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Changes in telecom traffic

## 5G Fixed

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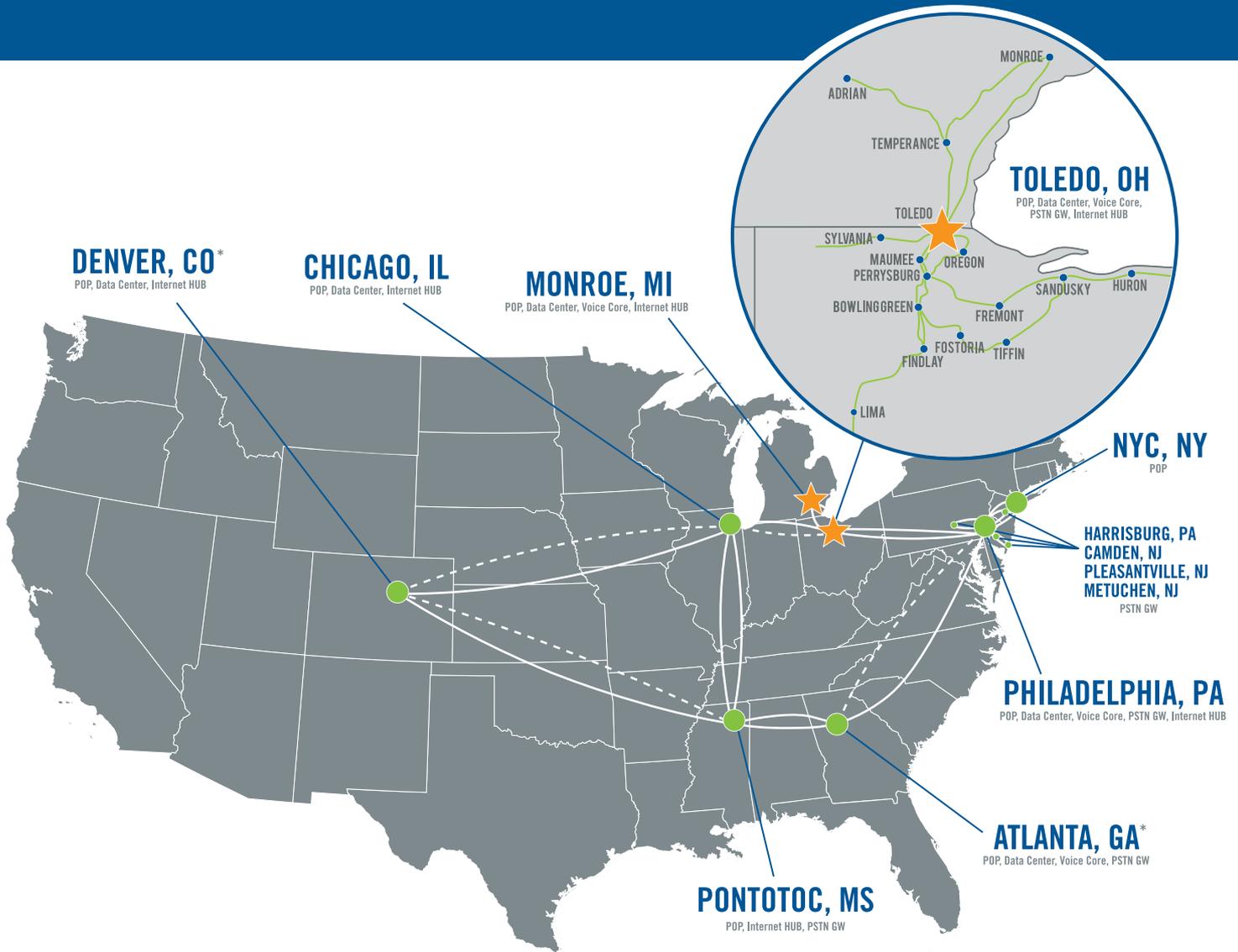
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# 'Lift-and-Shift' to Lift Cloud Adoption

Traditionally, when a company considered a "lift and shift" strategy for moving its legacy applications and processes to the cloud, the general advice has been: don't. That's largely because lift and shift, which is essentially porting internal applications and data resources from on-premises data centers to cloud infrastructure with little to no changes to the existing code, is more akin to a bandage than it is the eventual "required surgery" of rewriting code for the cloud.

Sure, lift and shift can be the easiest and cheapest way to migrate applications and processes to the cloud, but reworking or redeveloping code specifically for the cloud is really the only way to take full advantage of the cloud's inherent benefits, including any eventual cost savings.

