compressed Earth block press, a power cube and a tractor. In addition, there is an open source computer called Arduino, which is used for prototyping or embedding on larger projects, The EFY Times said. It is a compact circuit board that is easily programmed, relatively low in cost and versatile, the report said. The Arduino can be connected to light sensors, buttons, dials, LEDs, LCD displays and buzzers.

Red Hat CEO Opines on Open Source

Open source software has had significant success in many areas, and Red Hat – one of the leading names in the open source community – is a key example of that success. The company is nearing $1 billion in revenue, according to a recent report. Red Hat CEO Jim Whitehurst was recently quoted saying that user-driven innovation is what excites him most about open source today. "The Googles, the Yahoos, the Facebooks, who have significant IT challenges, are not looking to pay a vendor for intellectual property, they hire thousands of engineers to do it themselves, and they do it all on open source," he said. "They had 'big data' problems to solve, but did not have the dollars to solve them when they started off. That is why all the big data innovations, such as Hadoop and Cassandra (frameworks for running applications on large clusters built of commodity hardware), have happened on open source."

DNA Origami Bots Leverage Open Source

Researchers have designed the structure of nanorobots using open source software called Cadnano, according to a February article in the international weekly science journal called Nature. Cadnano was developed by Shawn Douglas, a biophysicist at Harvard's Wyss Institute for Biologically Inspired Engineering. Douglas and Ido Bachelet, a postdoctoral fellow at Harvard Medical School in Boston, authored a study about how they built the robots using something called DNA origami. "The barrel-shaped devices, each about 35 nanometres in diameter, contain 12 sites on the inside for attaching payload molecules and two positions on the outside for attaching aptamers, short nucleotide strands with special sequences for recognizing molecules on the target cell. The aptamers act as clasps: once both have found their target, they spring open the device to release the payload," according to the article, which explains that the robots were designed to target different types of cancer cells in culture.

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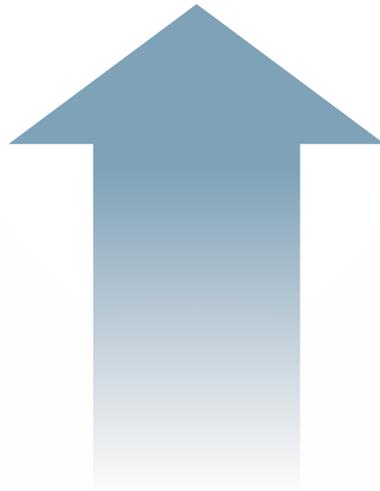
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By Peter Silva

Addressing Security from the Ground Up

Information is the lifeblood of every business's operations. It flows inbound from customers, outbound to the cloud, and from branch offices, to international offices, through the data center, and to the CEO's smartphone. But there's always that one shadowy guy trying to hack his way in.

Peter Silva

When creating any security-enabled network device, development teams must fully investigate security of the device itself to ensure it cannot be compromised. A gate provides no security to a house if the gap between the bars is large enough to drive a truck through. Many highly effective exploits have breached the very software and hardware that are designed to protect against them. If attackers can breach the guards, then they don't need to worry about being stealthy, meaning if they can compromise the box, then they probably can compromise the code.

Application delivery controllers are positioned at strategic points of control to manage an organization's critical information flow. Organizations require a secure and robust application delivery platform that implements many different checks and counter-checks along the development cycle to ensure a totally secure network environment – and it starts with a secure application delivery controller.

Security from the Inside Out

An ADC needs to be designed so that the hardware and software work together to provide the highest level of security. While there are many factors in a truly secure system, two of the most important are design and coding. Sound security starts early in the product development process.

Before writing a single line of code, product development should go through a process called threat modeling. Engineers evaluate each new feature to determine what vulnerabilities it might create or introduce to the system. One rule of thumb is a vulnerability that takes one hour to fix at the design phase will take 10 hours to fix in the coding phase, and 1,000 hours to fix after the product is shipped – so it's critical to catch vulnerabilities during the design phase.

Secure Code from the Start

Eventually, design ends and coding begins. Many companies that develop software have invested heavily in training internal development staff on writing secure code. But when it comes to software and network exploits, even the smallest mistakes can have huge ramifications. During coding, developers should conduct regular code reviews with the security team.

One of the most common mistakes found in code reviews is unsafe string functions, which can easily lead to a buffer overflow problem. Another issue is when a program or process tries to store more data in the temporary data storage area than it was intended to hold. Both of these mistakes can cause huge problems; but both are relatively easy to catch.

Next, security testing of the completed code begins. First is penetration testing, in which an organization's security staff act as attackers and try to compromise the system. Then fuzz testing begins. The concept is simple: When developers design a program that accepts an input, like a network packet with a pre-defined structure, they assume the input will be correctly assembled – but what if it isn't? The packet length might be too long or short, or the input could have the wrong data. Fuzz testing systematically varies input and observes the results. Some malformed inputs might be handled well, but others might cause the system to crash, and still others could expose a serious vulnerability. Penetration testing and fuzz testing help make any device as secure as possible against attacks like DoS and even code-based attacks.

Development organizations should also implement a sophisticated third-party scanning application, which analyzes source code for critical flaws. At compile time, the code scanning application looks for flaws such as security bugs and defects, build breaker bugs, crashing bugs such as memory leaks and corruption, and unpredictable application behavior introduced by new code. Source code scanning can also find non-fatal flaws such as data integrity issues and performance bottlenecks.

In addition to performing exhaustive internal testing, development organizations should hire outside firms to conduct black box testing, in which a third party does application and platform testing "in the dark."

This means the firm doesn't have any knowledge of the product beyond what a standard human attacker would have access to (in contrast to source code scanning). Black box testing and analysis can be inserted anywhere in the software development lifecycle, all the way through release. Third parties review code with fresh eyes, which can uncover a subtle vulnerability and add more layers of protection. Once the software passes this final test, some organizations use it in its own infrastructure environment to ensure it's truly ready for release. Security testing is time-consuming and a huge undertaking; but it's a critical part of meeting stringent standards and shows a commitment to customers. **IT**

Peter Silva is technical marketing manager of security at F5 Networks (www.f5.com).

By Paula Bernier

Ingate Introduces Software-Only E-SBC

Ingate Systems has unveiled a software version of its E-SBC. Steven Johnson, Ingate president, tells *INTERNET TELEPHONY* that his company has seen great demand for a software version of its enterprise session border controller solution.

Those asking for this included companies that build other equipment, such as PBXs, that want to run both PBX and SBC functionality on virtual machines so end customers can manage all of the above through a single user interface. Johnson adds that some companies that wanted to run the Ingate E-SBC on different hardware, or require a server with greater capacity than that offered by the company's turnkey solution, were also asking for a software-only solution.

