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Wild Nights, Hot & Crazy Days

Another wild and crazy year is now coming to a close. And, boy, was it a doozy.

Headlines regularly pronounced 2011 as the year of the tablet and the year of the cloud. I won't dispute such pronouncements on either front.

Apple sold 9.25 million iPads in its fiscal third quarter alone. It owns the tablet space, of course, but Amazon, Black-Berry, HP and Samsung, among others, have introduced tablets of their own in an attempt to get a piece of the action.

Competing with the iPad is no small feat, of course, but Amazon with its new, relatively low-cost Fire, looks like a winner. However, many of us, particularly long-time Apple fans, repeatedly find ourselves at Apple stores opening our wallets and handing over large amounts our hard-earned money again and again.

Just a few short months ago we didn't have an iPad at my house, and I wasn't sure I wanted to pony up the money to buy one. But now, just a few short months after I broke down and laid out the dough for Apple's iconic tablet, my husband, daughter and I compete nightly for "the precious."

We have Steve Jobs, and the team he put together at Apple, to thank for that, of course - that being the transformation of computers and phones from utilitarian devices to objects of beauty and desire. Apple's founder and two-time leader, who we lost in 2011, will forever be remembered for making computers and connectivity fun and easy, and for realizing the dream of making applications, music and video available to buy, rent and enjoy anywhere, anytime.

Apple also this year launched its iCloud service, in yet another signal that cloud computing truly has arrived. This was just one of the many cloud-based initiatives launched or advanced in the past year.

The move to cloud computing is expected to see continued strong growth (As an aside, TMC next month launches Cloud Computing Magazine.).

"Accompanying this is an expansion in the depth of penetration, with the percentage of overall workloads running in the public cloud growing at a 29 percent CAGR to 22 percent from 10 percent today," according to a Morgan Stanley Research report.

Speaking of an expansion in depth of penetration, we've obviously seen that this on the social networking front as well. That's become true for everything from sharing vacation photos among friends to leveraging Facebook and Twitter to foment social and political change. We saw this again and again this year during the Arab Spring as social media provided the glue to connect revolutionaries to express their concerns and organize their efforts.

Google executive Wael Ghonim became a current-day folk hero of sorts for creating the Facebook group that became the central meeting place for anti-government efforts in Egypt. That was considered a key contributor to the uprising that led Egyptian President Hosni Mubarak to step down on Feb. 11.

Things may have turned out better for Muammar Gaddhafi had he done the same. Instead, the Libyan leader fought the resistance to the end, and his untimely demise at the hands of Libyan fighters was captured on video that was broadcast and available online for ondemand consumption around the world.

Digital technology and social networks also played central roles in the story of the capture and death of Osama bin Laden.

Sohaid Athar unwittingly broke the news of the U.S. military's raid on the al Qaeda leader's hideout in Pakistan when the IT consultant tweeted that there was a helicopter hovering above Abbottabad at 1 a.m. Only later did Athar and his Twitter followers learn that the helicopter was part of a top-secret attempt to kill the man behind the 911 terrorist attacks.

The Obama administration and U.S. military, meanwhile, leveraged video communications to share footage of Osama bin Laden being dispatched of to ensure there was no question of his ultimate demise. IT

Publisher's Outlook



Let's Define 4G Before the **Government Does**

Every few years the American people elect politicians who say one thing to get elected and do another once in office. Conflicts of interest, scandals related to campaign contributors, tax evasion and other related issues have made us numb, and political ethics is a phrase you may have just read now for the first time.

But of course politicians being politicians need to help the people – at least that is what they say they want to do. One of the latest focus areas is 4G – as in what exactly is it? My company, TMC, collaborates with Crossfire Media to put on a show about 4G called 4GWE (the next one is Feb. 1-3, 2012, in Miami), so this topic is of great importance to me.

In a recent story on TMCnet's TechZone360 site, there is a fascinating article that begins as follows:

Today, Rep. Anna G. Eshoo (D-Palo Alto), top Democrat on the U.S. House of Representatives' Energy and Commerce Subcommittee on Communications and Technology, applauded Senators Richard Blumenthal (D-CT), Amy Klobuchar (D-MN) and Al Franken (D-MN) for introducing a Senate companion bill to the Next Generation Wireless Disclosure Act, which she introduced in the U.S. House in June.

The situation is as follows: The government wants a strict definition of what 4G is so consumers aren't duped into buying a service they believe to be fast only to find that it really isn't.

Of course anyone who knows anything about wireless signals knows that even a blazing fast service can be bogged down by flash mobs; over-subscription; obstructions; and, of course, weather and proximity to the tower. So if you promise a certain speed and there is a massive traffic jam in the area causing an extra 5,000 people to make calls, download songs and watch videos around the same time in a similar location, every subscriber will see performance levels fall off dramatically. And we are talking nationwide service here, where there could be over-subscription in any area at any time without notice.

This isn't that different from what happens with cable broadband. If you want lightning-fast service, wake up early on a weekday. Friday through Sunday nights are typically peak periods, meaning your performance will be lower than normal. There also typically is significant variation in the speed of hotel broadband, which can cost an arm and leg and yet still be slower than a dial-up connection.

It is worth noting that the wireless situation I have outlined above means the Senate and House can easily get experts to testify that wireless speeds of 4G networks are fairly slow. They can go to busy areas, do indoor trials, etc., to get whatever outcome they want. They can then give speeches about how big, evil phone companies are taking advantage of consumers and then pass laws to limit virtually everything they do.

So wireless carriers and industry, now is the time to come up with some simple guidelines related to average 4G speeds, and we need disclaimers relating to the issues in this post. The best way to keep the government from getting involved in and subsequently destroying our markets through unintended consequences is to act decisively and head them off now.

Expect this to be an important topic in Miami this February at 4GWE, an event colocated with ITEXPO. IT



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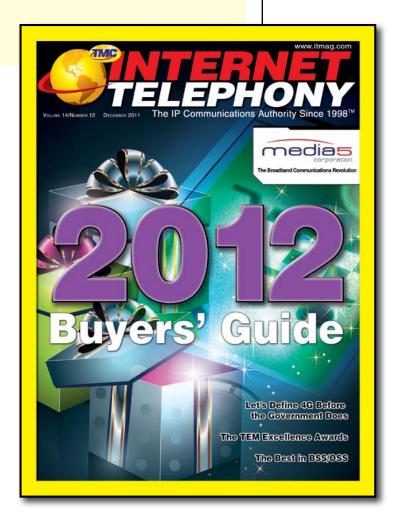
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By Grant Lenahan



The World is Already Going Real Time - When Will We?

Change is frightening and disruptive. Most organizations resist it – both out

of uncertainty and out of fear. Worse, many organizations (e.g. established vendors, embedded organizations) have a vested interest in the status quo.

Sixty years ago Joseph Shumpeter described the process of "creative destruction" in which change only comes when new creative organizations eclipse, and destroy, old change-resistant organizations. Our goal is to ensure that we adapt to new opportunities, rather than be swept away in the economic forces of change.

For 100 years, our industry has worked on the paradigm of the monthly bill, with metered and itemized usage. Most often, a month's worth of credit was extended to subscribers who had one telephone company and were expected to remain on subscription until they moved. Most did. Consequently it had to be an after-the-fact, aggregated process.

None of this is technologically required today. In fact, none of this happens in other online industries. For 20 years, in fact, prepaid has been a steadily growing force, with real-time rating and account handling. In most online transactions, advice of charge occurs before a transaction executes – think of Amazon, eBay, hulu, Google, or any other online service provider.

Similarly, most online service providers use real-time processing to personalize content, ads, subscription handling, display rendering (appearance), etc. Our competition has already ditched the monthly subscription billing model and moved to a real-time, interactive, transactional paradigm.

This shift is driven by two forces. First, new services demand – or at least are enhanced by – real-time controls. Second, today's technology renders it both technically and economically feasible. In fact, if done properly, real-time transactional billing and customer service may be significantly less costly due to reductions in customer service, revenue leakage, bill printing, mailing, processing, etc.

First, let's look at the drivers for real-time handling. Prepaid began the movement, allowing service to those without established credit, and allowing individuals to have more control over their spending. In some regions this is implemented via post-paid plans that execute real-time controls to avoid bill shock. Credit control is a

powerful driver beyond the traditional credit-challenged demographics – when we think about minors, transient users, and occasional users.

But more and more the real driver is a different class of services. Growth is coming not from voice and "dumb" data, but from content, information and commerce services. Video, news, social information and online commerce are more analogous to retail shopping than to long-term subscriptions arrangements. Impulse of convenience buying is the norm – and that cannot be predicated on a multi-month or year relationship. Moreover, content, information and commerce all require other real-time processing. They demand advice of charge (before delivery). They benefit greatly from personalization (such as My Yahoo, Facebook, or even the real-time results of search listings). They often require parental controls (which must be enforced before delivery), subscriptions checks, account balance checks, and device suitability (e.g. only display content that can be played on your device). In the commerce space, the very nature of the transaction is interactive. Finally, the content market is one built around advertising as an important component of the revenue picture - content is highly indicative of interests, and content is generally unaffordable if not subsidized by advertising. Witness nearly all forms of mass media.

These shifts represent trillions of dollars of gross revenue worldwide – larger, in fact, than the sum-total of all existing voice plus data subscriptions. So the opportunity is large, as is the implicit threat. This threat mostly exists because our industry is accustomed to "bill" and "the subscription". Certainly we want to maintain long-term, stable consumer relationships, but at the same time, we must recognize that the web has changed consumer actions forever. Real-time credit control and rating is quite cost effective today – in even the lowest value transactions. An example (of many) includes some Asian operators that bill per character SMS on a prepaid, real- time basis.

In summary, we have a perfect storm brewing. It offers opportunity as new services offer new revenues and profit opportunities. It also threatens us with bypass. One of the greatest shifts is one of technology – to real-time, personalized, interactive transactions, with very low levels of labor support. Our history holds us back, as our future beckons. Heed the future.

Grant F. Lenahan is vice president and strategist for service delivery solutions at Telcordia Technologies (www.telcordia.com).



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By Marc Petit-Huguenin



VIPR, a Game-Changing Technology for Bridging VoIP Islands

It is 2011, and the videophone on my desk is even more useless than the videophone I used back in 1999. Because

of the limitations of the telephone technology it was using at the time the quality of the video was not very good, and the terminal itself was expensive, but it had a formidable advantage over the current technology: I could use it with anybody else who also had a videophone, because the telephone network was and still is ubiquitous.

One decade later, we literally saw some incredible improvements in the video technology, but at the same time the potentiality of establishing a video call with someone decreased. I use my videophone with my employees because they have a subscription to the same service that my videophone uses. But for all my other calls, even if I can in some rare cases use Skype or Google Talk, most of the time I cannot use video at all, even if both sides of the calls use hardware that is more than capable of providing the resources required for video, wideband audio, presence, real-time texting and all these advanced media technologies that we were promised a long time ago.

mapping between a phone number and a VoIP address. So far, however, none of these initiatives have been successful. Even something as interesting as RTCWEB, a joint effort between IETF and W3C aimed at standardizing VoIP inside the web browser, is not so much about having web applications from various websites making video calls to each other as it is to make sure that any browser can be used by the same website.

VIPR, a new technology currently also under standardization at the IETF, aims to fix this problem by transferring the ubiquitous property of the telephone network to the Internet. The idea is simple: If you made a phone call to someone, then it is possible to substitute the path that this call used by another path that is using only the Internet. Not only it is possible to do this substitution, but it is possible to do it in a way that is secure (in that it does not open a VoIP user to denial of service, intrusion or spam), but that is also automatic (in that it does not require someone to manually add an entry in a database and, more important, does not require periodic verification that this entry is still valid). Right after this substitution,

VIPR technology could be the bridge that will break the isolation of all the existing VoIP islands, from enterprises to independent VoIP providers and carriers.

We were in fact robbed of something that could have been spectacular, because the Internet, the medium that most of us use each day, is even more ubiquitous than the telephone network ever was. But in spite of this fact, VoIP is fractured in a way that would be incomprehensible to a telephone user, and it is not even the fault of the medium itself.