On the flip side, the cost and complexity of a rewrite surgery has proven a barrier to cloud adoption, both for small and mid-sized firms down Main Street and enterprises that have dipped their toes in the cloud-computing waters with secondary, peripheral IT projects but have refrained from transitioning core applications and processes. Quite simply, recreating every internal system to a cloud-native counterpart can be costly, disruptive and slow, and that's assuming one is able to find and hire people with the appropriate skills required for developing, deploying, maintaining and enhancing cloud applications.

Fortunately, in 2017, "lift-and-shift is becoming more viable," say researchers at Forrester. According to the research firm, emerging migration vendors have now started to deliver cheaper, lighter-weight workload migration tools.

"CloudEndure and CloudVelox, just to mention two examples, both offer much-improved migration solutions," say Forrester researchers. At the same time, a growing list of migration services from megacloud providers such as AWS, IBM and Microsoft, "means the 'migrate first, transform later, when it makes sense,' sentiment is growing."

That's significant because improved lift and shift tools make cloud migration easier and therefore could accelerate the rate of cloud adoption and usage, says Forrester, if nowhere else, at least in terms of low cost for bulk application migration.

Even so, solution partners should recommend lift and shift with caution. As Forrester points out, economic and performance benefits will likely be limited for those that haven't redesigned applications and processes specifically to take advantage of a cloud platform architecture.

"Lift-and-shift or not, at some point, customers still need to decide whether to undertake substantial renovation for those applications that require them," warn Forrester researchers. "Pursue selective lift-and-shift, but if you adopt it too liberally, you'll limit the economic benefits you can expect from cloud migration."




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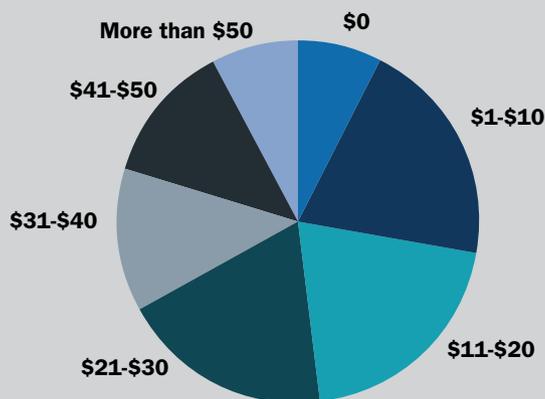
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## Home Sales

Will smart home owners ever spend enough on tech to make a residential channel partner business model viable? We'll, not yet, but Parks Associates' research shows 50 percent of U.S. broadband households consider \$20 or more per month for a comprehensive smart home service to be a good value. More than a quarter of respondents easily could justify \$30 or more per month.

### Monthly Recurring Fees: Consumer Value and Pricing for a Comprehensive Smart Home System

U.S. Broadband Households



Source: Parks Associates

## Humans Enhanced or Inhibited?

Chip-enhanced humans may seem like the stuff of science fiction, if not a George Orwell novel, but lawmakers in Nevada recently introduced a bill that would make it a felony to require someone to be implanted with the type of chips and sensors being embedded into household appliance, toys and pets.



According to Nevada state senator Becky Harris, such technology already is used by companies in Belgium and Sweden to identify employees. "It's done under the idea to unlock doors or use copy machines or maybe pay for lunch, you could use your hand," she said. The tiny chips, about the size of a grain of rice, can be easily implanted under the skin via kits that cost about \$100 and include a tag and an injection tool, Harris said.

"As I began to look into the issue, I was surprised with the merit that I believe the issue warrants," Harris told a Senate Judiciary Committee.

Reportedly, hundreds of Australians already have turned themselves in for chip implants, which then allows them to unlock doors, log into computers or turn lights on and off with the wave of a hand. The *Wall Street Journal* has reported an estimated 30,000 to 50,000 chips have been sold globally.

## A New Way to Channel Sales

When you're a channel partner, managing the information around prospects and clients is just as much a part of the job as giving the pitch itself. But all those hours, onerously entering notes from meetings and contact info and reminders into the CRM system from the office – booooooring.

Fortunately, for those with Android smart watches, that task just got easier and way more fun, with the ForceManager multi-platform CRM.

ForceManager helps salespeople easily log data about their prospects and clients, which can then be managed from any device. This includes computers and tablets but also smart watches. Users can check

into a meeting from a smart watch, and use Google's voice recognition system to dictate short notes, which appear in an instant within the dashboard, which is accessible via the cloud on computers, tablets, phones etc. It's essentially the James Bond-ification of CRM.