"The Ingate software provided a single-box solution for IP-PBX vendors and the channel community, who can now deliver Ingate's world-class E-SBC functionality fully integrated with their own hardware solutions," says Johnson. "The industry is moving toward software-based offerings as

a means of consolidating existing hardware or maintaining a single hardware platform. The trend will continue given the growing adoption of unified communication. Ingate is pleased to offer a software version of the Ingate SIParator in response to this increasing market demand."

E-SBCs enable SIP communications such as SIP trunking and unified communications beyond the protected enterprise network. Johnson adds that it's clear that SIP trunking is here, and it's here to stay, noting that Infonetics Research predicts SIP trunking will experience 28 percent growth in new seats per year between 2011 and 2015.

Ingate's enterprise session border controllers include the Ingate SIParator, the Ingate Firewall and the Intertex IX78 E-SBC for operator-volume SIP trunking deployments.

In other recent news, Ingate Systems has been pushing what it calls Internet+, which is a model for how service providers can better support, and monetize, for business customers unified communications such as fax and video. **IT**

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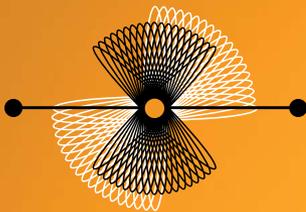## Log On Today!

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RCS Space is Splintered, says Infonectics

Infonetics Research says the Rich Communications Suite Services space has splintered over the past year into three groups.

One is service providers pushing forward with formal RCS services to provide fully interoperable enriched messaging, presence, and enhanced address book capabilities across multiple operators, an initiative supported primarily by North American operators building RCS into their future voice-over-LTE launches. A second is service providers that have changed course and now support RCS-e, which includes rich calling (such as live video sharing), instant messaging, and file transferring features, but without presence, and is supported by the largest operators in Western Europe. The third is service providers seeking competitive differentiation from other operators in Europe and Asia Pacific. "A year ago we declared that RCS had been relegated to niche status, and our viewpoint has not changed," said Diane Myers, directing analyst for VoIP and IMS at Infonetics Research. "As of January 2012, there are still no commercially available formal RCS or RCS-e services. Spanish operators Orange, Telefónica, and Vodafone have announced plans to launch RCS-e in the first half of 2012, and we expect activity in Germany shortly thereafter.

However, we believe it will be too little too late to have a meaningful impact. It's been too long that operators on the fence have wavered over the financial commitment to IMS and inadequate support from handset manufacturers. Many have moved on to other strategic priorities, are working with third party over-the-top providers, and/or are waiting to launch RCS as part of an integrated piece of VoLTE. On the flip side, mobile operators such as China Mobile, SK Telecom, and MegaFon continue to find success with RCS-like services, offering a mix of features and packages that fit their individual markets. These examples show that, though RCS may not be for all operators or all countries at this point, there is a market for it in certain countries." **IT**

Zultys Takes UC to the Bank

Indiana Bank and Trust, a $1.1 billion bank with 22 locations across central Indiana, uses a unified communications solution from Zultys to interact with customers and enable communications between its employees. Whenever a customer calls, bank representatives can use Zultys' Presence feature to view other agents' availability, as well as the number of calls that are active and on hold. Workers can send and receive voicemails across locations, as well as collaborate instantly through IM and e-mails. Entire calls can be recorded at any time during their progression, then be stored in the system for future review. Phone calls can happen via desktop or a softphone, furthering efficiency.

Tool Rules Meetings

MeetingKing is a new web-based meeting facilitation and information tool to help keep meetings short and effective by simplifying documentation and task follow-up. MeetingKing is built around the natural workflow of meetings and conversations and turns short notes into up-to-date actionable information. "My meetings have never been so organized as with MeetingKing," says Daniel Nissan, president and CEO of StructuredWeb Inc. in New York.

XConnect Reports Growth

London-based XConnect, which provides solutions for interconnecting IP voice and video communications, recently reported that its 2011 network traffic increased 85 percent, the number of calls handled increased by 78 percent, and revenue grew by 61 percent – all compared with 2010 results. The company's ENUM registry now has more than 2.2 billion numbers to help service providers route IP traffic across disparate networks. The registry got 3 billion queries in 2011, up 78 percent from 2010. XConnect CEO Eli Katz added: "We continue to foresee rapid growth as video, high-definition voice and other next-generation services gain traction as more powerful devices and applications emerge almost daily."

ShoreTel Acquires M5 Networks

In an effort to expand its solutions into the cloud, ShoreTel Inc. has announced plans to buy M5 Networks. M5 will become a ShoreTel business unit, led by M5 CEO Dan Hoffman. "The acquisition of M5 positions ShoreTel as a leader in the fast-growing cloud UC market and delivers a suite of hosted telephony solutions that is unmatched in the marketplace," said Peter Blackmore, CEO of ShoreTel. "This acquisition is a critical step in our evolution and enables the company to capitalize on trends in cloud computing and advance our enterprise communications strategy." M5 provides hosted UC services to more than 2,000 companies.

Vonage Goes Mobile

Vonage Holdings Corp. has launched Vonage Mobile, an iPhone and Android app that lets users make free high-definition calls and send free texts to all users of the app, worldwide. The app works over Wi-Fi, 3G and 4G wireless data networks.

Integrated Security Program Protects Cargo, Lowers Costs

Cargo theft on our nation's highways accounts for $25-30 billion in lost assets each year, according to the U.S. Department of Justice. The DOJ also reports that cargo theft is on the rise, due to its relative ease, its profitability, and the fact that penalties for cargo theft are light when compared with other crimes.

As a result, insurance premiums are also on the rise, increasing the cost of transporting food, beverages, electronics, clothing, pharmaceuticals, chemicals, tobacco, metals, jewelry and other high-value items. High insurance premiums are not only a concern for transportation and logistics companies, but they also factor into the price that retailers charge (and consumers pay) for anything transported through the supply chain.

In response to these trends, Global Services Insurance Solutions has introduced a first-of-its-kind logistics management program that protects cargo from accidents, crimes, and forces of nature, while lowering insurance premiums for customers.

The Integrated Cargo Security Program secures the movement of freight, cold-chain, and high-value goods from origin to destination, by combining:
- patented 24x7 monitoring technology;
- proactive recovery services through coordinated law enforcement contacts;
- and insurance liability services with discounts and incentives.

> **The Integrated Cargo Security Program Targets**
> - shippers who move perishable and temperature-sensitive items such as food, beverages, alcohol, pharmaceuticals, chemicals, or high value items such as electronics, tobacco, specialty metals, precious metals, jewelry, and other valuables
> - larger truckers and freight brokers

The program leverages the coordinated efforts of OnAsset Intelligence, Flemming Cargo Securement, and Global Services Insurance Solutions.