There are multiple explanations for this, from the inability of providers to see beyond their walled garden, to the reluctance of network administrators to open their networks, to the realization that VoIP spam would be far worse than e-mail spam is for the end user. The problem is not new, and there have been some initiatives that have attempted to offer solutions to this problem. That includes ENUM, a way to use the DNS infrastructure to provide

the same phone number that was used to make the phone call can now be used to make a video call.

Developed by Cisco and submitted to the IETF standardization process by Jonathan Rosenberg and Cullen Jennings, the VIPR technology could be the bridge that will break the isolation of all the existing VoIP islands, from enterprises to independent VoIP providers and carriers.

Keep looking for future installments of this column, as we will detail the inner workings and potential of this game-changing new technology.

Marc Petit-Huguenin is CTO and co-Founder of Stonyfish Inc. (http://stonyfish.com). He also blogs at http://blog.marc.petit-huguenin.org.



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By Rich Tehrani & Max Schroeder





In late August, Hurricane Irene continued its trail of destruction by moving into the Mid-Atlantic and Northeastern United States. Irene's path went directly through the New York metropolitan area with devastating consequences.

Although the Northeast is not unfamiliar with hurricanes, they are very infrequent. This was the first hurricane to officially make landfall in New Jersey since 1903 and one of the worst storms ever to hit the state. With New Jersey already experiencing the wettest August on record, the heavy rainfall wreaked havoc.

In Connecticut the winds were the major issue. As the storm passed, almost 50 percent of the state's electric customers were without power. Some of

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those customers, including many TMC employees, did not get service restored until a week or more afterward.

Then Tropical Storm Lee decided to pay a visit and poured torrents of water on top of the already soaked ground, raising water levels in lakes and streams even higher. In fact, for some members of the TMC team including one of the column's authors, Max Schroeder, Lee created more problems than Irene.

If you visited the TMC website during this time or called to speak to a TMC editor or account manager, you would not have noticed anything unusual. The site was fully operational. Employees were working from their corporate offices, home offices or back-up locations. Voice, e-mail, fax, online publications, TMC Channels, ITEXPO West registrations and all other TMC operations appeared normal. How could this be?

Simply put, TMC was "eating business continuity and disaster recovery dog food" that was already sitting on the shelf ready for emergency use. In other words, the same VoIP and other technologies we use every day were already in place. This column has always stressed the dual aspects of 21st century communications technologies. These technologies make daily operations more efficient and productive but also provide built-in DR functionality. Do you have DR dog food on your shelf?

(Wikipedia credits the phrase "eating your own dog food" to past senior Microsoft executive and current VMware CEO Paul Maritz as the title of a 1988 e-mail recommending more internal use of Microsoft products.)

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

Regulation Watch

By William B. Wilhelm and Jeffrey R. Strenkowski





On Oct. 7, 2011, the FCC released several orders in its proceeding implementing the Twenty-First Century Communications and Video Accessibility Act of 2010, an expansive piece of legislation that covers disability access requirements over a host of different types of services, including noninterconnected VoIP services (non-IVPs). The CVAA expansively defines non-IVP service as one that "(i) enables real-time voice communications that originate from or terminate to the user's location using Internet protocol or any successor protocol; and (ii) requires Internet protocol compatible customer premises equipment" and "does not include any service that is an interconnected VoIP service.'

Federal Regulation Continues to Move Toward Non-Interconnected VoIP Services

The first FCC order requires non-IVP providers to contribute to the Telecommunications Relay Services Fund, which subsidizes relay services for persons who are deaf or hard of hearing. The order requires such providers to report interstate end user revenues and remit a percentage of that revenue to the TRS Fund.

The second order implements Section 716 of the CVAA by applying disability access requirements on non-IVP providers (among other types of services). Classified as "advanced communications services" under the CVAA, Section 716 requires non-IVP providers to make their services and products accessible to people with disabilities, unless it is not achievable to do so. Covered entities can build accessibility features into the applicable equipment or

services or rely on third-party applications, peripheral devices, software, hardware, or CPE that are available to individuals with disabilities at nominal cost.

While interconnected VoIP providers have been subjected to these requirements since 2007, the FCC's orders under the CVAA demonstrate a continued push toward regulating new types of VoIP services, and could significantly expand the commission's jurisdiction over other types of IP-enabled services that to date have gone largely unregulated by the agency. IT

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

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By Jeff Hudgins



Three Hidden Benefits When Moving to the Cloud

Much like moving into a new home or office, moving applications into the cloud is an exciting time. While the actual move is daunting, it's also an excellent time

to discover some hidden treasures. It's a great time to take an inventory of what you have and decide what to throw away and what to put to better use.

As end users consider moving their applications into a virtual environment the excitement is often centered around lower costs and greater flexibility. And while there is still much debate on the cost savings associated with the cloud, there are some nice hidden benefits that end users can realize through the process.

Virtualization is a great opportunity to take an inventory of your critical business processes. Your IT department will need to track how applications are used, and the frequency of access. This can have the hidden benefit of letting them know which apps can be decommissioned to save costs. Conversely, deciding what programs to virtualize will help you determine which ones have high priority. For example, storage is traditionally poorly utilized with many isolated pools of storage each sized for maximum capacity. A cloud storage optimization plan can eliminate the waste and highlight potential savings.

How standardized are your processes? Business processes that have been standardized are ideal for the cloud. As companies look at each of their business processes it becomes clear which ones have standards in place. For example, by standardizing service offerings, you can speed time to market and improve asset utilization. You may also discover new service revenue streams that did not exist before.

Finally, moving applications to the cloud can help the disaster recovery plan. As you prepare certain business applications to move to the cloud it's a perfect time to evaluate the disaster recovery strategy more broadly. For example, how will the organization be notified in the event of an outage that affects the cloud provider?

So what's the final score?

Moving apps into a cloud virtual environment is a smart move, because it improves performance and cuts costs. An even smarter move is to look for hidden benefits in business processes and strategy as you move to the cloud that can yield even great improvements to the bottom line.

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



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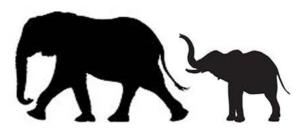
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By Alan Murphy



Federated Authentication for the Cloud: Follow the SaaS Model

A recent survey reported that 70 percent of CIOs consider security a critical component of a any reliable cloud deployment. That same survey, however, also stated that almost 26 percent of the same

respondents are moving some amount of their corporate data into the cloud today.

Those are interesting numbers, and it is possible that those two data points are mutually exclusive. Maybe those 70 percent who are concerned with security aren't moving any data into the cloud, and maybe the 26 percent who are moving data aren't concerned with cloud security at all. I highly doubt that the market is that black and white, however, and there's probably a fair amount of overlap between those people who are concerned with security and those who are moving forward regardless.

authenticate once to that particular SaaS app and then they're done with authentication. This "one-off" model holds true for IT as well: IT can set up federated authentication to one SaaS provider and then move onto the next one. There are no long-term, bi-directional authentication needs for single-service SaaS platforms.

That's not to say that cloud-based users can't be authenticated and handled just like internal users, and even that physical security can't also be extended and applied to resources in cloud. Federated authentication at the cloud infrastructure level is becoming a more prevalent option from cloud providers, but unfortunately it tends to

be a bit more complicated. Many, if not most, providerbased federated authentication solutions typically either

Application-level federated authentication can help IT keep control over internal user assets without re-architecting the network.

It's a bit ambiguous to throw a generic term out like cloud security and then begin to make market assumptions based on such an open term. Much like enterprise security throughout the data center, cloud security is made of many layers, unique challenges, and is heavily based on a wide spectrum of attack vectors. Enterprise IT still has to be concerned with data theft, application attacks, and DDoS attacks targeted at the network and the application layers in the cloud. But in our current market maturity level for cloud computing, cloud security typically only involves a few threats very specific to off-premises computing: how to authenticate and manage user access to cloud-based applications and how to ensure data privacy of applications and cloud storage. This month I would like to tackle user authentication.

When software-as-a-service first exploded in IT as a viable alternative to managing local applications, one of the first issues most IT organizations ran into was managing user authentication. Who owns and manages the user access database, and who manages it for updates? Very quickly the larger SaaS providers began offering federated authentication, allowing IT to authenticate a user locally and then pass some type of token to the SaaS platform granting access to the application for that user. This immediately took the SaaS vendors out of the user management space and gave control back to the enterprise.

Federated authentication works extremely well for SaaS platforms because the user is accessing only one destination. A user who is accessing an SaaS e-mail platform only has to

come as proprietary solutions or are tied to very sophisticated (read: confusing and hard to manage) cloud bridging solutions – technologies that transparently connect cloud resources to the on-premises data center. And this is where it gets a bit convoluted. Cloud connection and/or bridging solutions, including those provided by third-party vendors, are excellent for what they are and used when they're needed, but they're probably not best suited for solving every user authentication management issue. Relying on – and even requiring – the network to be re-architected just for user management is like bringing a machine gun to a wrestling match: It's typically overkill.

A better solution is to look at the federated authentication model provided by SaaS vendors: Use tools that are destination-based and focused at the application layer, rather than the network, to manage user access and authorization to cloud resources. It's true that adding a token-based (or similar), application-focused federated authentication solution to your cloud platform may add more work, but at least it's work that directly solves the problem and can be leveraged again and again between multiple cloud providers and even multiple data centers. There's a time and a place for network- and infrastructure-level authentication, but it's not always the best solution. Application-level federated authentication can help IT keep control over internal user assets without re-architecting the network for the cloud while retaining flexibility and control.

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

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By Nick Maier



A Look Back at an Important Year for E911

It has been quite a year for E911, as legislation, standards and technology have all taken significant steps forward.

Here's a rundown of the year's key developments that may impact your organization.

E911 Legislation

In Michigan, E911 legislation is now in place that requires organizations with multi-line telephone systems to provide the location of a 911 caller. The details vary based on number of buildings and square footage, and failure to comply could result in fines from \$500 to \$5,000 per offense. The final mandatory compliance deadline, however, will likely be pushed out five years in response to opposition from some large employers in the state.

In California, the Public Utilities Commission is looking closely at improving E911 protection and is working with all stakeholders including the local exchange carriers and competitive local exchange carriers. The CPUC has reviewed how the LECs provide enterprises with access to E911 and have adopted LEC supported E911 awareness programs and procedures for testing 911 calls from MLTS owners to assure proper data delivery and emergency response. The CPUC has recommended adopting the National Emergency Number Association's model legislation, but it is up to the California State Legislature to enact such legislation.

Standards

Whether you call it next-gen or NG911, NENA took a significant step this summer when it approved the i3 standard, which lays out a detailed architecture for key elements of NG911 systems. The i3 standard prescribes how networks and devices will eventually work together to enable voice, text, picture, and data exchange between citizens and first responders. In the aftermath, 911 authorities and public safety answering points are now devising plans for adopting the new standards either through forklift upgrades or a more measured migration path.

Technology

Providing E911 protection to employees continues to become more challenging as the workforce becomes more dispersed and communication networks adapt to accommodate the accelerated adoption of softphones and enterprise Wi-Fi. This year, many enterprises are adopting E911 as a cloud-based service to better support their mobile workforces and remote, distributed locations. Fortunately, some third-party E911 software vendors continue to provide innovative, cost-effective solutions that keep

pace with the changes in unified communications platforms. Also noteworthy is the fact that some E911 applications have been adapted to work in new virtual computing environments, which aligns with a major enterprise IT trend toward virtualization.

As we head into 2012, the topic of E911 is still a front and center issue for many states in terms of regulation and legislation, and the industry is doing a credible job of bringing forward new E911 solutions that are attuned to the rapid technology advancements happening in unified communications.

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





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By Hunter Newby



The Excitement in Mobile Internet Infrastructure Growth

The results from a recent Synergy Research Group report on mobile Internet infrastructure show that the market is

growing at an annual rate of 24 percent with the two key segments of mobile multimedia gateways and mobile IP backhaul growing at rates of 42 percent and 47 percent respectively.