"We will definitely see a continued migration over to mobile as more and more companies turn to cloud-based [CRM] systems," said Victor Sanchez, director, inside sales, ForceManager, speaking to *CIO*. "Mobile CRM provides reps with access to client data whenever and wherever they need it. With mobile, reps simply pull out their device, record their sales visit details and slide it back in their pocket. Done."

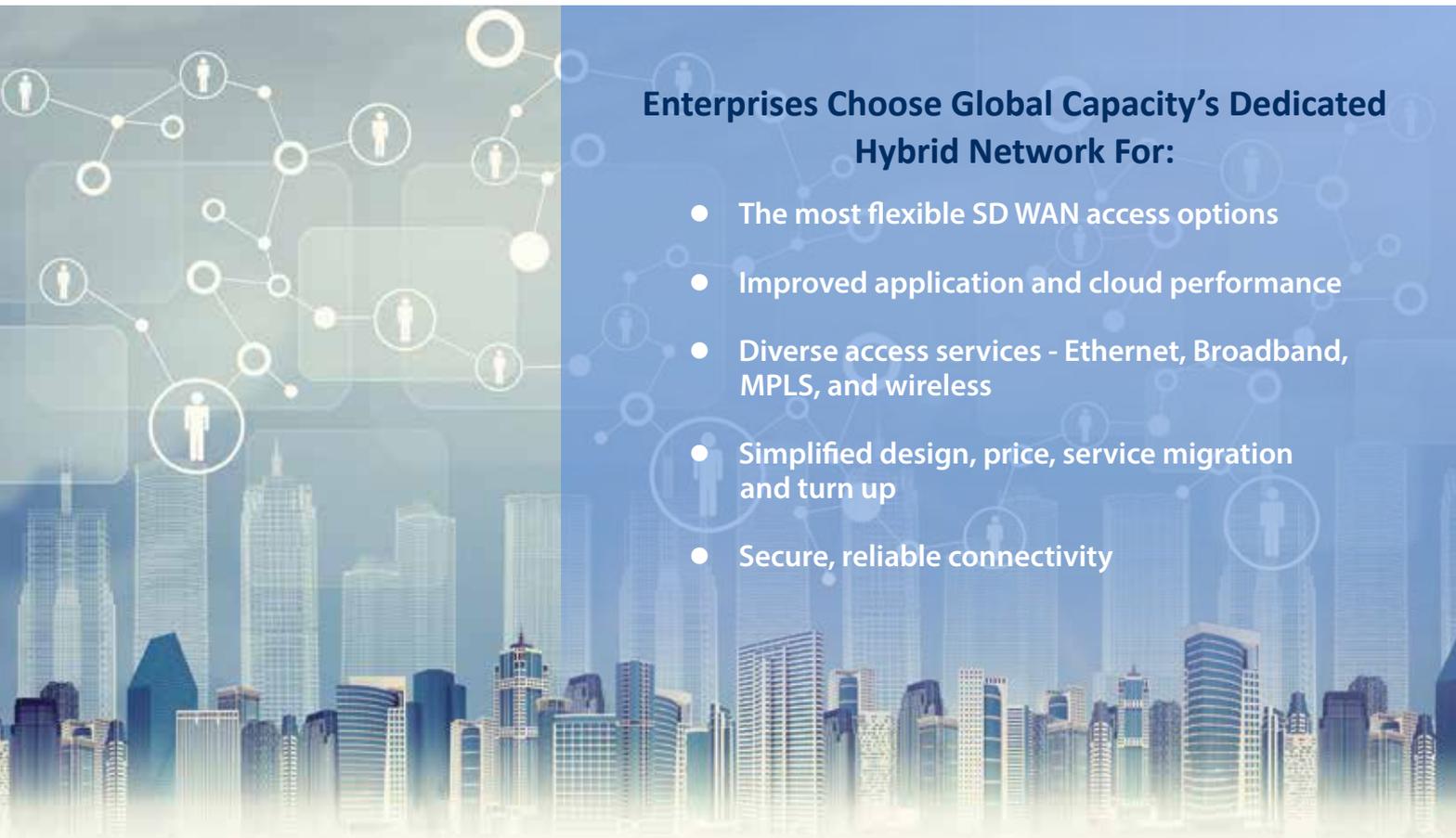
# 30

Percent of mid-market firms reporting that they are currently using IoT, according to Techaisle surveys. Among small businesses, 18% say they have deployed IoT in one way or another.