OnAsset's SENTRY asset tracking and control solution features a number of sensors – for temperature, pressure, humidity, light, motion, shock and vibration – that are specifically designed to monitor fixed and mobile assets transported via trucking, air cargo, rail, or intermodal freight.

SENTRY is the industry's only tracking solution accepted by the FAA for commercial air flight, due to patented technology that detects operable aircraft, and intelligently controls its functions to comply with FAA regulations.

> **Program Benefits Include**
> - reducing costs of insurance premiums and claims
> - reducing costs of transportation
> - substantial gain in customer confidence
> - ability to retain lower cost liability and insurance coverage
> - ability to focus on the core elements of their business, rather than worrying about loss and recovery

OnAsset's Vision is a SaaS platform that provides Internet-based access from any web-accessible device to manage securely the data sent from SENTRY units deployed in the field. The technology provides a wealth of data. Interpreting the data is the next step.

FCS is a cargo claims management firm that specializes in monitoring the OnAsset sensing technology, interpreting the data, and managing the response plan in the event of a theft. It establishes an end-to-end security plan with the shipper, which includes geo-fencing services from origin to destination. If any deviation from a planned route is identified, FCS initiates a series of responses that range from contacting the driver, to deploying a nationwide network of law enforcement contacts to find and recover missing cargo.

The combination of the tracking technology, expertise to monitor and interpret the data, and the ability to immediately deploy law enforcement contacts in the event of a theft, is what makes the Integrated Cargo Security Program a turnkey solution that eliminates the worries associated with transporting goods anywhere in North America.

GSIS specializes in insurance programs for global and domestic logistics firms. The company's executives have spent decades working for multi-billion dollar logistics firms providing warehouse, motor carrier, broker, freight forwarding, NVOCC, rail, intermodal, and container delivery services.

Before GSIS was founded, insurance offerings for the transportation industry had not yet evolved to meet the unique needs of shippers. So GSIS's founders began developing their own insurance, risk management, and risk scoring metrics. These efforts created a new approach to providing insurance and risk management services to all aspects of the logistics industry.

Today, GSIS' track record of successful intervention to prevent loss is well documented. GSIS' vision and its relationships with OnAsset and FCS have laid the groundwork for the Integrated Cargo Security Program. **IT**

Todd Keefe is founder of For Immediate Release PR, and a columnist for TMCnet.

By Paula Bernier

Avaya Tech on Tap Features Avatars, Next-Gen Video, the Cloud

Cloud communications and video were the themes of the most recent Avaya Tech on Tap. At the event, which preceded the formal kickoff of ITEXPO earlier this year in Miami, Avaya talked about what spurred its move into the video space; demonstrated its One Touch Video solution; and highlighted something called Avaya web.alive, which uses avatars and virtual worlds to make collaboration more engaging.

Mark Kolar, who is involved with the universal video collaboration effort at Avaya, said that a lot of people have been confused about why Avaya is getting into video, given companies like Polycom are already established players in this space. But, as Kolar noted, things are changing so fast, given the consumerization of devices and proliferation of video, that it makes perfect sense for Avaya to extend its unified communications strategy to include video. In the past, he added, video was a place to go, and required special-purpose tools and technologies; now, of course, video is moving to the devices and apps that people use daily.

"Video is becoming less and less about the device, about the room," he said. Now "it's becoming a window that we just happen to have on the device."

This discussion provided the introduction to the demonstration of Avaya One Touch Video, a solution that allows users to launch video communications without requiring them to download tools to make those connections. He said that the applications for this solution, which will ship in July, are astronomical. Video hospital visits are one example.

The company also pointed out that the Avaya Flare Communicator is now available for the Apple iPad.

Avaya aims to help customers simplify video both on the front and back ends. On the front end, Kolar said, Avaya will deliver solutions so end users don't have to start a new session to add video. To enable that, Avaya is going to treat every stream as if it's going to join a conference. On the back end, he said, Avaya will deliver solutions that involve less gear, allow for smoother migrations, and enable a higher level of integration than did video implementations of the past.

Paiman Nodushani, Avaya senior director of cloud strategy and products, closed out the night's presentations by talking about how the company's strategy ties into the cloud theme, and discussing the avatar application mentioned above.

Cloud, he noted, is not really a technology, but rather a business model change that enables customers to invest in solutions on an opex vs. a capex basis, scaling solutions up or down as business demands require. Avaya has solutions on the IaaS

(switches, routers, VPN gateways, WLANs), PaaS (application development environment – vertical) and SaaS (UC, contact center, video and data center) fronts. On the SaaS front, he added, Avaya allows its service provider and systems integrator partners to sell its UC and contact center solutions in cloud-based configurations. Avaya will also have a cloud-based offer that allows customers to try out new applications, and a federation service to enable users to find others in the cloud and to get information on their communications capabilities.

Avaya web.alive is another example of what the company is doing on the SaaS front, he said. This solution allows for face-to-face interaction; integrates virtual worlds and the real world; allows for full web sharing capabilities including slides, files, websites and videos; and leverages avatars, other 3D visuals and spatial audio to take collaboration to the next level.

Avaya indicated all of the above is proof that the company, a leader in the UC space, is not resting on its laurels and is looking to the future, two themes of the evening's opening speech by Judith Hurwitz, founder of strategy consulting and research firm Hurwitz & Associates. **IT**

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By Paula Bernier

Mobile World Congress in Review

About 67,000 people from around the wireless ecosystem converged in Barcelona, Spain, in late February and early March to learn about and educate one another about the latest and greatest wireless technology. Here's a taste of some of the news that came out of the event.

Big Cellcos Friend Facebook

Facebook CTO Bret Taylor at Mobile World Congress in late February revealed it is working with the big cellular service providers on what it refers to as streamlined payments flow. "We're working with operators around the world to minimize the number of steps needed to complete a transaction in mobile web apps, which will make it easier for hundreds of millions of people worldwide to purchase apps on their device via operator billing," Douglas Purdy writes in the Facebook blog. Operators involved in the effort, which ties in with the W3C Community Group, include AT&T, Deutsche Telekom, Orange, Telefónica, T-Mobile USA, Verizon, Vodafone, KDDI, and SOFTBANK MOBILE Corp. Paul Lambert, senior analyst at Informa Telecoms & Media, commented that "A key challenge for Facebook will be whether it can work successfully enough with the many different companies in the mobile industry who often have competing technology and business strategies to achieve its ambitious goals."