TeleGeography also reported that at the end of the second quarter of 2011 the number of 3G subscribers passed the 900 million mark, showing a 45 percent growth rate from the year prior. 4G subscriber numbers remain small due to the early stage of 4G deployments, but 3G subscribers are forecasted to reach more than 3 billion by 2015.

to a market as fast as they can be made all sounds great, but nowhere in here is there a real physical network plan, or even concept, that is as uniform, scales, is as predictable and as reliable as a factory is for its ability to output products. The necessary investment in the fiber to all of the towers that must exist to support all of this wonderful data growth does not happen just because smartphones are mass produced.

Forecasting is an extrapolation that relies on the study control, or constant to remain just that – constant, or the same. This makes no sense in mobile Internet backhaul projections. How can the underlying network that got us

The current musical chairs type of service levels we have all come to experience where one gets kicked off as another comes on will probably only result in more people trying to get a seat with fewer chairs actually available.

"We forecast that the mobile Internet infrastructure market will continue to grow at an average 20 percent per year over the next five years. From 2010 to 2015, annual revenues from mobile IP backhaul will more than triple in size, while the growth rate for mobile multimedia gateways will not be too far behind," says Synergy Research Group's Jeremy Duke. "Imagine networks having to support almost 3 billion mobile broadband subscribers, and clearly the growth opportunities for the infrastructure vendors are very exciting. At the same time we expect to see some major shifts in market share over the coming years."

Imagine networks having to support almost 3 billion mobile broadband subscribers, and clearly we should all be quite concerned that the current musical chairs type of service levels we have all come to experience where one gets kicked off as another comes on will probably only result in more people trying to get a seat with fewer chairs actually available.

Mass producing multimedia gateways, routers and other IP devices in a factory somewhere and selling them in

all to this point (copper-based TDM), which is clearly old and agreed to by all as being not capable of supporting future data growth rates, be relied upon as the control element to support future projections of hardware sales growth? Past performance should not be an automatic indication of future results.

Mobile operators struggling just to meet the current demand, with most failing at that, will now be required to effectively grow their networks at the same compounded rate as the sales of devices, equipment and other infrastructure that is being thrown at the network so as not to fall any further behind. Basically the numbers from the report say the world can expect to experience more of the same of what we have now. Maybe spotty, congested service is something to aspire to if your basis is no service at all, but that should not be our goal here in the U.S.

Investment is not just capital. Money is nice, but labor, materials, time and a well-coordinated plan for every layer all need to be factored in, or else nothing successful is going to occur.

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



Today's competitive landscape necessitates that businesses do whatever is within their power to improve performance, while complying with state and federal mandates and regulations. That's why many businesses have already deployed company-wide call recording technology. Call recording helps ensure regulatory compliance, enhance training and development capabilities, increase customer satisfaction, limit legal liability, and provides a record of audio transactions for clarity and continuity of operations.

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By Jon Arnold UCStrategies



Is the Cloud Ready for You?

It seems like 2011 is the year of the cloud, and if you believe everything you read, you'd think it was a foregone conclusion that this is where all things IT will end up before long. This scenario may well come

to pass, but when thinking about unified communications, I'd say we're getting a bit ahead of ourselves.

The overall trend is pretty clear, but is anyone asking what businesses really want? Most telecom vendors are coming to market now with cloud-based UC offerings, either as pure play businesses, or to complement (and replace) premises-based solutions. Either way, it appears that vendors are firmly on the cloud bandwagon.

features. There may be some thought around the idea of using a hosted service for VoIP, but the vision isn't much broader.

When vendors start talking about UC, businesses don't generally think in those terms. They're still thinking about telecom, and it's enough to get them beyond that to the broader plane of IP communications. No matter how you package it, UC can be complex, and IT decision makers need to be comfortable first in terms of its compatibility with their network. Once they get past that, then the benefits of integrating multiple modes in real time will resonate. As any successful UC vendor knows, at this point, the conversation shifts from ROI to TCO, and the decision becomes strategic not just for IT, but for the business as a whole.

UC really should be a stepping stone to the cloud for those who want it, and offering all of this at once could be overwhelming for businesses that are just getting the hang of VoIP.

I believe they're on the right path, but having attended a number of recent industry events – including ITEXPO in Austin – it's also fair to say that even basic UC offerings are ahead of what many businesses – especially SMBs – are comfortable with today.

For those of us steeped in VoIP, it seems almost like yesterday's technology. True, VoIP has been around since 1995, but mainstream business adoption is still quite recent, and legacy telephony remains the dominant technology. Nobody is buying TDM equipment any more, but the installed base will be with us for some time. Furthermore, with an economy that remains weak, businesses are inclined to keep those legacy phones for as long as they can.

In my view, walk before you can run tells the story here. While UC vendors have moved well beyond VoIP on the technology spectrum, many businesses are just getting comfortable with VoIP. It's no secret that SMBs generally deploy VoIP to save money without giving much consideration to its rich upside. They quickly grow into that, which in turn sets the stage for UC. However, that's more like the thin edge of wedge, and jumping to the cloud is still a pretty big stretch for most businesses.

There certainly will be businesses willing to make the jump straight from VoIP to the cloud, but that won't be typical. The stand-alone benefits are great, but initially VoIP is seen as being telecom-centric; it basically replicates TDM for less money along with some new

SMBs are a natural market for the cloud, since the complexities of UC often exceed their IT capabilities, but that doesn't mean they're total believers yet. Whether listening to vendors or VARs, the cloud can be a big leap of faith, especially if they're not using it for other IT functions. Even if they are, only the most VoIP-savvy will be ready to entrust their full communications regime to the cloud.

My main message here is that the cloud may seem like a *fait accompli* for UC vendors, and they need to offer this to stay competitive – but these expectations don't quite jive yet with the marketplace. UC really should be a stepping stone to the cloud for those who want it, and offering all of this at once could be overwhelming for businesses that are just getting the hang of VoIP.

Just like VoIP had its hype cycle when Vonage was disrupting the status quo in 2004, cloud is repeating the pattern now. Both look like sure things, but here we are in 2011, and Vonage still only has low single-digit penetration in the VoIP market. VoIP has since taken other forms, and I have no doubt that cloud will do the same, if only to find a viable niche until the mainstream catches up. History repeats itself, and my hope is that UC vendors will heed the lessons from VoIP and listen closely to what the buyers are really ready for.

Jon Arnold is an analyst representing UCStrategies (www.UC-Strategies.com).

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Unified Communications

By Jonathan Rosenberg

The Voice of IP



Presence for the Present

Like peanut butter and chocolate, or cookies and milk, presence – typically in the form of colored jellybeans – has gone hand in hand with desktop instant messaging applications since the very begin-

ning. For the last decade, users have been trained to know that a green-colored jellybean means that a user is available, while a red one means they are not. While there are variations in the colors and meanings across different clients, everyone – from Skype to Windows Live Messenger to Google Talk – has used these little colored jellybeans in very similar ways.

Clearly the telephone network – both landline and mobile – has gotten by without presence. Yet, traditional instant messaging apps have needed them from day one. Why is that? The reason has to do with the rate of user availability. On a landline or mobile phone, a caller can reach the user at any time (assuming their battery has not died or they are out of coverage). As such, callers have a high expectation that placing a call will ring the callee, and that sending a text will cause it to be delivered. In other words, users expect that the callee can technically be reached all of the time, and that a no-answer is because the human being is unavailable, not because the system is unavailable.

However, with desktop software, this is simply not true. Users are usually not in front of their desktop or laptop computers, and the software isn't always running. In order to avoid user frustration, hints were needed to inform the user of the status of the callee. Online/offline indicates that the software is running. "Away" (also known as idle) looks at whether the user has recently used the keyboard or mouse, and therefore helps give the user an indication of whether the callee is in front of his or her computer.

Though presence has served the industry well for the last decade, much has changed since the days of desktop messaging apps. Mobility – through smartphones and tablets – has dramatically altered the ways users consume software. Modern mobile devices have four properties that change the way we need to think about presence:

- They are usually with me. A desktop computer stays put. Even though laptops can move around, they are not always with a user. On the other hand, mobile phones are almost always with their users, and even tablets are more frequently with the user compared to laptops.
- Push means the software always runs. Modern smartphones include push notification services that allow applications to send messages to users even when the software is not running on the phone. In essence, their software is always running in the cloud.

- Devices are always-on. Modern smartphones and tablets really never get powered off. They are always on, but may be in a low-power standby mode.
- Full-screen: Mobile apps are full screen. This means that most
 of the time, users are not looking at the user interface for any
 particular application. They only look at the one with which
 they are interacting right now, and everything else is invisible.

These changes have a serious impact on presence. Because devices are always with the user, are always-on, and can always be reached through push, the notion of being "online" is not really meaningful. They are always online. In essence, the availability profile for real-time IP communications is on par with cellular and landline voice services. Similarly, because these devices are typically with the user all the time, the notion of "away" or "idle" isn't meaningful either. Just because users are not interacting with the input modalities of the device does not mean they cannot be reached by software on the device. As such, "away" and "idle" are simply meaningless in a mobile world.

Perhaps most importantly, the usage profile for how users consume presence has changed. In the past, they would have a desktop app that was always running, and constantly receiving presence updates that were used to keep a buddy list fresh. The constant in-flow of presence updates was not an issue when devices were always plugged in (or had large batteries), and where bandwidth was readily available. For mobile devices, where battery and mobile bandwidth are the most critical resources, constantly receiving presence updates is wasteful. Indeed, given that users will only look at their presence lists for the brief moment they are on-screen on a mobile device, constantly pushing presence in the background is truly a waste.

Does all of this mean presence is dead? Of course not! What it means is that presence needs to evolve, to be ready for the present. The notion of availability in the technical sense will fade away. Instead, other aspects of presence – device capability (does my phone support video calling) and user willingness (e.g., do-not-disturb) will become more important. Instead of presence systems being optimized around long-running subscriptions, they will evolve to be optimized around rapid queries to fill in bits of UI rendered on-screen. The red/green/yellow jellybeans will change, presenting users with more meaningful information for the task at hand.

Presence is here to stay. As milk is to cookies, so presence is to IP communications. It will just evolve to meet the needs of modern mobile computing.

Jonathan Rosenberg is chief technology strategist at Skype (www.skype.com).

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Unified Communications

By Steven Johnson

Ask the SIP Trunk Expert



Deep Packet Inspection: A Critical Security Measure

Deep packet inspection is a powerful way to protect not just SIP traffic, but also the network. Deep packet inspection is a form of computer network packet filtering that examines the data (or datagram)

and UDP/TCP header part of a packet as it passes through an enterprise session border controller.

When SIP traffic reaches the E-SBC, the E-SBC searches it for non-protocol compliance, viruses, spam, intrusions or other criteria that's been predefined to decide if the packet can pass through, or if it needs to be routed to a different destination. Also, the E-SBC can examine the packet for the purpose of collecting statistical information.

This is in contrast to shallow packet inspection (usually called just packet inspection), which only checks the UDP/TCP header portion of a packet. Shallow packet inspection is the kind of inspection commonly found in most NAT firewall devices.

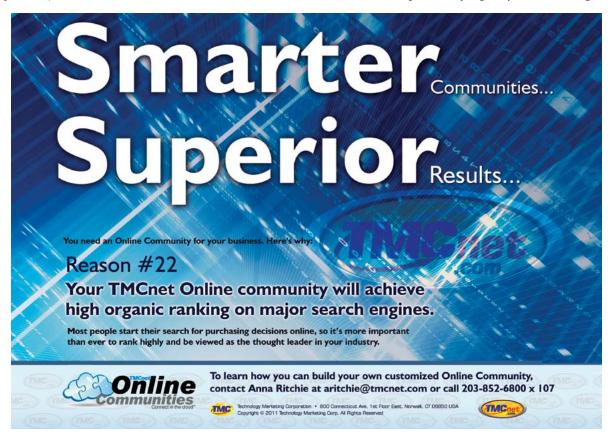
An E-SBC with deep packet inspection capability can look at layers 2 through 7 of the OSI model. Since SIP is an application layer (layer 7) in the OSI model, these products have a unique ability to:

- look at the SIP packets to provide non-protocol compliance rules, routing rules and statistical information, and
- provide intrusion detection/intrusion prevention security features for an effective defense against buffer overflow attacks, denial of service attacks, sophisticated intrusions and a small percentage of worms that fit within a single packet. This includes attacks targeting headers and SIP structures as well as the actual payload of the message.