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## Nokia's Iconic 'Candybar' Phone is Back

You know the old saying: Everything old is new again. It's a phrase one doesn't really expect to be applied to technology, let alone mobile technology, unless you're a Brooklyn hipster trying to make an old Moto RAZR look vintage.



Nokia nostalgia: remember Snake?

Nokia, which up until 2008 was the largest and most successful mobile phone maker in the world, has decided to harken back to its pre-iPhone heyday to reboot the iconic 3310 "candybar" phone. Billing it as a "modern classic, reimagined," the new version has battery standby for up to a month, four colors to choose from and, yes, it brings back the classic mobile game, Snake.

It has a 2-megapixel camera, but the keeping-up-with-the-Jones aspects stop there. This is a device that is firmly in throwback mode. It has 2G connectivity for calling and texting, FM radio and MP3 player for music; and just 16 MB of storage (plus a MicroSD card slot with support for up to 32 GB). It does have an all-new UI with nods to the original and that awesome battery life, with up to 22 hours talk time. But it's a feature phone – pretty but certainly not smart, and built to appeal to the nostalgic among us. It has a modern price tag though. It goes for around \$500 a pop.

## Cadillacs Chat Among Themselves

Cadillac has announced its 2017 CTS sedan will be the first car in the U.S. market to include a vehicle-to-vehicle (V2V) communication system as a standard feature – meaning that the luxury rides can chat amongst themselves about road conditions and more.

The cars are built to swap traffic, construction and other info with other connected cars in their vicinity, which in turn helps drivers identify and avoid potential pitfalls even before reaching the trouble spots on the road. It uses Dedicated Short-Range Communications (DSRC) and GPS to share road data with other cars, and can handle 1,000 messages per second from vehicles within a range of about 980 feet.

There are some safety features baked in, too. It can alert drivers when connected cars nearby "break hard" to avoid obstacles; when there's a disabled vehicle along the route; and when a connected car uses traction control or deploys its anti-lock brakes, signaling potentially slippery road conditions.

While this is a consumer play for now, V2V is the first step on the journey to full V2X – eventually there will be vehicle-to-vehicle, vehicle-to-pedestrian, vehicle-to-smart city, vehicle-to-house and other types of information-sharing – with big ramifications when it comes to the market for managed services, security, broadband, cloud and more. Imagine a mobile office app that interacts with the car. It may seem very Knight Rider, but the rubber is starting to meet the road on this one.



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# A Brain in a Box

## WiredIQ's high IQ edge device

Smart edge devices are increasingly important to increasingly complex enterprise LANs and WANs, and one would be hard pressed to find a smarter edge appliance (or a cooler-looking box) than the new Brain Box by WiredIQ.

Led by CEO Joe Rhem, who founded unified communications company Star2Star in the early 2000s after years working as a principal architect of wireless technologies at Computer Associates, WiredIQ provides an impressive array of managed IT and communications services all controlled from a single intelligent edge appliance, dubbed the Brain Box, which connects the customer premises to the cloud via multiple broadband points.

Presenting at the recent CVx and IT EXPO event in Fort Lauderdale, Fla., Rhem's demo of the Brain Box started with the all-important discussion of security issues.

During his years at CA and Star2Star, Rhem noted how SMBs and distributed enterprises that lacked large IT departments struggled with ever-evolving network security threats,

including compliance of PCI and HIPAA. The recent changes brought by PCI 3.0, for instance, require all types of monitoring, testing and audits that,

### WiredIQ Monthly Recurring Estimates, 20-Person Office

Voice	\$200
Bandwidth	\$150
SD-WAN router, firewall, SDN	\$200
Surveillance	\$50
Burglar alarm	\$35
Light & building control	\$50
Device IT management (Apple, PC)	\$1,000
Back-up/Recovery	\$300

Source: WiredIQ

quite frankly, put lots of organizations out of compliance or at risk of being liable. The Brain Box offers a hybrid approach to managed network secu-

urity, combining the functionality of an edge device and the power of cloud. The result is template-driven security that can be managed across multiple sites, including designating authority and keeping an audit trail across distributed location – new requirements under PCI 3.0.

“Security as a service also gives you the benefit of a turnkey solution that's been pre-configured for your type of industry,” said Rhem.