Small Cells Get Big Billing

Small cells got big attention at Mobile World Congress, with everybody from the largest suppliers to more specialized outfits making news on this front. For example, ip.access announced its first LTE small cell solution and customers for that product. At the event ip.access was showing its new LTE small scale cell, called the E-100. This is the company's first solution leveraging technology from Freescale. The E-100, which has an optional Wi-Fi module, is slated for general availability in early 2013. Zain Bahrain of the Middle East, and multiple European networks under the Telenor Group umbrella, will be deploying 3G small cell solutions from ip.access.

ALU Brings Metrocells to lightRadio

Etilsat in the United Arab Emirates is among the service providers that have been testing the lightRadio Metro Radio Outdoor product – in this case over a working 4G LTE network. The companies recently completed the technology trial. Etilsat is interested in the Alcatel Lucent technology given the growing demand it's seeing for mobile broadband services including videoconferencing and on-demand TV. "With lightRadio we will not only be able to accommodate this growth in traffic, but we will also be able to offer our customers the most innovative solutions so they can easily access the latest and greatest mobile data

applications on their mobile device of choice," says H.E. Ahmad Abdul Karim Julfar, Etisalat Group CEO. Alcatel Lucent metrocells are based on the company's lightRadio technology, which uses beam forming that makes amplifiers on the radio towers more energy efficient, have an extremely small footprint, and lower the cost per bit for carriers.

Ericsson Advances Hetnet Strategy

Fresh off of announcing plans to buy BelAir Networks, Ericsson at Mobile World Congress unveiled a new pico base station. Both the new product and the acquisition are Ericsson efforts to bring the heterogeneous (the het in hetnet) networks known as cellular and Wi-Fi more closely together, Mikael Back, Ericsson AB vice president, tells *INTERNET TELEPHONY*. The multistandard RBS with integrated Wi-Fi access is part of Ericsson's RBS 6000 portfolio, which includes products ranging from pico to macro. These products are designed to help network operators add capacity with a relatively small footprint and, thus, real estate requirement, and deliver what Ericsson says are two to 10 times the throughput gains using half the spectrum of competing solutions. Meanwhile, Back says that Ericsson's move to purchase BelAir also will let its service provider customers more easily integrate Wi-Fi and their cellular services. BelAir sells indoor and outdoor Wi-Fi systems that are in use by such service providers as AT&T and Comcast.

Metaswitch Introduces Accession

Metaswitch at Mobile World Congress talked about its strategy to help service providers drive revenues and customer loyalty. This strategy includes a new solution from Metaswitch called Accession, which the company formally introduced in Barcelona, and its existing but expanded Thrutu offering. Accession, which includes network elements and a device client, allows end users to move in-progress calls from one network and/or device to another. Metaswitch meanwhile is expanding Thrutu to deliver business applications (like mobile coupons, offers and store directions) and offering service providers the ability to deliver its functionality through white-label agreements. With the same infrastructure under the sheets of both Accession and Thrutu, these solutions are on a road to converge in the future.

Wi-Fi Moving to Carrier Class

There's a move afoot in the industry to make Wi-Fi carrier quality. The goal is to enable cellular service providers to integrate 3G, 4G and Wi-Fi at the base station and have common control, security, management and optimization capabilities for all of the above. Of course, carriers like AT&T already are using Wi-Fi to offload traffic from their cellular networks. The problem is that once the customers are offloaded, those customers are often beyond the carriers' bailiwick. **IT**

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YOUR NETWORK. OUR CONNECTION.

By Paula Bernier

BYOD Boom Triggers a Wealth of Mobile Device Management Solutions

Most, if not all, business will embrace some type of bring-your-own-device program in 2012. That was the word from Tim Wagner of Samsung, who spoke at ITEXPO East earlier this year in Miami.

Indeed. The worldwide mobile worker population will increase from one billion in 2010, to 1.3 billion in 2015, accounting for 37.2 percent of the workforce, according to IDC. To support this prolific wireless device growth, organizations are becoming acutely aware of the need to secure and manage access to corporate resources from a wide array of mobile enpoints. And everybody and their brother seem to be hawking solutions to help business customers manage the untamed wireless beast.

Samsung, which is best known for consumer electronic devices, recently entered the mobile device management space with what it calls its Samsung Approved for Enterprise – or SAFE – strategy. SAFE addresses mobile device management; corporate e-mail/calendar/contacts synchronization; on-device encryption (which involves hardware within endpoints); and VPN connectivity (for which Samsung works with leading VPN providers).

"Everybody in the world is looking at MDM today – across the board," Alan Murphy, senior technical marketing manager at F5 Networks Inc., told *INTERNET TELEPHONY* in an interview.

F5 Networks in late February moved to address the bring-your-own-device trend in the enterprise space by partnering with mobile device management solution providers AirWatch, MobileIron, SilverbackMDM and Zenprise.

The above-mentioned MDM offerings can call up the F5 application directly and automatically (through the entitlement layer) whenever an SSL VPN is needed. In fact, these pairings allow enterprises to enforce network policies from the mobile device through the entire network to

secure and manage access to enterprise applications. The MDM partners and F5, which sells a mobile user access solution, also will do customer referrals.

F5's mobile user access solution is comprised of the BIG-IP Access Policy Manager, the BIG-IP Edge Gateway and the BIG-IP Edge Client. These solutions provide secure, high-performance access to enterprise resources. Murphy says F5 over the past year or two has had a strong release path for customers that run on Android and iOS. As a result, customers with devices running these operating systems can pull up dedicated VPNs to connect to their enterprises from such wireless devices.

But recently F5 Networks customers have been asking the company for the ability to do device wipes and lockdown mobile devices, he says. Since F5 Networks is a company whose solutions operate at the network layer, it responded to those requests by creating an ecosystem of MDM providers. F5 Networks chose this foursome of MDM outfits based on their market presence and technology. Murphy says the four are the larger players in the MDM space and have penetration in both the Android and iOS arenas.