IDS/IPS also enables the E-SBC to block malicious SIP signaling packets designed to attack certain SIP phones, servers or other devices on the enterprise LAN. This secures the enterprise network, as the E-SBC handles the attacks while the servers and other SIP devices in the network can still be used.

Deep packet inspection will identify and classify the SIP traffic based on a signature database that includes information extracted from the data part of a UDP/TCP packet, providing extremely precise control of any SIP traffic – finer than any classification based on header information only.

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





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Filling the Gap

At its MAX 2011 technology conference in October, Adobe Systems Inc. announced plans to acquire Nitobi Software, the creator of PhoneGap and PhoneGap Build.

PhoneGap is an open source platform that leverages HTML5 and JavaScript to expedite the creation of cross-platform mobile applications. The PhoneGap framework, which is already integrated with Dreamweaver CS5, has been downloaded more than 600,000 times and thousands of applications have been built using it.

"With PhoneGap, Adobe will offer developers the choice of two powerful solutions for cross-platform development of native mobile apps, one using HTML5 and JavaScript with PhoneGap and the other using Adobe Flash with Adobe AIR," Adobe stated in a press release.

PhoneGap used the MAX 2011 conference to also announce the contribution of its code to the Apache Software Foundation.

"Adobe has been fully supportive of our decision, further demonstrating Adobe's continued commitment to the developer and open source communities," said Dave Johnson, chief technology officer at Nitobi, a privately owned company out of Vancouver, Canada. "The Apache Software Foundation's model makes it possible for contributors to collaborate on open source product development and Adobe and Nitobi look forward to engaging with other community members to advance the PhoneGap technology."

earlier this year took the wraps off Adobe Edge. Heidi Voltmer, Adobe's group product marketing manager for web solutions, at the time told TMC that Adobe Edge is similar in look and feel to other Adobe products, and enables easy and intuitive content creation. It can be used to create content from the ground up, and can animate existing imagery. Voltmer said the solution is likely to appeal mostly to interactive Flash Professional users as well as web designers who don't want to write tons of Java script. Adobe Edge will be available without charge on the Adobe Labs website until some point in 2012.

Going to the Opera

Multinational telecommunications group MTN Group, which operates in 21 countries in Africa, Asia and the Middle East, has tuned into Opera Software. The company plans to leverage Opera Mini, which works on more than 3,000 different phones, to deliver a better mobile web experience to its users.

"MTN as a whole has seen the value of Opera Mini and we are introducing it in all the 21 countries we operate in," said Bola Akingbade, chief marketing officer at MTN Nigeria. "We believe that communication and participation empowers people. By working with Opera, we deliver greater value to our customers, with a faster browsing experience, lowering the barriers to spending time online."

On the Edge

Adobe in October released its third public preview of Adobe Edge, the new HTML5 motion and interaction design tool that is bringing Flash-like animation to websites and mobile apps using the latest capabilities of HTML, JavaScript and CSS.

"The new release contains innovative interactivity features and other additions suggested by the development community, and enables content creators to easily deliver a new level of visual richness to HTML5-only websites and mobile apps," according to Adobe in a press release.

The company also has extended existing tools like Adobe Dreamweaver and Flash Professional, releasing a new CSS3 Mobile Pack for Adobe Fireworks, which will enable designers to easily extract CSS3 from their design elements in Fireworks and quickly add them to their HTML-based websites and mobile applications.

As discussed in an August piece on TMCnet, the online entity of INTERNET TELEPHONY parent TMC, Adobe

Astronaut Ice Cream

Google and Samsung unwrapped something sweet for consumers in October, but interested parties had to wait until last month to get a good taste of it. We're talking, of course, about the Galaxy Nexus, the first phone based on Android 4.0, aka Ice Cream Sandwich.

The new device has a 4.65-inch display with 720p resolution. It contains a dual core 1.2gHz processor. And it connects via 4G LTE or HSPA+ technology.

"With Ice Cream Sandwich, our mission was to build a mobile OS that works on both phones and tablets, and to make the power of Android enticing and intuitive," blogged Andy Rubin, senior vice president of mobile at Google. "We created a new font that's optimized for HD displays and eliminated all hardware buttons in favor of adaptable software buttons. We also dramatically improved the keyboard, made notifications more interactive and created resizable widgets."



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Managing Transition

For nearly a hundred years, the technology of telephony was relatively static. In the late eighties, the merging of "telephony" and "computing" created dynamic change. Computer Telephony Integration spurred innovations in adjacent technologies like Text-to-Speech, Automated Faxing and Speech Recognition. More disruption was then caused by rapid innovations in VoIP, Open Source Telephony and the move toward cloud-based communications.

By sponsoring communities in these technologies, Sangoma hopes to help as many companies as possible to navigate these rapidly evolving technologies:

- The Asterisk Community will serve to introduce new players to Open Source Telephony and advance innovative developments around that technology.
- The IP PBX Community will help those who are just now moving their Businesses and Enterprises from TDM-based technologies to an all IP-based infrastructure.
- The IP Telephony Community will serve as a resource for Developers, SMBs, Enterprises and Carriers who are looking for the most innovating and up-to-date information and solutions in this space.

Learn how to manage the transition and visit these communities on TMCnet today!

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By Peter Radizeski



Preparing for the Cloud

Everyone is talking the cloud. Carriers are looking at cloud to increase both margins

and stickiness. Telco, TDM, T1 are commodities with razor-thin margins. Cell, TV, broadband, and voice are flat or declining. Layer 7 is the only way to gain revenue.

Managed services will be big because the technology is outpacing skills in the marketplace at a time when many businesses can't afford to add staff or pay for highly specialized skills.

Outsourcing WAN and LAN monitoring and security as well as data storage to a vendor seems like a sensible business move.

Supporting smartphones, tablets, laptops, servers, security, e-mail, telephony, business

apps, data storage, the LAN, WLAN, the website and more is turning IT staffers into firefighters, who do not get the opportunity to work on improvement projects or CIO performance metrics as they are bogged down with too many support tasks.

The Internet is so pervasive in the business environment that everyone should be looking at cloud services for a number of reasons: mobility, productivity, and ease of use.

As an agent, pay attention to what your customers are saying. PCI, capex, technology woes, IT pain, security or compliance issues are just some of the signs that indicate a conversation about the cloud (or managed services) is warranted.

Have a few open-ended questions ready. As an agent, you don't have to be a software and network guru, but if you want to remain as the trusted advisor, you need to ask appropriate questions that will demonstrate that you know what to look for and you have a partner in the space. As you garner customer success stories, these conversations will be even easier to have, since stories sell.

Be prepared to answer some questions about the cloud from prospects and customers. The buzz is just too fierce, and they already have experience with cloud via websites, e-mail, payroll, CRM and more.

If you appear unprepared to talk about the cloud, your clients will find someone else to have that conversation with.

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





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Video Calls
Multiple Language
DID(Direct Inward Dialing Number)
Support SKYPE for SIP
Call Monitor / Record
Support POE
FXO to FXS life line

Hardware Interfaces

32 bit embedded RISC DSP 256M Onboard Nand Flash 64M SDRAM 2 × RJ11 port 1 × RJ45 port

1 × Power port



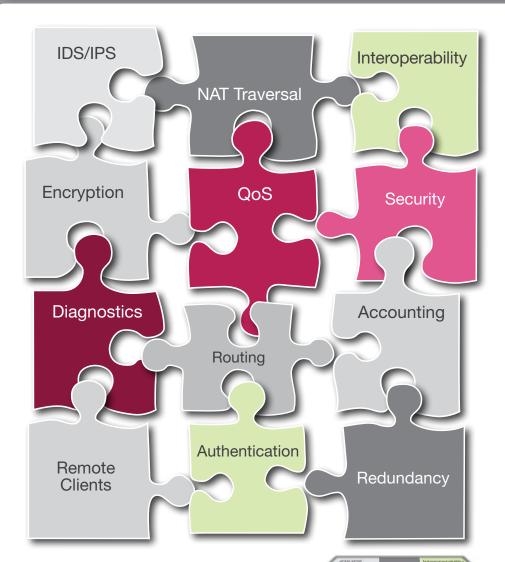
Booth: 1001

Date: 1-3,February,2012 Addr: Miami,Florida,USA

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Ingate E-SBC The SIP Solution



Ingate E-SBCs enable secure SIP into the network, making trusted SIP trunking and Unified Communications possible.



BRINGING IT ALL TOGETHER

DEVELOPMENT TOOLS

Hardware

- Boards Videoconferencing 1
- 2 Boards Voice/Fax
- 3 Computers/Fault Tolerant/NEBS
- 4 Computers/Industrial
- 5 6 **DSP** Chips
- DSP Resource Boards
- 7 Internet Telephony Boards
- 8 Modems
- 9 Network Interface Cards
- 10 Videoconferencing Equipment
- 11 Chassis/Enclosures
- 12 Computer-less IP Telephony Devices
- 13 Multimedia Headsets/Phonesets
- 14 UPS/Power Protection/Management
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- 136 Advanced Mezzanine Cards (AMC)
- 137 CompactPCI (cPCI)
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- 139 Integrated platforms
- 140 Motherboards and Other **Embedded Platforms**

Software

- Compression Algorithms
- 17 Echo Cancellation
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- 19 H.323 Protocol Stack
- 20 Internet Telephony API
- 21 Java/Java Telephony
- 22 MGCP/MEGACO
- 23 SIP

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- 25 Testing Hardware
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- 27 Voice Quality Measurement
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- 30 Client Software (Internet Phones)
- 31
- 32 **Directory Services**
- 33 Internet ACD
- 34 Internet Offload
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- 37 Multimedia
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- 39 OSS
- 40 Quality of Service
- 41 Security
- Service Creation Environment

INTERNET TELEPHONY® December 2011

- Service Level Management
- 44 SS7 Solution
- 45 Voice Over Cable
- 46 Voice Over DSL
- 47 Web-Based Customer Service
- 48 Wireless Local Loop

APPLICATIONS & SERVICES

- Application Sharing/Collaborative Computing
- 50 Audio Conferencing
- 51 Customer Self-Provisioning
- 52 Distance Learning
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- 56 Internet Access To Live Agents (Click to Talk)
- 57 Internet Call Waiting
- 58 Internet Fax
- 59 IP Centrex
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- 64 Prepaid Calling Cards
- 65 SOHO
- 66 Streaming Audio/Video
- 67 Telecommuting
- Unified/Integrated Messaging 68
- 69 Virtual Assistant
- 70 Virtual/Distributed Call Center
- 71 Virtual Private Networks
- 72 Web/Call Center Integration
- 73 E911

WIRELESS

- Handsets/PDAs
- 75 Location-Based Services (Mobile e-commerce)
- 76 Short Message Service
- Third-Generation Wireless (3G)
- 78 Wireless Data/Internet/WAP
- 79 Wireless Internet Telephony
- 80 Wireless LAN

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- 81 Aggregator/Concentrator
- 82 **Applications Server**
- 83
- 84 Carrier Class Gateways
- 85 CO Switch
- 86 CSU/DSU
- 87 Data-Enabled PBX
- Edge Access Device

- Fax Servers
- 90 Firewalls
- 91 Gatekeeper
- 92 Integrated Access Device
- **Internet Telephony Appliances**
- 94 Internet Telephony Gateways
- 95 IP-Enabled PBX
- 96 IP Phone (SIP, H.323, Ethernet...)
- 97 Media Gateway
- 98 Multipoint Control Unit
- 99 Network Hubs
- 100 Network PBX
- Programmable Switches
- 102 Remote Access Concentrators
- 103 Routers
- 104 Softswitch
- 105 Signaling Gateway
- 106 Enhanced Services Platform
- 107 Voice Data Multiplexers
- 108 Voice/Data Switch
- 109 WAP Proxy Server
- 110 Wireless Base Station