From one big buzz segment to the next, the Brain Box takes the same hybrid approach to providing software-defined networking. It supports three different WAN connections – one of which can be cellular for a back-up broadband connection – allows for public, private or split tunnel VPNs and the prioritizing of traffic, while any WAN connection can be designated as a passive or active automatic failover for any other WAN connection.

Then there's telecom edge management. In addition to communications services offered by WiredIQ, such as SIP trunking and UCaaS (powered by Star2Star), the Brain Box can monitor existing phone systems. What's more, the Brain Box allows a local phone system repair company to essentially access a customer's phone system from their own facility to execute MACDs without rolling a truck, saving the end user money.

But wait, there's more. Within the appliance are also several types of backup, along with automatic failover, for a complete business continuity solution. WiredIQ's appliance also handles IP-based premises security, to deal with those alarms that used to run on the POTS line; video surveillance, so all security, across numerous locations, can be managed on one interface; and device management, for the sprawling bits of hardware. The Brain Box solution can even control lights and AC across disparate locations.

WiredIQ works exclusively through the channel, offering resellers and white labelers with a healthy pie of recurring revenue services (about \$2,300 per 20-person office) on top of device sales. Sounds pretty smart. □

# Managed Wireless WAN Failover as a Service

## Scale your MSP Business with Fully Managed LTE Failover

By D'Andre Ladson, Director Product Marketing of BEC Technologies, Inc

It comes as no surprise that the Internet has revolutionized the way companies conduct business. Internet connectivity is such an integral part of business operations today that any amount of downtime is devastating impacting everything from revenues, reputation and ultimately business viability. As the reliance on internet connectivity grows so does the cost of downtime and the importance of a business continuity solution for unexpected network connection outages.

"According to industry surveys, the average cost of downtime is \$5,600 per minute, which extrapolates to well

built fully integrated platform that's rapidly deployable, cost effective and remotely manageable. The right solution will not only address the clients' need but also benefit the MSPs' bottom line and lower the total cost of ownership (TCO),

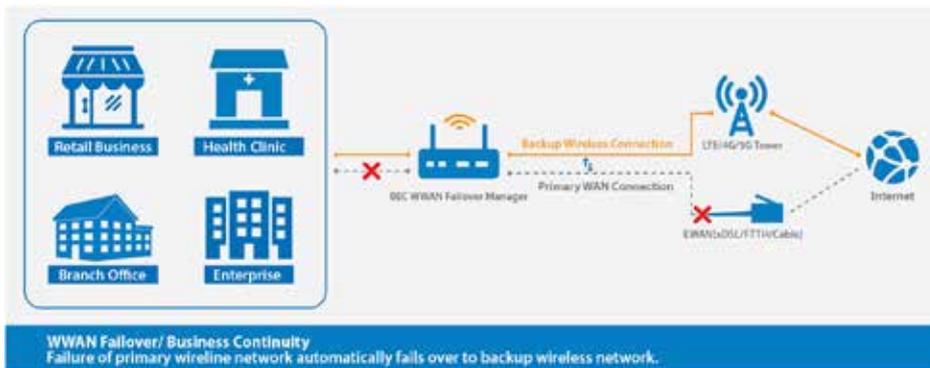
solution should "failback" to the primary connection. Traditional business continuity solutions were using either a secondary wired connection that matching the primary or older wired technologies such as analog, ISDN, T1/T3. Secondary wired connections were never effective, because the wires were typically apart of the same bundle from the central office or point of presence (PoP) as the primary connection.

No wired connection can deliver 100% uptime. Wireless WAN, in particular 4G/LTE has become the technology of choice for business continuity. It's convenient, cost-effective and robust enough to be

built fully integrated platform that's rapidly deployable, cost effective and remotely manageable. The right solution will not only address the clients' need but also benefit the MSPs' bottom line and lower the total cost of ownership (TCO),

### Key Attributes of a Managed WWAN Failover Solution

- Multi-Carrier 4G/LTE support Certified devices across all major carriers
- Multi-WAN Interface Connectivity EWAN, 4G/LTE or Dual Radio/Carrier 4G/LTE; Select the best platform for the application
- Flexible Network Configuration Business continuity is not one size fits all, the solution should support various scenarios, such as IP-Pass Through, VPN failover, OOBM, VRRP
- Proactive Alerts with Notifications Multi-level responses configurable by function, type and thresholds
- Cloud Managed Enabling rapid deployment, remote provisioning, real-time device monitoring, troubleshooting and maintenance from a single centralized location.