"MobileIron was purpose-built for global companies to secure and manage mobile devices and apps," said Ojas Rege, vice president of product at MobileIron. "By teaming with F5, a leader in application delivery and innovative SSL VPN and access solutions provider, we can offer our customers greater control and scale of their mobile infrastructure, improving application delivery, enforcing critical security policies and ultimately providing increased mobile productivity."
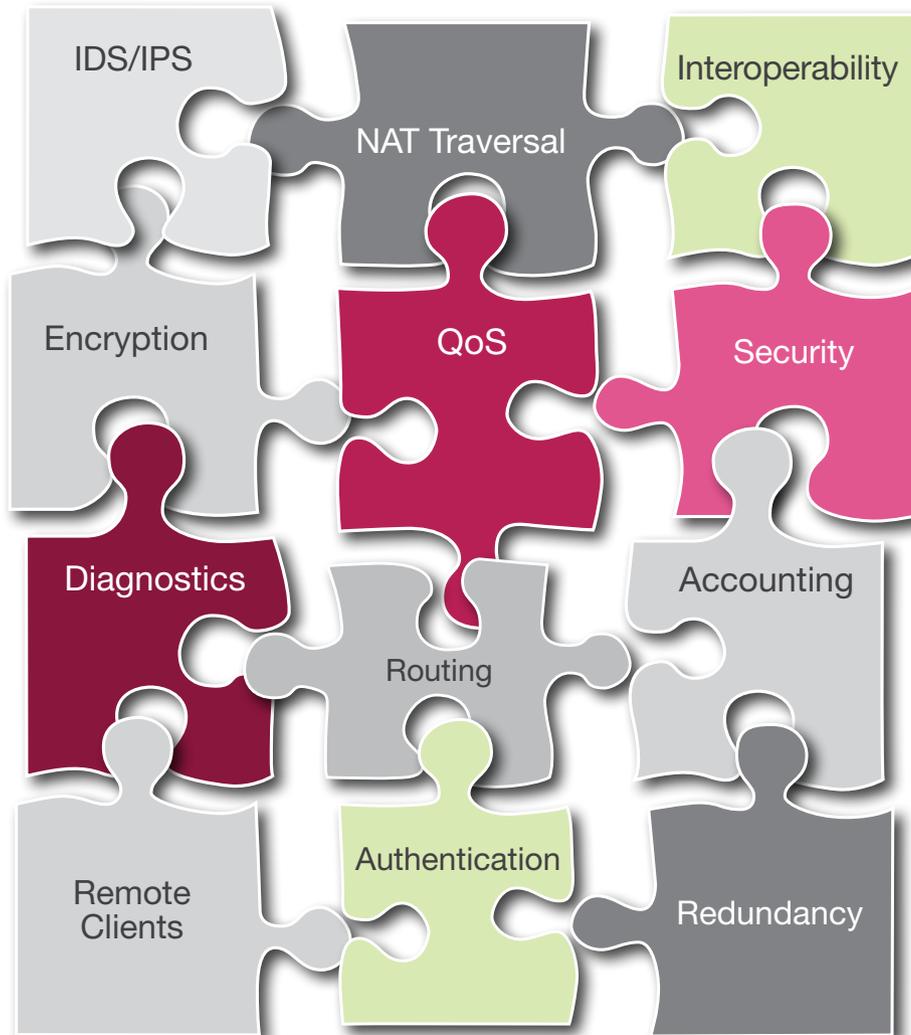

Tim Wagner of Samsung

Another recent pairing on the MDM front has Enterproid joining forces with UC outfit BroadSoft to deliver an integrated solution addressing both security and unified communications requirements for mobile business users.

The Divide platform by Enterproid includes a personal management portal that provides employees the ability to lock, beacon, or wipe their mobile devices in the event they are lost or stolen. The Divide Manager capability from the company, meanwhile, is designed to enable IT to do enterprise-wide policy deployment and enforcement, including the ability to see all connected devices, set policies by group, perform remote wipes of corporate data, lock the corporate persona and administer password reset.

"The integration of Divide and Broad-Soft's communications platform creates a new standard for BYOD mobility, virtualizing the worker's office, making it accessible on the employee's personal Android device and delivering it via the cloud – regardless of carrier, device or version of Android OS running on their

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device," said Alexander Trewby, vice president of product and an Enterproid co-founder. "While other BYOD solutions focus on corporate e-mail or the use of dual phone SIMs, the integration with BroadSoft's platforms has extended the BYOD user experience to encompass workplace messaging, data and voice services, while also giving IT the tools to secure, manage and tailor the BYOD experience for each employee. We give the employee the flexibility to get what they need to do their job, anytime and on any device, without compromising user experience or privacy."

Symphony Services recently expanded its mobile device management play as well. But in this case, it did that through acquisition.

To better appeal to mid to large enterprises looking for holistic solutions in this new BYOD world, Symphony Services earlier this year announced plans to buy Teleca for an undisclosed amount. The combined company, called Symphony Teleca Corp., expects to bring in $350 million in revenue this year, meaning the deal doubles the size of the former Symphony. The leader of the Palo Alto, Calif.-based company is CEO Sanjay Dhawan.

"The two companies are merging to really accelerate enterprise mobility," Keith Higgins, chief marketing officer, told *INTERNET TELEPHONY* in an interview about the Teleca deal.

Symphony Teleca, Higgins said, can help organizations decide which platform(s) to use, how to interface that with their app stores, and even how to create and support an enterprise app store (which Symphony can deliver as a managed service). Symphony also can assemble for businesses mobility solutions including best-in-class software from multiple vendors, mobility expense management, device acquisition and more.

"We are the first company at scale who enterprises can come to for an end-to-end mobile enterprise solution," said Higgins, adding that Symphony can do that without requiring businesses to spend hundreds of millions of dollars on outsourcing, as required by some of the larger systems integrators.

Symphony traditionally has worked closely with enterprise software companies, whereas Teleca's software and services have catered to the needs of wireless device suppliers like Nokia. Now, with the Teleca deal under its belt, Symphony has a broader and deeper product portfolio, staff expertise, and geographic coverage on the wireless front, Higgins said. The deal increases Symphony's headcount from 4,000 to 6,100 people. And Teleca, which is based out of Sweden, has a very strong European presence, according to Higgins.

Others offering MDM solutions include Amtel Inc., which in February announced a free MDM service targeted at enterprises of all sizes. Amtel Free Business Mobile Device Management includes mobile password security, detection of compromised devices, device information and statistics, application discovery and listing, and the ability to build a central mobile inventory for the management of mobile assets. Like Amtel's premium MDM service, the free service offers a web-based console that operates across iOS and Android

Amtel says it has led the market as one of the first MDM providers to offer its premium service via a software-as-a-service model. As discussed in a strategic solutions series that ran in the October 2011 issue of *INTERNET TELEPHONY* magazine, Amtel offers a single platform that delivers mobile device management, and telecom expense management, including mobile expense management.

"Our solution can address expense management and device management – all from the same platform. That helps with ROI," Karlyn Gonzalez, Amtel manager, told *INTERNET TELEPHONY* in an interview last year. "With our competitors' systems, customers need separate expense management and device management solutions – so customers have to learn how to work with multiple systems."