SERVICE PROVIDERS

Service Provider

- 111 CLEC
- 112 Internet Fax Service Provider
- 113 Internet Telephony Wholesaler
- 114 ISP
- 115 ITSP
- 116 Next-Gen Telco
- 117 Prepaid

Application Service Provider

- 118 Application Infrastructure Provider
- 119 Independent Software Vendor
- 120 Collaborative ASP (groupware, e-mail, videoconferencing...)
- 121 Communications ASP
- 122 Consumer ASP (MS Office, AppleWorks, StarOffice...)
- 123 Telephony ASP
- 124 Wireless ASP
- 125 Voice Portal

Other

- 126 Arbitrage
- 127 Clearinghouse
- 128 Consultant
- 129 Developer
- 130 Distributor 131 Interconnect
- 132 Long-Distance Broker
- 133 Reseller
- 134 Systems Integrator



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



Alphabetical Listings



- A: Equipment Vendor
- B: Service Provider/Carrier
- C: Software DeveloperD: Solutions Provider
- : Reseller/Distributor

®ing ®ing (B, D)

001-248-8196838 www.ringringllc.com Other: Vanity Phone Numbers

2talk (B, D)

800-310-9436 www.2talk.com

Products/Services: 59,123,113,115,116

360networks (B)

877-360-7360 www.360networks.com Products/Services: 111,112,113,114,116

Other: Private Line and Ethernet Transport, IP Transit, Local Access

888VoipStore (E)

888-864-7786 x214 www.888voipstore.com

Products/Services: 93,94,96,95,97

8x8 Inc. (B)

866-879-8647 www.8x8.com

Products/Services: 121,123,112

911 Enable (B,D)

877-862-2835 www.911enable.com Products/Services: 911

911 ETC Inc. (B)

623-243-2260 www.911etc.com Products/Services: 911

9Eons (B)

44207160 9700 www.9eons.com

Products/Services: 62,64,65,67,70



Abacus Group Inc. (B,D)

781-891-3300 x101 www.abacusgroup.com Products/Services: 121,123,125,29,38

ABP Technology (A,E)

972-831-1600 x121 www.abptech.com

Products/Services: 94,96,95,97,103 Other: Endpoint Provisioning for Ser-

vice Providers

Actelis Networks

510-545-1045 www.actelis.com

Products/Services: 17,88,103,36,48

ActionPacked! Networks (C)

808-387-2181 www.actionpacked.com Products/Services: 27.38.40

Actiontec Electronics (A)

408-752-7700 www.actiontec.com

Products/Services: 8,92,36,40,80

Aculab (A)

781-433-6000 www.aculab.com

Products/Services: 2,6,7,23,94

Adaptive Digital Technologies Inc. (C, D)

610-825-0182 x120 www.adaptivedigital.com Products/Services: 16,17,104,129,46 Other: VoIP Engine/Voice Quality/Telephony Algorithms

ADTRAN Inc.

256-963-8000 www.adtran.com

Products/Services: 84,95,103,108,80

ADVA Optical Networking (A)

678-728-8600 www.advaoptical.com Products/Services: 9,88,38,40

Airband Communications (B)

469-791-0000 www.airband.com Products/Services: 114 Other: Internet Access, Voice over

IP (VoIP), PTP Data Services, Fixed-

Wireless

AireSpring (B, E)

800-825-1055 www.airespring.com

Products/Services: 111,114,116 Other: SIP Trunking, MPLS, Voice over

MPLS, Ethernet

AiTech (B, E)

952-829-5511 x201 www.aitech.net

Products/Services: 93,111,113,114,115

Allied Fiber

516-455-1869 www.alliedfiber.com Products/Services: 48

AlloyCP (E)

888-895-8256 www.alloycp.com

Products/Services: 96,95,100,108,130

Allworx (A)

585-421-5517 www.allworx.com

Products/Services: 82,94,95,100,108 Other: VoIP Key & PBX Phone and

Data Network System

ALLYWLL Info&Tech Co. Ltd. (A)

86 755 61248802 www.allywll.com

Products/Services: 92,94,97,105,104

Alteva (B)

877-258-3722 www.altevatel.com Products/Services: 59,68,120,121 Other: Hosted VoIP Solutions, Hosted Unified Communications Solutions

Altitude Software (C, D)

877-474-4499 www.altitude.com

Products/Services: 128,134,119,31,37

Ameritec Corp. (A)

626-915-5441 x135 www.ameritec.com

Products/Services: 24,25,27,28



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AMTELCO

800-356-9224 xds.amtelco.com

Products/Services: 68,72,2,6,7

AnchorPoint (C, D)

201-421-2263 www.mtsint.com

Products/Services: 911,29,31,32,40 Other: Telecom Expense Management

Angel.com (B, D)

888-MyAngel www.angel.com

Products/Services: 70,72,123,31

Other: IVR

APEX Voice Communications (D)

818-379-8400

www.apexvoice.com

Products/Services: 64,68,82,106,42

Appia Communications (B, D)

877-277-4297

www.appiaservices.com

Products/Services: 59,61,123,113,115

Aptela (B, D)

703-386-1500 x9206 www.aptela.com

Products/Services: 50,56,63,67,123

Other: Hosted VoIP

Aptilo Networks (C, D)

+46 8 5089 8900

www.aptilo.com

Products/Services: 29,34,39,78,80 Other: Service Management and Access Control Solutions for WiMAX,

Wi-Fi Networks

Aradial Technologies (C,D)

416-410-3518 www.aradial.com

Products/Services: 64,128,29,34,80

Arbinet (D)

917-320-2000 www.arbinet.com

Products/Services: 108,127,114,38,40

Arnesys (A)

441158496965 www.arnesys.info

Products/Services: 12,93,96,95,36

ATCOM technology (A)

86-15012871900 www.atcom.cn

Products/Services: 7,92,96,95,79

AVAD Technologies (B)

212-245-4064 x4064

www.avadtechnologies.com Products/Services: 59,65,68,70,72

Avistar Communications (C, D)

650-525-3300

www.avistar.com

Products/Services: 49,19,23,45,46

B

babyTEL (B, C)

514-879-8585 x214 www.babytel.net

Products/Services: 59,123,112,115,116

Other: Business SIP Trunking

BandTel (B)

949-640-9700 x6306

Products/Services: 911,59,72,95,115

Bat Blue Corp. (D, E)

212-461-3322 x3010 www.batblue.com

Products/Services: 71,90,114,38,41

BellVoz LLC (B)

954-237-2245 x2105 www.bellvoz.com

Products/Services: 55,95,117

BillSoft Inc.

800-525-8175 x125 www.billsoft.com Products/Services: 128 Other: Indirect Tax Solutions

Bluemile Inc. (B, D)

760-500-5900

www.bluemilenetworks.com

Products/Services: 62,126,131,132,113

Bravo Communications Inc. (C, D)

408-297-8700 x112 www.bravobravo.com

Products/Services: 60,14,131,120,113

Other: Network Lightning & Surge

Protection

Braxtel Communications (A, C)

800-589-2477

www.braxtel.com

Products/Services: 70,72,106,33 Other: SIP Native Call Center Platform

Broadview Networks (A, B)

914-922-7900

www.broadviewnet.com

Products/Services: 68,71,111,116,33



Broadvox (B, D) 1950 N Stemmons Freeway Suite 3031 Dallas, Texas 75207

214-646-8014 fax: 214-646-8005

www.broadvox.com

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BullsEye Telecom (B, D)

877-773-3277

www.bullseyetelecom.com Products/Services: 71,111,114,116,29

Business Mobility Systems (A, C)

888-205-1930

www.businessmobilitysystems.com Products/Services: 68,93,129,31,79

Other: FMC-UC



Calabrio (C)

763-592-4600 www.calabrio.com

Products/Services: 31 Other: Workforce Optimization

Caleris, Inc. (B)

515-331-0560 www.caleris.com

Products/Services: 51,70,114 Other: Technical Support Help Desk

CallCopy Inc. (C, D)

888-922-5526 www.callcopy.com Other: Call Recording

Canyonwest Cases (A, E)

480-816-9652

www.canyonwestcases.com Products/Services: 130,133

Other: Cases

Celergy Networks Inc. (B, D)

760-268-1913 www.celergy.com

Products/Services: 83,103,110,36,80

CEPOINT Networks LLC. (A, D)

603-883-7979 www.cepoint.com

Products/Services: 11,3,4,84,134

CHT Global (Chunghwa Telecom Global Inc.) (B, D)

408-988-1898 www.chtglobal.com

Products/Services: 50,55,58,61,63



Cloud TC (A, C) 1032 Elwell Court Suite 222 Palo Alto, Calif. 94303

650-238-5203 Fax: 650-618-6792

www.cloudtc.com

CloudTC is a leading software innovator in business applications and IP telephony, enabling powerful business communication products. CloudTC develops and manufactures Androidbased VoIP phones for **business on the Glass** platform, delivering the first truly smart IP phone interoperable with **BroadSoft, Metaswitch and** Asterisk platforms. Glass combining next-generation hardware, software and an enterprise-focused cloudbased app store, is also available for licensing to phone and PBX manufacturers under their own brands, offering a quicker time-to-market and integration into existing product lines.

Commetrex (C)

770-407-6032

www.commetrex.com

Products/Services: 58,2,17,18,129

Commlogik Corp. (D, E)

305-677-7888

www.commlogik.com

Products/Services: 68,7,93,96,97

Comptel Corp. (D)

+358 9 7001131

www.comptel.com

Products/Services: 29,39

Other: Policy Control

Coms PLC (B, E)

0207 148 3000 x206 www.coms.com

Products/Services: 50,63,36,46

Consolidated Technologies Inc. (B, D)

914-935-6070

www.consoltech.com

Products/Services: 59,100,113,115,36

Contact Telecom LLC (D)

603-647-7170 x2250

www.contacttelecom.com

Products/Services: 39

Other: Cost Assurance, Margin Assurance

Contactual (B)

650-292-8611

www.contactual.com

Products/Services: 70,31,33

Other: ACD, IVR, On-Demand Contact

Center Software

Copia International Ltd. (C, D)

800-689-8898

www.copia.com

Products/Services: 53,54,58,68,20 Other: Fax Server Bladeware Solutions

CosmoCom Inc. (C, D)

631-940-4200

www.cosmocom.com

Products/Services: 70,72,31,33

Other: Unified Customer Communications Virtual IP Contact Center Technology

CRI (B, D)

732-974-4371

www.crinj.com

Products/Services: 68,139,82,129,134







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- C: Software Developer
- D: Software Developer

 D: Solutions Provider
 - : Reseller/Distributor

CSF Corp. (C, D)

732-302-0222 x6608 www.csfcorp.com Products/Services: 51,62,134,119,39 Other: Toll Free Provisioning &

Routing Software

Customer Services Audit Ltd. (B, C)

0064274546460 www.customerservicesaudit.com Products/Services: 128,129,40,43,47 Other: Call/Contact Center Self Audits

CyberData Corp. (A)

831-373-2601 x334 www.cyberdata.net Products/Services: 60,68,7,23,93 Other: SIP Endpoints for Unified Communications



D2 Technologies (C, D)

805-564-3424 x357 www.d2tech.com Products/Services: 16,17,20,21,23

Data Foundry (B)

888-839-2794 www.datafoundry.com Products/Services: 114,38,41

DDB Unlimited Inc.