"Every managed service provider wants a competitive edge. As competition increases, the ability to create value has become an absolute requirement"

over \$300K per hour. These figures are shocking, yet many businesses do not have a business continuity solution in place to protect their operations for loss and disruption when it happens."

No business is safe from network failure, whether it's POS transactions and credit card processing, cloud-based SaaS, productivity applications or branch-office connections, always-on connectivity is crucial for business operations. The goal of a business continuity solution is to minimize potential network disruptions and keep the business running. Simply stated, a business continuity solution should sense when a primary WAN connection has failed and seamlessly "failover" to a backup internet connection. When the primary connection is restored, the

used for the primary connection. 4G/LTE service is available virtually everywhere and offers wireless speeds faster than most home wired broadband services, which is more than adequate to keep a business running when disruptions occur. The advantages of 4G/LTE extend to support mobile, pop-up stores, temporary locations and other events that need connectivity.

Managed Wireless WAN Failover is a unique opportunity for MSPs to create value, differentiate service offering and accelerate profitable growth for their business. This, of course, assumes that the MSP selects the right vendor's solution. Successfully implementing a Managed Wireless WAN Business Continuity solution requires a purpose-

### Article Sponsored By: BEC Technologies, Inc

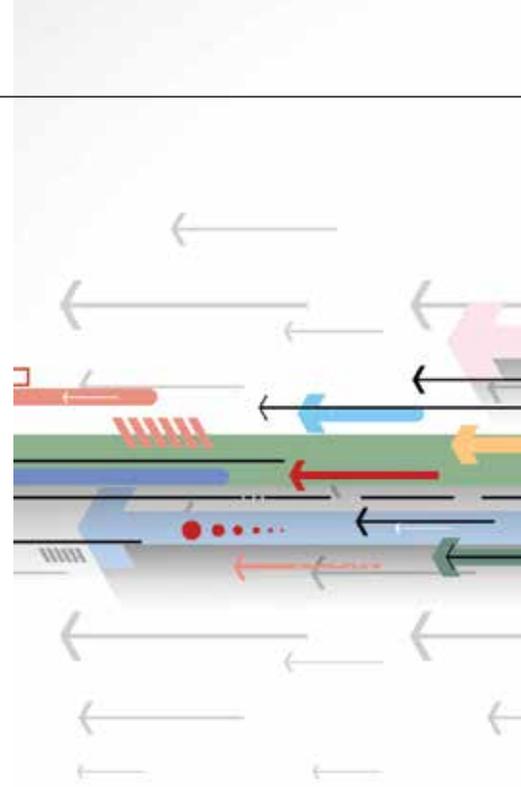
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# Open Access



## Virtualization is the next wave for networks, both core and access

By Gary Kim

The Federal Communications Commission in February 2017 authorized a new air interface and access protocol called LTE-U (Long Term Evolution-Unlicensed).

That is but one new way the FCC believes spectrum access in the mobile and other industries should become “virtualized,” in the sense that devices and services can use physical assets “across networks,” with less constraint based on the “ownership” of access assets.

That is the access network’s version of the broader virtualization of services and apps from physical layer networks.

In some ways, in addition to virtualization, device access also is being “converged” (integrated) more directly than in the recent past, when smartphones have universally acquired the ability to connect to Wi-Fi.

A better illustration of how access virtualization will work in the future is the way Google Fi uses any one of three networks to provide smartphone access: Wi-Fi or the Sprint network or the T-Mobile U.S. network, whichever provides the best signal at a particular moment.

Another example of the coming virtualization of access: the FCC has authorized spectrum sharing between licensed spectrum holders and other commercial entities in the 3.5 GHz band. The Citizens Broadband Radio Service (CBRS) creates a three-tier licensing approach. Though the actual license holder (a government entity) retains priority access to the spectrum when it is needed, secondary licenses can be created for areas where there

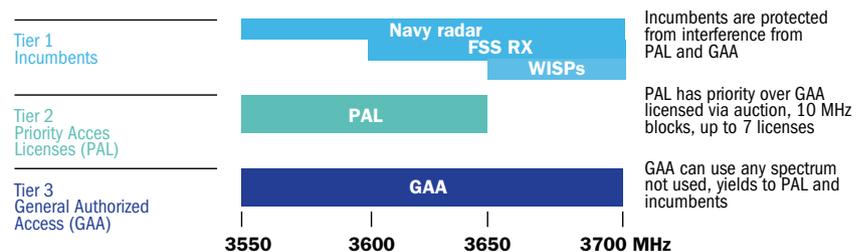
is surplus capacity, or the capacity actually is not being used at all.