Amtel's TIMS platform, however, includes a broad range of functionality. It enables invoice management, inventory management, device security management, procurement portal, mobile policies, contract management, and dispute management and reporting of telecommunication services for global enterprises. Organizations can use the solution to implement adds and changes related to mobile devices, mobile plans and even mobile carriers; to track their wireless and wireless expenses; and much more, said Gonzalez. Clients typically eliminate 10 percent to 40 percent of their mobile expenses as a result of using Amtel TIMS.

Last year Amtel added to the TIMS platform an integrated SaaS-based Telecom/Mobile Expense Management & Mobile Device Security Management Solution. That enables users to set security password and e-mail settings; approve and restrict particular mobile applications in the business setting; detect and quarantine jailbreak, rooted devices; and remotely wipe and lock devices (if, for example, an employee loses a wireless device containing confidential business information) . It also allows for 411 directory assistance saving; provides alerts related to international calling and roaming; and does GPS location and lost device tracking.

"The popularity of mobile apps is putting an extra burden on corporate mobile billing," says Pankaj Gupta, co-founder and CEO of Amtel. "Companies are struggling to find ways to implement mobile policy and segregate the individual apps spend from the allowable corporate usage policy."

BoxTone is another player in this space. The company says its Enterprise Mobility Management solution is used to keep tabs on millions of devices and by some of the world's largest companies.

While enterprise mobility has become a hot area for many IT outfits, Higgins of Symphony pointed out that Gartner's Magic Quadrant report indicates there is no one leader in the category.

"The MDM market is quickly evolving," according to a Gartner report published last year and available online. "The requirements and definitions are changing rapidly, and vendor offerings will evolve quickly and be even more capable and mature by next year. High demand is creating a frenzy of development, as well as hope." **IT**

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By Scott Swartz

Machine-to-Machine Advances Require New Approach to Billing

It takes two to tango, even if they're both machines. But when the music stops, who'll work out how much to pay the piper?

Today, commerce is commonly transacted between people and machines – one needs to look no further than Cyber Monday, app stores or the Kindle to understand that it's a late majority market for any demographic that's connected. More recently, social networking has changed how people interact with people, and this has also profoundly affected commerce. The next wave is machine-to-machine, which is being enabled by two mega-trends that are creating a perfect storm that is surreptitiously redefining the business landscape.

Intelligence is now commonly embedded in objects. We no longer simply build the inanimate. Today, we bestow the power to communicate, if not think. Many durable goods (from appliances to houses) now contain some form of intelligence. And with the advent of super-cheap chips, even disposable goods like boarding passes are becoming more intelligent.

Communications have become nearly universal through inexpensive mobile and IP networks and advancements in radio-frequency identification, or RFID, and the ubiquity of intelligent personal communication devices.

To be clear, there is nothing revolutionary about M2M itself. It's been around for a while, just like browsers connecting to machines via the Internet were around long before Amazon, eBay, PayPal and Salesforce. Like the prior wave, things only get radical when you consider the new services and business models that M2M enables. It will connect the unconnected. And once goods are connected, they become actors on the global economic and social stage, participants in our own world, inanimate or not.

The emergence of embedded intelligence combined with the existence of universal communications is leading to ubiquitous telemetry – a word derived from the Greek roots *tele* (which means remote) and *metron* (which means measure). Telemetry makes it possible to measure consumption of any type anywhere. This creates a tantalizing prospect and a tipping point – the quest for interaction, where all things, rather than just all people, seek to communicate with each other. For businesses, the question is how to monetize the services and new business models that will emerge as a result.

Much already has been written about how the customer experience will change, and it is obvious how efficiency increases

(i.e., remote utility meter reading). I'd like to focus on the business model implications through a trailblazer example.

In October 2009 the Utah Transport Authority was awarded the American Public Transportation Association Innovation Award for the development of its new electronic fare collection system. It utilizes contactless cards that wirelessly communicate with readers that in turn wirelessly communicate with a centralized system. This two-hop M2M communication results in significant operational savings, an open payment model, and new products and distribution models.

The system allows riders to pass contactless smart cards over electronic readers when boarding. The smart card can be one issued by UTA, by a third party such as nearby ski resorts, or standard contactless credit and debit cards, including Visa payWave, MasterCard PayPass, Discover Network Zip and American Express ExpressPay. As a rider boards and exits a vehicle,

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the rider taps the card against a reader and boards the bus or train. The transaction is wirelessly sent to a centralized server and then on to the open payments network for authorization. At the end of the ride, the passenger taps off to complete the trip or do an electronic transfer. In a transfer, the rider is able to tap onto a new bus or train without being charged for a new trip (i.e., a journey rather than discrete trips). The final charge is processed through a back-office system that matches up individual card taps within the two-hour transfer window to create a complete trip and calculate the final charge.

Beyond open payments, M2M enabled UTA to improve how it sells and distributes its services. Ed Pass enables University of Utah students and others to use their contactless student ID to ride public transportation. EcoPass allows companies to register their contactless corporate ID cards to encourage their employees to ride public transportation. SkiPass lets ski resorts bundle lift tickets with transportation. The lift tickets themselves are contactless cards.

become mission-critical assets; size, scale, scope may help less if they are rooted in old world ways of doing business. Today's IT foundations are unlikely to solve tomorrow's M2M challenges.

We can anticipate the nature of those challenges because we know something about how communications between machines will be constructed. For one thing, we know that agreements will be key. In the machine-to-machine world, the nature of speech will, rather than being free and spontaneous as in the human world, be agreement-driven and ring-fenced between businesses. The parameters of the conversation will be set, so we will have to design systems that can reflect and accommodate them, whatever they may be. To monetize the potential of M2M commerce, the communication of business terms must be based on agreements between two or more parties.

This is why, increasingly, we hear the phrase agreements-based billing and compensation in cross-vertical industry circles. Where once monetization was a matter of enabling the predictable, agreements-based billing delivers the ability to monetize

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The machine-to-machine commercial world will deliver a dynamic, relationship-driven marketplace that is setting the pace for a new generation of commerce.

M2M improves the customer experiences, automates these models, and enables them to be seamlessly monetized. All three of the above products have billing and compensation implications in which institutions negotiate agreements on behalf of their students, employees or customers. In addition to the increased ridership due to the convenience, UTA attributes millions of dollars in cost savings to the open payments approach. UTA estimated roughly the cost of a conventional approach to be between 30 million to 40 million dollars. It was able to cut that cost at least in half, and was also able to cut the time for deployment.

M2M is also creating a huge demand for infrastructure and, given the volumes involved, there is a massive opportunity for value-added application providers, communication service providers, and cloud providers. An example is OnStream, a national grid company that provides gas and electric metering solutions to energy suppliers in Great Britain. It replaced legacy back-office systems for asset management, workforce planning and billing with new, more nimble systems to match the new ways of working. OnStream provides a complete outsourced metering solution for gas and electricity providers. The solution includes everything from the meters to the management of data.