800-753-8459 x2830 www.ddbunlimited.com Other: Enclosure OEM

Delphi Inc. (D)

703-908-0965 Products/Services: 128

DemandVoice LLC (B, D)

678-999-3949 x1 www.demandvoice.com Products/Services: 20,23,118,123,125 Other: VoiceXML Hosting

Dialexia Communications Inc. (D)

514-693-8500 x214 www.dialexia.com

Products/Services: 59,23,95,104,29

Dialogic (A) 800-755-4444

www.dialogic.com Products/Services: 2,139,84,97,105

Digital Rapids (A, C)

905-946-9666 x212 www.digitalrapids.com Products/Services: 66,16

DragonWave Inc. (A)

613-599-9991 x2282 www.dragonwaveinc.com Products/Services: 83,78 Other: Packet Microwave

Other: Packet Microwave; Wireless

Backhaul

DVCOM Technology (E)

+971 4 8873370 x302 www.datavoiz.com Products/Services: 61,7,103,130,36 Other: UTMs and Firewalls, IP PBX Solutions, GSM and IP Gateways, VoIP Peripherals

DVEO division of Computer Modules Inc. (A)

858-613-1818 www.dveo.com

Products/Services: 60,66,10,97



EarthLink Business (A, B)

877-355-1501 www.earthlinkbusiness.com Products/Services: 96,111,114,36,40 Other: Hosted IP

Easton Telecom Services (B, E)

330-659-6700 x231 www.etel.com Products/Services: 133,111,114,77

Edgewater Networks (A)

408-351-7200 www.edgewaternetworks.com Products/Services: 84,94,97 Other: Session Border Controller

Edison Carrier Solutions (B)

800-634-7999 www.edisonconnect.com Products/Services: 111 Other: Fiber Network, SONET, Wavelength, Dark Fiber, Custom Builds, Wireless Sites

Elastix (C, D)

877-352-7849 x222 www.elastix.org Products/Services: 50,23,93,129 Other: Unified Communications

Emertec Ltd. (A, E)

4401273270270 www.emertec.co.uk Products/Services: 93,94,96,95,46

Encore Networks (A)

703-318-4366 x4366 www.encorenetworks.com

Products/Services: 71,92,103,105,41

Endeavor Telecom (D)

678-264-8133 www.endeavortelecom.com Products/Services: 131,134

Other: CPE Installations, Inside Wiring,

Trouble Tickets, Site Surveys

Endstream Communications (B)

212-796-5501 www.endstream.com

Products/Services: 111,113,114,117

EnGenius Technologies (A)

888-735-7888 www.engeniustech.com

Products/Services: 103,74,78,80

Enghouse Interactive (C, D)

800-788-9733

www.enghouseinteractive.com Products/Services: 70,72,119,125,31

Other: Operator Consoles

eTelemetry Inc.

410-266-6513 www.etelemetry.com Products/Services: 911,38

Evolve IP (D)

610-230-0420 www.evolveip.net Products/Services: 68,70,118,123,41

Exordium Networks Inc. (A, D)

877-638-4747 x252 www.exordiumnetworks.net Products/Services: 58,28,95,134,36 Other: VoIP for Senior Living

Extek (A)

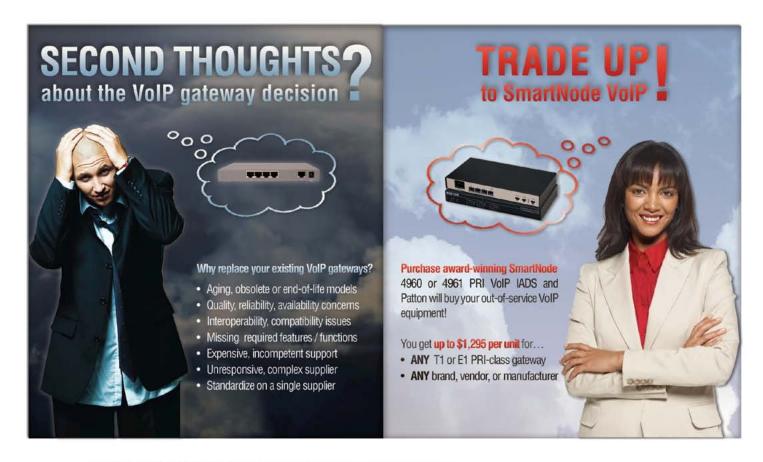
+44 115 849 6965 www.extek.info

Products/Services: 12,93,96,95,36

Eyeball Networks (C, D)

604-921-5993 x422 www.eyeball.com

Products/Services: 50,61,20,23,105



The **Patton VoIP IAD Port-Replacement Program** offers cash rebates of up to \$1,295.00 for each T1/E1 PRI VoIP Gateway or Integrated Access Device you currently own. Purchase one of our award-winning, SmartNode PRI VoIP IADs, at our already aggressive prices, and Patton will buy your old VoIP equipment at the prices shown below.

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- . Offer valid on any One-to-One transactions
- All T1/E1 VoIP Gateway products qualify for this program



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		SN4960/4E15V	SN4961/4E15V
Up to 24 calls	\$420	SN4960/1E24V	SN4961/1E24V
		SN4960/4E24V	SN4961/4E24V
Up to 30 calls	\$460	SN4960/1E30V	SN4961/1E30V
		SN4960/4E30V	SN4961/4E30V
Up to 48 calls	\$750	SN4960/4E48V	SN4961/4E48V
Up to 60 calls	\$850	SN4960/4E60V	SN4961/4E60V
Up to 96 calls	\$1,100	SN4960/4E96V	SN4961/4E96V
Up to 120 calls	\$1,295	SN4960/4E120V	SN4961/4E120V

SmartNode 496x Features:

- 4 E1/T1/PRI ports with up to 120 VoIP channels and T.38
- · Local call switching and fail-over routing
- · Dual Gigabit Ethernet
- Active QoS access router with Voice-over-VPN acceleration



For program details, terms and conditions, go to:

www.patton.com/voip/buyback

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Email: sales@patton.co.in Phone: +91 44 4549.0395 Fax: +91 44 4549.0394





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- C: Software Developer
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eZuce (D)

978-296-1005 x2016 www.ezuce.com

Products/Services: 68,23,96,95,36



FastLink Software Inc. (C, D)

623-551-9647

www.fastlinksoftware.com Products/Services: 129,29

Fonality (B, D)

877-366-2548 www.fonality.com

Products/Services: 51,70,72,95,123

Fonolo (B, D)

416-366-2500 x229 www.fonolo.com Products/Services: 72,47

Fontel Inc. (E)

800-238-0787 www.fontel.com

Products/Services: 50,61,10,93,108

Freeside Internet Services Inc. (C, D)

415-462-1624 www.freeside.biz Products/Services: 29,39

Freeway Communications (B, D)

213-225-2200 x101 www.freeway.com

Products/Services: 61,96,95,115,116



G3 Telecom (B)

416-342-0684 www.g3pbx.com Products/Services: 132,112,113,115,117

GC Services (D)

713-776-6560 www.gcserv.com Products/Services: 29,31,32 Other: Call Center Integration

Gigaset (A)

972-366-0125 www.gigaset.com Products/Services: 96

Global Crossing (B)

973-937-0431

www.globalcrossing.com Products/Services: 49,50,61,113,35

GLOBALINX

585-321-5693 www.GLOBALINXsolutions.com Other: VoIP Provider

GlobalPhone Corp. (A, B)

703-533-2122 www.gphone.com

Products/Services: 55,59,63,64,116

GlobeNet

561-314-0500 globenet.net

Other: International Private Line, Wavelength Services, Carrier Ethernet

Gogobeans (B, D)

650-931-6344

www.gogobeans.com Products/Services: 65,67,71 Other: Cloud-Based Storage

Grandstream Networks Inc. (A)

617-566-9300 x823 www.grandstream.com Products/Services: 23,94,96,95 Other: IP Video Surveillance Cameras



HD Communications Corp (A, E)

888-588-3800

www.wirelessnetworkproducts.com Products/Services: 110,130,133,78,80

HEAD acoustics GmbH (A, C)

+4924075770

www.head-acoustics.de

Products/Services: 24,25,27,28,40

Hermon Labs (C)

972-4-626-8450 www.hermonlabs.com

Products/Services: 23,25,27,28,129

Hewlett-Packard Co. (A)

281-370-0670

www.hp.com/go/infrastructure Products/Services: 14

Hibernia Atlantic

908-988-1988 www.hiberniaatlantic.com

Hold-Free Networks (B)

877-413-1911 www.holdfree.com

Products/Services: 118,116,47,74 Other: Queue Elimination Service

Homisco Inc. (A, C)

866-583-7193 www.homisco.com

Products/Services: 69,70,72,29,44



I.D Rank Security

888-448-7265 x1 http://mykryptofon.com

Products/Services: 23,121,123,41,79

IceHook Systems (C, D)

212-222-6263 www.icehook.com

www.icenook.com

Products/Services: 129,29,39

Other: CDR Management and Storage

Ifbyphone (D)

888-832-4962 www.ifbyphone.com

Products/Services: 56,69,70,123,76

Other: Hosted IVR

iKnowWare (B, D)

512-215-4305

www.iKnowWare.com

Products/Services: 49,72,124,74,78 Other: Software As A Service

Incendonet Inc. (A, C)

760-944-7698 x1004 www.incendonet.com

Products/Services: 72,23,125,32 Other: Speech Recognition Solutions

IndustryDynamics (A, D)

416-848-1850 x101 www.industrydynamics.ca Products/Services: 23,93,94 Other: Skype for Business Gateways

Infinite Conferencing, An Onstream Media Company (B, D)

973-218-0192

www.infiniteconferencing.com Products/Services: 49,50,52,61,66

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- **Solutions Provider** Reseller/Distributor

Ingate Systems (A)

603-883-6569 www.ingate.com Products/Services: 23,90,93,41 Other: SIP Trunking, Unified Communications, E-SBC, NAT Traversal,

Remote Connectivity

Inphonite LLC (C)

520-797-1844 www.inphonite.com Products/Services: 20.129.119.123 Other: IVR

Intec Telecom Systems (C, D)

404-705-2800 x2982 www.intecbilling.com Products/Services: 29,39

Intelliverse (B)

888-INTFI I I www.intelliverse.com Products/Services: 50,116,33

Interact Inc. (C, D)

402-476-8786 www.iivip.com Products/Services: 50,23,95,104,29



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InterCall (D)

773-399-1600 www.intercall.com

Products/Services: 50,60,61,66,67

Interlink Communication Systems (E)

800-638-8481 www.interlinkweb.com Products/Services: 130

Inventive Labs (C, D)

866-923-5290 x104 www.voiceelements.com Products/Services: 20,119,31 Other: .NET Development Toolkit

IPgallery (C, D)

678-420-7474 www.ipgallery.com

Products/Services: 59,63,104,129,119 Other: Converged Communication

Applications

IPiFony (C)

205-443-0710 www.ipifony.com

Products/Services: 911,54,28,104,119

IPitomy Communications (C, D)

941-306-2200 x2233 www.ipitomy.com

Products/Services: 67,68,94,96,95

IQ Services (B)

612-243-5114 www.iq-services.com Products/Services: 25,27,28

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+41 44 258 88 82 www.iscoord.com Products/Services: 50,61,21,23,30

Other: Softphones & UC Clients,

including OEM

ISI Telemanagement Solutions Inc. (C. D)

847-592-3278 www.isi-info.com

Products/Services: 128.129.119.29 Other: IP Network Assessment and

Business Case

ITS - Integrated Telemanagement Services Inc. (B, D)

805-520-7020 www.itstelecom.com

Products/Services: 57,58,59,63,111



KnoahSoft (C, D)

702-722-5000 www.knoahsoft.com Products/Services: 18.40

Other: IP-Based Call Recording, Qual-

ity Monitoring

Kunnect (B)

877-586-6328 www.kunnect.com Products/Services: 70,123 Other: Hosted Call Center SAAS



Lenzi Martin Marketing

708-848-8404 http://lenzimartin.com Products/Services: 128

LG-Ericsson USA (A)

949-336-6800

www.lgericssonus.com

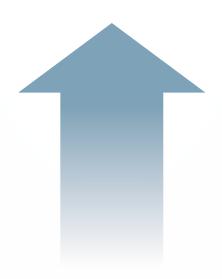
Products/Services: 94,96,36,79,80

Lightyear Network Solutions (B, D)

502-410-1530 www.lightyear.net

Products/Services: 50,103,133,74 Other: Full Array of Network Services

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LiveVox Inc. (B, D)

415-671-6060

Products/Services: 70,72,23,125,40 Other: Cloud Contact Center Platform (ACD, IVR, Dialer, CRM, and Call

Recording)



McGraw Communications (B)

212-849-2224

www.mcgrawcom.net Products/Services: 111

Media5 Corp. (A, C)

819-829-8749 x5210 www.media5corp.com

Products/Services: 61,93,94,102,79

Minuteman UPS/Para Systems Inc. (A)

972-446-7363 x226 www.minutemanups.com Products/Services: 14

Morris Communications Group LLC (B, E)

520-514-6300 morriscomgroup.com

Products/Services: 58,27,129,133,45

MRV Communications (A)

818-337-3438 www.mrv.com

Products/Services: 88,106,35,38,40 Other: Carrier Ethernet and Optical

Transport WDM

MTS (C, D)

800-745-8725 www.mtsint.com

Products/Services: 911,29,39,40 Other: Telecom Expense Management

Multi-Tech Systems Inc.