Where capacity remains even after the primary and secondary licensees are concerned, the surplus can be used on a best-effort basis by devices (on the Wi-Fi pattern).

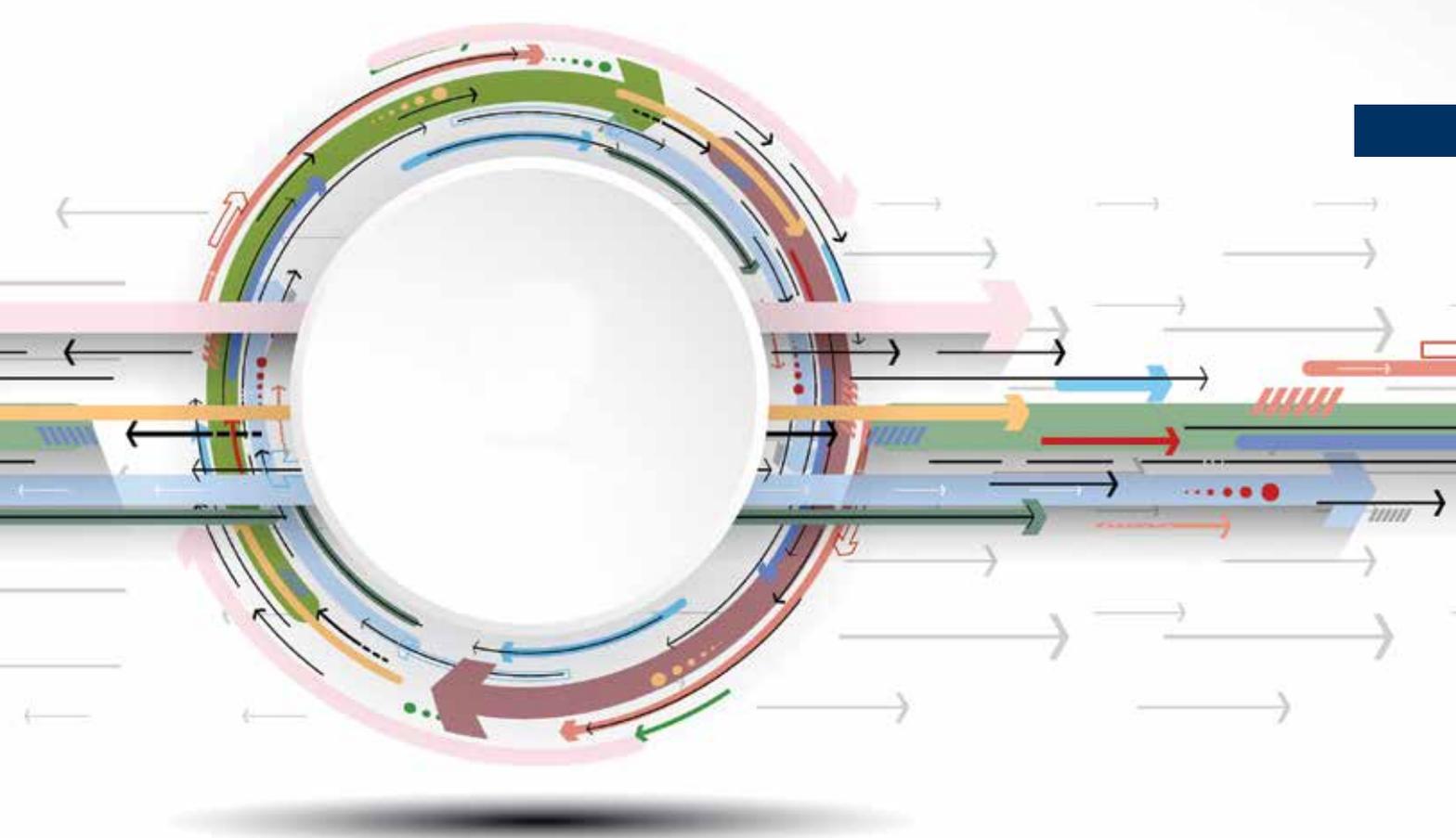
There also are new protocols that allow entities to create 4G mobile networks using only unlicensed spectrum, such as Qualcomm’s MulteFire. In such cases, 5G networks might be

### CBRS Introduces a 3-Tiered Shared Spectrum

Opens up 150 MHz spectrum while incumbents are still using it



Source: Qualcomm



supported completely by Wi-Fi and other unlicensed spectrum, without requiring licensed spectrum access.