As M2M impacts services, markets, providers, and ultimately humans, businesses will have to adapt to new realities. The race for first-mover advantage to harness the commercial potential of the new landscape will be intense. Agility, speed, nimbleness will

potential – the as-yet unknown. It is how M2M will be commercialized, even before it becomes clear exactly what it is that is being monetized.

If we don't know the exact nuances, we can already grasp the broader topography of M2M commerce. It is certain to involve the fluid negotiation of personalized contracts, multi-party financial relationships, innovative pricing and business models, and compensation of distribution channel and supply chains.

From an enterprise application perspective, this means monetization will call for an open and configurable system, which allows for multiple business revenue models to be supported at installation and then continually evolved, allowing additional models to be added at any time.

Business models with sales-driven, enterprise customer agreements; interrelated, multi-party partnership arrangements; and integrated channel compensation programs must all be configurable, evolved and manageable throughout the lifecycle of the business. The machine-to-machine commercial world will deliver a dynamic, relationship-driven marketplace that is setting the pace for a new generation of commerce. It will also deliver a unique opportunity for those in position to harness it. **IT**

Scott Swartz is the founder and CEO at MetraTech Corp. (www.metratech.com).

Incentive Auctions Take a Step Forward

President Obama on Feb. 22 signed into law the Middle Class Tax Relief and Job Creation Act, which includes provisions for incentive spectrum auctions. Following the move CTIA President and CEO Steve Largent commented: "The Middle Class Tax Relief and Job Creation Act is an important piece of legislation that was a culmination of more than three years of education and advocacy by CTIA and its members to get more spectrum to market so we continue meeting Americans' insatiable demand for the world's best wireless products and services." CTIA has been pushing for incentive auctions to make more spectrum available to its membership. In an interview with *INTERNET TELEPHONY* last year, Chris Guttman-McCabe, vice president of regulatory affairs at the CTIA, said that his organization and the Consumer Electronics Association jointly presented a paper to the FCC a year ago February that said reallocating and auctioning off 120mHz of what they call "underutilized broadband television spectrum" would produce more than $33 billion in net proceeds for the U.S. Treasury. This money, which the associations say represents a conservative estimate, could be used in part by the government to offset the deficit and fulfill the vision outlined in The National Broadband Plan, he said.

Persistent Locates a Bridge

Persistent Systems, which does outsourced software product development for some of the biggest names in tech – including IBM, Microsoft and Oracle, recently acquired the location business from Openwave Systems Inc. The Openwave deal will enable Persistent Systems to supplement the location capabilities that Openwave offers with a software bridge that can deliver the location information to enterprise software for the enablement of new location-based applications, Hari Haran, president of Persistent Systems, explained to *INTERNET TELEPHONY* in a recent interview. That's significant, he said, because while operators have location middle in their networks to provide 911 and other capabilities, carriers don't offer wholesale location services (other than maybe fleet management) to businesses. But the joint Persistent/Openwave solution, he added, can bring together the carrier and enterprise worlds.

Ericsson Envelopes Telcordia

Operational support systems used to be the red-headed stepchild of public networks. But with the rise of broadband and the telcos' interest in making the most out of their network capacity and monetizing those assets, BSS/OSS solutions have come front and center. That explains why telecom equipment and services provider Ericsson has snapped up Telcordia, a deal which closed recently, for $1.15 billion in cash. Telcordia is the company that evolved out of what once was the joint research and development entity of the regional Bell telephone companies, who traditionally spent their own sweet time perfecting new services and features before bringing them to market. However,

today, in light of Internet time and the rise of the app store, telcos and other service providers need to introduce new capabilities a whole lot faster, and underlying support systems are a key in enabling that to happen.

Amex Aims to Serve

It's been about a year since American Express launched its digital payment platform, called Serve, and the company is bullish of the prospects for this mobile wallet going forward. While he wouldn't disclose the number of current Serve users, in a recent interview with *INTERNET TELEPHONY*, Peter Lurie, senior vice president of strategic partnerships and business development at American Express, said that "in the first nine months of the platform being available we have seen ongoing and steady adoption of Serve. Given the marketing efforts put forth to acquire accounts we feel we had a very strong first year. As we update the platform we are putting more efforts behind account acquisition, and we've recently signed several large scale partnerships, so we expect higher uptakes as we enter 2012." He adds that globally mobile payments worldwide are growing 30 percent annually and are projected to reach $700 billion by 2015.

OpenMotion Taps RACO

M2M solutions provider RACO Wireless is supporting wireless credit card authorization and card activation for ConnectNow Custom Gift Card Kiosk by OpenMotion. RACO Wireless is the recently spunoff M2M business of T-Mobile. The ConnectNow Custom Gift Card Kiosk enables consumers to create unique gift cards in a self-service, digital touchscreen environment. "Retailers require our kiosks to communicate credit card data and other critical real-time information, and we needed to do this reliably and at an affordable cost. RACO Wireless provided us with the best of both," says Rob Deubell, president of OpenMotion.

Unlicensed Thirsts for a Sixth

White spaces advocates came together at ITEXPO/the Super WiFi Summit in Miami earlier this year to talk about the innovation and wealth that the availability of unlicensed spectrum has allowed to be created to date. And they said that unleashing TV white spaces for unlicensed use could lead to the creation of innovation and wealth on an even grander scale. To allow that to happen, Congress should affirm the FCC's decision to make white spaces available, and ensure that the unlicensed model receives no less than one-sixth of any future high-quality spectrum between 500mHz and 1gHz that is cleared by relocating TV broadcasters. That's a prescription provided by Mark Cooper, director of research at the Consumer Federation of America, who presented the paper "How Congress Can

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Avoid Making Another 100-year Mistake in Spectrum Allocation" at a press conference hosted by the Wireless Innovation Alliance and the White Space Alliance. As this issue was going to press, it looked like the payroll tax deduction legislation was near passage, and that effort could include language about incentive auctions, which in turn could affect the future of white spaces and other unlicensed spectrum.

CEO Jumps Ship

Sanjiv Ahuja has resigned as CEO of LightSquared. He continues as chairman of the board, however. Doug Smith, chief network officer, and Marc Montagner, chief financial officer, are working as interim co-chief operating officers until the company finds a new CEO. Meanwhile, Philip A. Falcone, CEO and CIO of Harbinger Capital Partners, has joined the board of directors. Future prospects for Light-Squared appear dim in light of the Federal Communications Commission's move barring it from launching service. This came after some charged that the planned Light-Squared network would interfere with GPS signals used in aviation, consumer navigation, and military applications.