888-288-5470 www.multitech.com

Products/Services: 8,89,94,103,80



NBS (B, D)

888-474-4968 www.nbsvoice.com

Products/Services: 59,65,123,111,114

NEC Unified Solutions Inc. (A, D)

214-262-6384 www.necam.com

Products/Services: 68,82,95,134

NetComp Communications Group (B, D)

561-202-8007 www.netcompcg.com

Products/Services: 61,71,133,120,78

Netlink Technologies (D)

888-677-0712 www.netlinkweb.com Products/Services: 133

NetScout Systems Inc. (D)

800-309-4804 www.netscout.com

Products/Services: 38,39,40,43 Other: Unified Service Delivery

Management

Network Dynamics Inc. (D)

813-818-8597

www.ndiwebsite.com

Products/Services: 35,36,38,43 Other: Nationwide Network Installation

& Maintenance

Neutral Tandem (B)

866-388-7251

www.neutraltandem.com Products/Services: 114,41

New Edge Networks (A, B)

360-906-9813

www.newedgenetworks.com Products/Services: 111,38,40,46 Other: MPLS Network Provider

NexInteractive (B)

954-525-3566

www.nexinteractive.com

Other: Hosted Predictive Dialer for

Call Centers

nexMatrix Telecom (A, B)

208-697-5808

www.nexmatrix.com

Products/Services: 911,59,72,111,113

nexVortex Inc. (B)

703-439-2710

www.nexvortex.com

Products/Services: 911,50,113,115

Nitel (A, B)

773-770-1383 www.nitelusa.com

Products/Services: 133,111

Noble Systems Corp. (A)

404-851-1331 x300 www.noblesvs.com

Products/Services: 70,72,37

Node4 (B, D)

08451232222

www.node4.co.uk

Products/Services: 61,28,94,38,41

Norstar Telecom (B, D)

703-757-4005

www.norstartelecom.com

Products/Services: 64,71,95,111,78



o1 Communications (B)

888-444-1111 www.o1.com

Products/Services: 111,116

Other: Wholesale VoIP, Voice Origina-

tion and Termination

Obihai Technology (A, D)

408-890-6000 x1 www.obihai.com

Products/Services: 51,93,94,96,115

Octasic Inc. (D)

514-282-8858

www.octasic.com

Products/Services: 5,6,17,95,97 Other: Multi-core Processor for Voice

and Video over IP

One Source Networks (B)

210-679-4600

onesourcenetworks.com

Products/Services: 68,71,70,116,38

OneCall Manage (B, D)

888-228-4090 x117 onecallmanage.com

Other: Wireless Expense and

Device Management

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Optelian (A)

FoIP Solutions

770-690-9575 www.optelian.com

Products/Services: 11,18,88,99,38



Pac-West Telecomm Inc. (B)

877-626-4325 www.pacwest.com Products/Services: 111

PanTerra Networks (B, D)

408-457-8941

www.panterranetworks.com
Products/Services: 911,68,70,123,113

Patton Electronics (A) 240-912-1228

www.patton.com Products/Services: 88,92,93,94,97 Other: Multiservice Access Equipment

Phonebooth.com (B)

919-439-5401 www.phonebooth.com

Products/Services: 59,123,125,111,36

Phybridge Inc. (A, D)

905-901-3633 x104 www.phybridge.com

Products/Services: 83,94,105,108,40

PIKA Technologies Inc. (A, D)

613-280-1050 www.pikatech.com Products/Services: 2,93,94,96,95

Pipeline Telecom (B)

321-409-9971 x11 www.PipelineTelecom.com Products/Services: 64,118,113,116,117

Polaris Wireless (C)

+1 (408) 492-8900 www.polariswireless.com Products/Services: 911,75

Polycom Inc. (A)

925-924-6000 www.polycom.com Products/Services: 13,10,74

Popfax (B, D)

201-984-7837 www.popfax.com

Products/Services: 53,54,58,68,112

Positron Telecom (A)

514-345-2220 x8001 www.positrontelecom.com Products/Services: 50,68,1,2,95

Power Knot (A, D)

408-587-9333 www.powerknot.com Other: Energy Efficiency for Network Rooms

PowerNet Global (D, E)

866-895-9549

www.powernetglobal.com

Products/Services: 133,111,114,46,79

Presence Technology (C, D)

888-908-0117 x30007 www.presenceco.com Products/Services: 70,72

PSS (B, D)

800-506-7119 www.psshelp.com Products/Services: 68,97,125,31

Other: IVR/CTI Support & Maintenance



QoE Systems Inc. (A, D)

650-314-0112 www.qoesystems.com

Products/Services: 27,40 Other: Video Quality Measurement

QT Talk (B)

212-796-6179 www.QTTalk.com Products/Services: 64,117,79

QuadManage (C, D)

+972-9-7460241 www.quadmanage.com Products/Services: 21,38,39,40 Other: BSS

Quagga, a PAETEC Company (B, E)

585-413-2056 www.quagga.com

Products/Services: 82,93,95,133 Other: Headsets, Conference Phones,

Storage

QualiSystems (C, D)

877-QUALI-10 www.qualisystems.com Products/Services: 25,26,28,40

Other: Test Automation Software

Framework

QualityLogic Inc. (A, D)

805-531-9030 x135 www.qualitylogic.com

Products/Services: 58,24,25,128,40 Other: Fax Over IP Test Tools



RADVISION (A)

201-689-6300 www.radvision.com

Products/Services: 61,66,67,10,17

REDCOM

585-924-6500 www.redcom.com

Products/Services: 59,84,95,105,104

RedShift Networks (A, C)

925-242-2530

www.redshiftnetworks.com Products/Services: 90,105,108,41 Other: IP Voice, Video, Unified Communications and Collaboration Security

Redwood Technologies Ltd. (A)

+44 1344 304 344 www.redwoodtech.com

Products/Services: 97,101,104,29,31

REVE Systems (C, D)

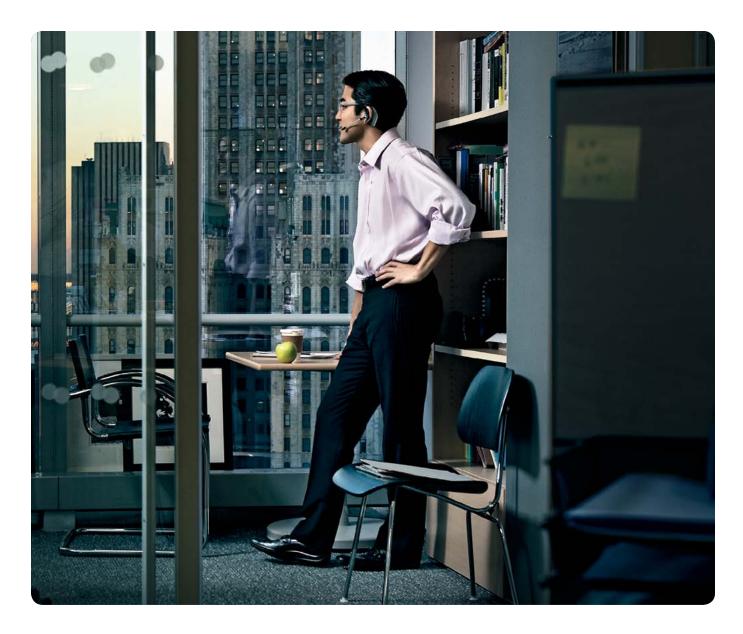
+65 6502 7880 www.revesoft.com

Products/Services: 61,95,104,29,79 Other: Mobile VoIP Applications, Callback Applications, Tunneling Products

Revolabs Inc. (A, D)

978-610-4040 www.revolabs.com Products/Services: 13,10

Other: Wireless Conference Phone



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RevX Systems (C, D)

714-675-7150 x101 http://revxsystems.com Products/Services: 29,37,39 Other: Data Mediation and Reporting



Sagemcom (C, D)

514-787-2100

www.sagemcom.com/xmediusfax Products/Services: 53,68,89,129,119

Sandy Beaches Software (C, D)

405-603-6150 x103 www.intelebill.com

Products/Services: 29,39,47

Sangoma (A)

905-474-1990 x2 www.sangoma.com

Products/Services: 2,7,94,97,44

Sansay Inc. (A)

858-754-2200 www.sansay.com

Products/Services: 20,23,105,104,127

ScreenConnect (D)

866-866-0034

www.screenconnect.com

Other: Remote Support Software

serVonic (C)

+49 8142 4799 x12 www.servonic.com

Products/Services: 53,68,89,119,31

SevOne (C)

302-319-5400 www.sevone.com

Products/Services: 38,39,40 Other: Network Performance

Management

Sidera Networks (B)

508-621-1869 www.sidera.net

Products/Services: 111,38,40,43

Siemens Communications (A, B)

800-310-6308

www.siemens-enterprise.com Products/Services: 61,62,68,23,104

Simena (A)

570-323-2001 www.simena.net

Products/Services: 24,25,26,81,101

Skype (C, D)

direct.skype.com www.skype.com

Products/Services: 61,67,68,23,79

SkyStream Broadband & Voice Integration (D)

303-304-3044

http://skystreambb.com

Products/Services: 50,63,67,68 Other: Certifed Electronic Exchange

& Archive

snom technology AG (A)

781-569-2044 www.snom.com

Products/Services: 59.23.96.95.74

Other: Manufacturer of SIP VoIP

Phones & Solutions

Sococo (C, D)

650-265-7013

www.sococo.com

Products/Services: 50,67,68,35

Sonetel (B)

857 207-3900

http://sonetel.com

Products/Services: 58,59,69,115,116

SPIRIT (C)

408-540-6033

www.spiritdsp.com

Products/Services: 16,17,18,37,79

Spiritcraft Records LLC (B)

813-695-6110

www.spiritcraftaudio.com Products/Services: 66,128

Other: Custom Message/Music-On-

Hold, Telephone Advertising

Squire Technologies (A, D)

+44 1305 757314

www.squire-technologies.co.uk Products/Services: 84,97,105,104,44 Other: Media Gateway Controller

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www.stage2networks.com

Products/Services: 23,106,95,100,111

Star2Star Communications (A, B)

941-234-0001 x133 www.star2star.com

Products/Services: 95,115,116

StarView Solutions (B, D)

512-949-5707

www.starviewsolutions.com

Products/Services: 51,23,95,100,116

Stoke Inc. (A)

408-855-2900 x2943

http://stoke.com

Products/Services: 84,88,92,34

Sun Telephone & Electronics Corp. (A, B)

781-289-4337

Products/Services: 12,15,94,96,95

Sunrise Telecom (A)

408-363-8000

www.sunrisetelecom.com Products/Services: 25

Surf Communication Solutions

508-682-2789

www.surfsolutions.com

Products/Services: 1,2,5,6

SVK Software Corp. (C, D)

416-273-1639

www.svksoftware.com

Products/Services: 64,21,23,94,29

Syntellect (C, D)

800-788-9733

www.svntellect.com

Products/Services: 70,72,23,125,31

System Engineering International

301-694-9601 x214 www.seipower.com

Products/Services: 14

Other: Mid Span Power over Ethernet



Talari Networks (A)

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Target Distributing (E)

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Products/Services: 10,94,96,95,130

Other: Plantronics & Jabra Headsets

Tekelec (A)

888-628-5521 www.tekelec.com

Products/Services: 105,38,39,40,44

Tekno Telecom LLC (A)

630-579-9800 x203 www.teknotelecom.com

Products/Services: 28,29,38,40,44

Tel-Assist (B)

888-446-8854 http://telassist.com Products/Services: 56

Other: 1st Level Help Desk Service

Telarus (E)

801-790-4902 www.Telarus.com

Products/Services: 50,71,132,133,48

Other: Master Agent

Telcentris (B, D)

866-612-8647 www.telcentris.com

Products/Services: 59,63,68,115,36

Other: Hosted VoIP

Telco Depot (A, E)

800-390-1200

www.TelcoDepot.com

Products/Services: 95,104,130,133,115

TelcoBridges (A)

450-655-8993

www.telcobridges.com

Products/Services: 139,7,84,97,44

Telecom Brokerage Inc. (D, E)

602-361-5095 www.tbicom.com

Products/Services: 111,113,114,116,77

Other: Master Agent

Telehouse America (B, D)

718-355-2500 www.telehouse.com Products/Services: 114,41

Telekenex (B, D)

415-287-1208 x1208 www.telekenex.com

Products/Services: 63,23,111,40

Other: Hosted VoIP

TelePacific Communications (B)

800-399-4925

www.telepacific.com

Products/Services: 71,111,114,38,48

Telesoft Technologies (A)

+44 1258 480 880

www.telesoft-technologies.com Products/Services: 106.97.31.44

Telesphere (B, D)

480-385-7000

www.telesphere.com

Products/Services: 59,68,70,120,123

Telesphere Networks Ltd. (A, B)

303-586-9703

www.telesphere.com

Products/Services: 51,63,68,71,70

TeleTech (D)

303-397-8958 www.teletech.com

Products/Services: 56,70,72,33,47

Teligent Telecom (C)

+46733117020 www.teligent.se

Products/Services: 63,82,129,118,44

TelOnline Corp. (C, E)

954-894-6181 x2105 www.telonlinecorp.com

Products/Services: 70,95,130,134,31

Telrex (C)

425-827-6156 x2 www.telrex.com

Products/Services: 119

Other: IP Call Recording, Workforce Management, Quality Monitoring

Teltronics Inc. (A)

941-753-5000 x7725 www.teltronics.com

Products/Services: 23,27,95,100,43

Telx (A)

212-480-3300 www.telx.com

Products/Services: 131

Other: Data Center & Colocation

The Buzz Killers (A)

888-966-2899

www.thebuzzkillers.com Products/Services: 50.37

Other: Mobile Telephone Accessory

The Commpliance Group Inc. (C, D)

703-714-1308

www.commpliancegroup.com Products/Services: 128.29

Other: Outsourced Regulatory & Tax

Compliance Services

The Connection (D)

800-883-5777

www.the-connection.com

Products/Services: 70

Other: Outsourced Contact Center, Call Center, Technical Support Call Center

The Taylor Reach Group Inc.

877-979-8692 x200

www.thetavlorreachgroup.com

Products/Services: 128

Thinking Phone Networks (B)

617-649-1350

www.thinkingphones.com

Products/Services: 118.121.123.116

Tigerpaw Software (C)

402-592-4544

www.tigerpawsoftware.com Products/Services: 118

Other: CRM Software

Tinet (B)

+39 070 46011 www.tinet.net

Products/Services: 114,38,40

Tone Software Corp. (C, D)

714-991-9460 www.tonesoft.com

Products/Services: 27,28,38,40,43

Topex (A, D)

0040214083900 www.topex.ro

Products/Services: 95,97,103,105,104

Toshiba America Information Systems, Telecom Systems Div. (A)

949-583-3700

www.telecom.toshiba.com Products/Services: 63,68,10,95 Other: Pure IP System, Wireless IP Phones, FeatureFlex, Digital/Soft-

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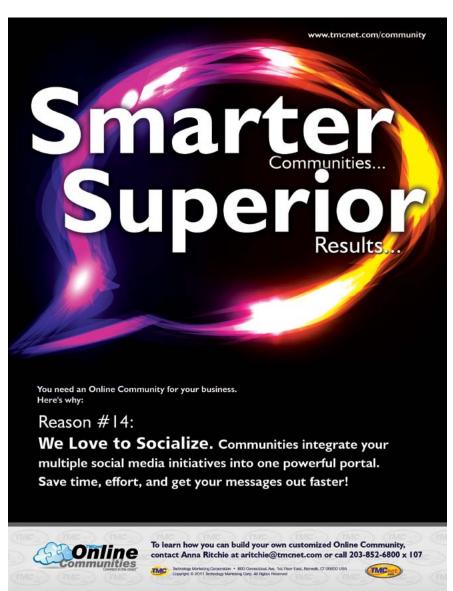
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The winners represent companies whose business support systems and operations support systems that have shown success in their clients' businesses. These companies have created exceptional systems for supporting internal network operations, including provisioning and configuration or customer support solutions.

he Third Annual INTERNET TELEPHONY TEM Excellence Awards honor those business that exhibit excellence in supporting their customers' initiatives to optimize costs through telecom expense management products and solutions.

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By Paula Bernier

The Broadband Communications Revolution – Let's Talk

was sitting in a coffee shop the other day feeling the effects of my third coffee that morning. As I sat and watched the crowd I realized that most of my fellow caffeine junkies sat silently, totally engrossed with their smartphones or tablets, and even those that were not in use were placed strategically on the table in front of them. In my caffeine-induced haze I thought to myself: "Has the smartphone adapted to society, or has society adapted to the smartphone?" I recently sat down with Pascal Doré, the mobility product manager at Media5 Corp., to discuss how the smartphone has become such an integral part of today's world.

IT: As the developer of the Media5-fone, how do you know where technology is going?

PD: It is all about the user's experience with the mobile device. If users have a pleasant experience then they will use it again; if not, then they won't. Now, although this sounds overly simple it actually is not. At Media5 we spend countless hours developing the technology involved in not only making the user's experience pleasant today, but also six, twelve months down the road. We also work with a number of service provider and technology partners to ensure that our solutions meet the market's demands.

IT: So how do Media5 and its partners enhance the user's experience?

PD: When we speak about the user's experience we often also refer to RCS-e, or Rich Communication Suite Ecosystem, which is an industry-wide effort to provide mobile service providers with a feature-rich portfolio of services that will enhance their end users' communications experience by making it easy and fun. RCS-e is based on the use across networks of IP multimedia subsystem (IMS) technology, an architectural framework for delivering IP multimedia services.

The key to RCS-e is the Enhanced Address Book, which enables users to initiate communications including instant messaging, VoIP and video calls, and allows users to integrate multimedia functions, such as file or image sharing. The Enhanced Address Book also provides presence and enriched presence with location and mood.

During a call users may also need to do multiple functions at the same time that they are speaking, like exchange different types of content, such as video or photos.

IT: What is the role of the service providers in all this?

PD: The market is such now that service providers need to continually differentiate themselves by providing their users with key value-added functionalities for seamless rich communication services anywhere, at any time, on any device in order to combat competitive pressures from over-the-top players.

IT: Continuing on the subject of user experience, where do you see Media5 heading in the short term?

PD: We are continuing to develop the Media5-fone softclient application portfolio, evolving it as technology and lifestyles change. We are excited to be near completion of a desktop and a tablet version of the fone, as well as a version for the Black-Berry operating system.

The feature set for the Media5-fone is also going through some critical improvements. To keep in line with RCS-e initiatives, we are enhancing our feature set with presence and IM. This will enable service providers to further augment their subscribers' footprint by providing compelling new product offerings that are in tune with today's modern communication needs. Service providers can now also target SOHO, families and be confident that since the Media5-fone meets RCS-e compliance, it delivers an enhanced communication experience that is interoperable and compatible industry wide. IT

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By Erik Linask

The Data Experience

As I enjoyed my children's first trip to Walt Disney World recently, I couldn't help but notice the number of mobile devices being used in the parks for a

variety of reasons, from uploading photos to Facebook and Twitter, to finding information about attractions and other activities at the parks using Disney's mobile app (which, incidentally, became quite useful in planning each day's activities).

What I also couldn't help but notice was the amazing variation in network response speed. In some instances, on Verizon's LTE network, access was almost instantaneous, while out of LTE range, 3G speeds were almost painful, and quite frustrating.

It reminded me of a number of conversations I had at TM Forum's Management World America's event, focused on the need operators have to effectively manage subscriber experience in order to create sticker services and build subscriber loyalty.

"With all the devices coming onto networks and sending and requesting information, it will create demand orders of a magnitude greater than what has ever been experienced previously," says Oliver Suard, marketing director at Comptel. "It's creating a scalability problem."

Network operators have a tremendous amount of data about their subscribers at their disposal – much more than simply what services they purchase – but most have not yet figured out just how to turn that data into useful, actionable information.

"We are seeing a data explosion, but operators are treating the data as just data, and are not making that data useful," adds Suard. "They have to be able to react quickly to the information in their data – instantly."

For instance, operators can tell when subscribers experience a higher than normal rate of dropped calls. The question is, what do they do with that information? Perhaps they could proactively send a message to their customer, letting him know they are aware of the recent difficulties, and offering 60 additional minutes as a gesture of good faith.

They also know when data speeds are slow, which should be a clear indication they might need to build out additional infrastructure in high-activity areas, such as amusement parks, where usage is only going to continue to grow exponentially. Again, for operators, there is, at the very least, an opportunity to acknowledge the problem and let subscribers know they are taking steps to resolve it.

This goes well beyond the CRM aspect of operator businesses – it's a precursor to direct customer service activities. HP

recognizes it and is looking at customer loyalty in a broad sense from an actionable intelligence perspective, combining subscriber data management with analytics to create a new view of the customer experience.

Through its Customer Experience Assurance program, launched this past May, HP provides visibility into individual user experiences based on number of difference dimensions and associating them with what's happening in the network itself at the same time.

According to Sigge Andreasson, marketing manager, HP Communications and Media Solutions, Actionable Customer Intelligence needs to become a key element of overall customer management. At the heart is a customer analytics engine that combines subscriber data with usage and network information to create proposed action plans to help not only drive loyalty but increase ARPU.

A major part of the problem is operators have traditionally not had to worry about the subscriber experience like they do today. As long as calls were able to be placed, they were safe. But in the new world of data, subscribers expect more and operators must take appropriate measures to meet those expectations and avoid being just a dumb pipe. Regardless of how big their pipes are, operators are finding out quickly that subscribers come to them, not to application vendors, when they experience problems — regardless of where the problems occur — and expect the operators to be able to address their concerns quickly and effectively.

"Accessing content how and when they want it is becoming critical to users," explains Laurence Alexander, vice president of marketing, and Alisha Goff, director of business communications, at Tektronix. "It's about optimizing the network and, in particular, optimizing it for each unique experience,"

In order for operators to cope with unique subscriber expectations and usage patterns, they are going to have to find a way to handle a distinct paradox in user behavior, according to Steve Shoaff, CEO, UnboundID.

Do users care about data privacy? Yes. Do they get patently upset when their data is not secure? Yes. Would they trade privacy for convenience? Yes.

So, operators must balance privacy and security expectations — which vary by user — with their demand for convenience, in order to enhance the overall user experience. In addition, they must still find ways to cope with the data overload in their networks. Only by deciphering the massive amounts of user and network data they already collect and turning that into actionable intelligence, including a proper understanding of where and how to build out infrastructure — including Wi-Fi offload or small cell deployments — will they be able to steer user experience positively, in the Magic Kingdom and every other center of user activity.



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