CTIA Names Security Head

CTIA-The Wireless Association recently named John Marinho its vice president of technology and cybersecurity. In the newly created role, he will lead CTIA's efforts to help the wireless industry secure its networks and devices, and educate policymakers on emerging technologies. Marinho previously served as director for mobility solutions at Dell. And during his tenure at Alcatel-Lucent/Bell Labs he deployed the first wireless broadband 700mHz public safety system in Washington, D.C., and implemented numerous commercial wireless broadband networks for carriers around the globe. He also worked at ITT and Canadian Marconi.

App Store Hits 25B

More than 25 billion apps have been downloaded from the App Store by the users of the more than 315 million iPhone, iPad and iPod touch devices worldwide, Apple recently reports. The 25 billionth app downloaded, Where's My Water? Free, was downloaded by Chunli Fu of Qingdao, China. As the winner of the App Store Countdown to 25 Billion Apps, Chunli Fu will receive a $10,000 iTunes Gift Card. The App Store offers more than 550,000 apps to people in 123 countries around the world. There are more than 170,000 native iPad apps.

Play Enables Storage, Sharing

Google Play is a new cloud-based service that lets Android phone or tablet users store and share their digital content. The service enables individuals store up to 20,000 songs for free and buy millions of new tracks; download more than 450,000 Android apps and games; browse what Google says is the world's largest selection of e-books; and rent thousands of movies. Android Market, Google Music and the Google eBookstore are now all part of Google Play.

Ruckus Raises $21.7M

Wireless infrastructure outfit Ruckus Wireless has garnered $21.7 million in new funding. Leading the financing were new investors Meritech Capital Partners and SingTel Innov8, a wholly owned subsidiary of the SingTel group. "We believe there is significant growth ahead in the service provider market for a new class of Wi-Fi and small cell solutions," says Mike Gordon, Partner at Meritech Capital Partners "Ruckus is clearly well-positioned and has a proven record for developing unique technology to capitalize on this emerging market. Their recent service provider wins have already demonstrated this success." Ruckus, which is profitable and cash flow-positive, will use the money to expand into the carrier mobile Internet infrastructure market as well as to bolster its position in the enterprise wireless LAN space. To further help it on these fronts, Ruckus has added to its board of directors former Verizon Wireless executive Richard J. Lynch and Georges Antoun, who has worked with Ericsson, Redback Networks, and Cisco.

Qualcomm Readies Next-Gen Chipsets

Gobi modem chipsets, the MDM8225, MDM9225 and MDM9625 chipsets will begin sampling in the fourth quarter, Qualcomm has announced. These products will be the first to support both HSPA+ Release 10 and LTE Advanced. The MDM9225 and MDM9625 chipsets are also the first to support LTE carrier aggregation and true LTE Category 4 with data rates of up to 150mbps. "Our newest generation of Gobi modem chipsets will allow mobile device OEMs to design products that can operate on nearly any mobile broadband network worldwide," says Cristiano Amon, senior vice president of product management at Qualcomm. "In addition to supporting the latest mobile broadband technologies, these chipsets improve over Qualcomm's previous 7-mode 28nm LTE chipsets (MDM9x15) by offering a reduction in power consumption and overall board area, enabling OEMs to design smaller, sleeker devices with longer battery life."

Verizon Wireless Sweetens to Ice Cream Sandwich

Devices currently scheduled to be upgraded to Android 4.0 Ice Cream Sandwich this year by Verizon Wireless include the HTC ThunderBolt, DROID Incredible 2, Rhyme, and Rezound; the Motorola XOOM, DROID BIONIC, DROID RAZR, DROID RAZR MAXX, DROID 4, DROID XY-BOARD 8.2, and DROID XYBOARD 10.1; the Samsung Galaxy Tab 10.1 and 7.7; and Spectrum by LG.

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Cloud or On-Premises – The Best of Both Worlds

By Erik Linask

Hosted or on-premises? That's the question when it comes to phone systems these days. What about the cloud? Whether you're looking for voice, or more advanced unified communications services, these are the questions CIOs and CTOs are asking.

How businesses answer these questions, and what factors weigh into their decisions, become determining factors for their vendor selection. If you choose to manage your own on-premises system, you have a choice of some very well-known PBX vendors. If you choose the up-and-coming cloud model, you have an equally wide choice of vendors (though they may not be quite as well known, for the most part).

But what's keeping the two alternatives as separate universes? Why can't a cloud vendor also sell an on-premises PBX, or vice versa? As of today, it hasn't truly become reality, but within a few weeks, when ShoreTel finalizes its acquisition of M5 Networks, it will have created a new breed of UC vendor, one that can compete in both the traditional and hosted markets.

That was the message from ShoreTel CEO Peter Blackmore, opening the company's annual investor day in San Francisco.

It's a brilliant idea – brilliantly simple, in fact, to borrow ShoreTel's tagline. Today, there are cloud believers and detractors – those that are chomping at the bit to migrate to a cloud-based communications solution, and others that just don't trust it and will stick to the old-fashioned, time-tested on-premises model.

So, rather than expend resources trying to convert customers, why not simply offer a product selection that will satisfy both sides? A PBX vendor explaining why its solution is better than the cloud is typically seen as having a natural bias.

By offering both, that bias is eliminated, replaced by a layer of trust.

The question, for Blackmore, was whether to buy or build but, after meeting with some 25 potential partners, it became evident that buying was the logical choice. Building its own solution would require significant R&D efforts that would take more time than ShoreTel could afford. The opportunity is here today. In two or three years, it won't be. There will a market leader already.

"There is no big competitor in the hosted space, so I wanted to spend our shareholders' money on a company that was already a leader in the cloud industry and in which I had confidence," explained Blackmore. "By leveraging the joint companies, there is huge potential for us to be the leader in the cloud industry."

By that he means that he wants to capitalize on the opportunity to leverage the expertise of the combined businesses to not only continue growing market share in the on-premises business, but to take the competitive advantage the dual deployment models offer to become a leader in the cloud business as well.

"We have an inherent advantage in the competitive landscape, and we aim to keep it," said Blackmore. "I feel passionate about it – we made some bold moves, and we have built up a great capability."

Indeed, whether Blackmore, CMO Kevin Gavin, M5 CEO Dan Hoffman, or any of the other ShoreTel executives or customers who were on hand for the event at AT&T Park, home of the San Francisco Giants (a ShoreTel customer), there was no shortage of passion.

"We have a shared vision of the future," said Hoffman. "Nobody in the market has put these pieces together."

In fact, listening to them, it's hard not to buy into the concept of brilliantly simple UC. And when you think about the potential of a vendor being able to offer two deployment models for the same solution, you realize ShoreTel has a special opportunity to become the new giant in town. **IT**

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