Coming 5G networks also will make available device access that is virtual in another sense, automatically using frequency agile radios to select from a wide range of available frequencies to support any session, including licensed and unlicensed, plus shared spectrum.

All of those approaches virtualize the access network in one or more ways. Virtualization might also be possible for in-building access infrastructure that could be shared by any number of suppliers, using a “neutral host” concept.

Ruckus Wireless, for example, believes its OpenG platform would allow any number of providers access to a single indoor access platform using shared 3.5 GHz spectrum, avoiding the need to duplicate “outdoor” mobile infrastructure by each carrier when inside buildings.

Distributed antenna systems and traditional small cells can address those indoor environments, but arguably are more costly than a neutral-host solution, assuming competitors would agree to use it. The point is that such neutral-host systems also represent one more way access virtualization could happen.

But LTE-U is among the first efforts to virtualize access “at scale.” Never before tried, LTE-U allows LTE network operators to use some portions of the 5 GHz Wi-Fi spectrum as though it were simply part of the licensed spectrum used by LTE.

LTE-U allows mobile operators to use some unused Wi-Fi spectrum in the U-NII-1 band (5150-5250 MHz) and U-NII-3 band (5725-5850 MHz) as those it were part of a licensed spectrum asset.

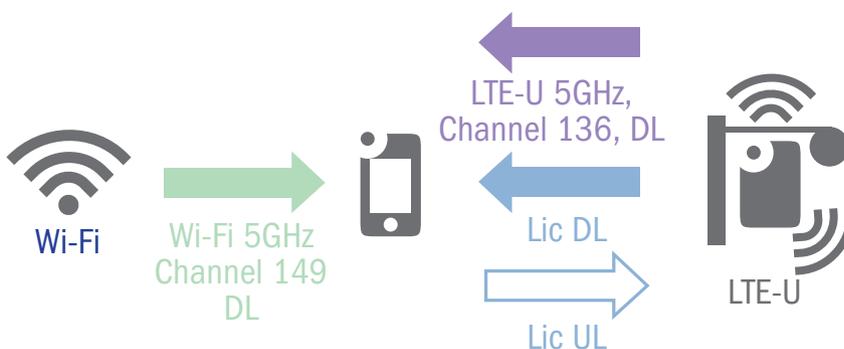
Some devices support LTE-U in hardware, including those using Qualcomm’s X16 LTE modem (Snapdragon 820 chip and newer designs). That in-

cludes smartphones such as the Galaxy S7/S7 Edge, LG V20, and Google Pixel. Existing T-Mobile phones probably will need a software update to enable LTE-U functionality.

Verizon has been working toward LTE-U since at least 2015. And T-Mobile U.S. has announced deployment of LTE-U capabilities in its LTE network, following FCC certification of equipment from Ericsson and Nokia.

T-Mobile U.S. expects to begin commercial LTE-U functions in the spring of 2017. Basically, LTE-U gives T-Mobile U.S. customers the ability to bond some Wi-Fi spectrum (20 MHz) with

### LTE-U Leverages Wi-Fi Spectrum



Source: Nokia Networks

T-Mobile's licensed spectrum, while maintaining LTE sessions.

"LTE-U allows wireless providers to deliver mobile data traffic using unlicensed spectrum while sharing the road, so to speak, with Wi-Fi," said FCC Chairman Ajit Pai.

is a feature of smartphone use of Wi-Fi.

In the past, devices could use either Wi-Fi or the mobile network, or both, in turn. With LTE-U, devices simply use all the authorized capacity as one seamless resource. In other words, both mobile licensed spectrum assets and

pin the more-flexible applications and use cases 5G will enable.

Some potential applications – such as connected car and autonomous vehicles – will require very-low-latency from the network, beyond that provided by 2G, 3G or 4G. Other apps might require lots of bandwidth, as for vision capabilities (traffic cameras, vehicle cameras, visual security apps, medical diagnosis). Many other sensor apps, on the other hand, will not use much bandwidth at all (kilobits per second, infrequently), and might be located in hard-to-reach places.

Virtualizing the network helps because it will be possible to affordably and quickly create specialized sub-networks that have the precise sets of features needed by the different apps, users and industries.

Network slicing is a fundamental building block of the coming 5G network, and essentially offers the hope of a flexible network that can be reconfigured in many ways, to "tune" the sub-network for the specific requirements of application, device and network support cases. If latency, but not bandwidth, is the requirement, a network slice can be created to sort that requirement set.

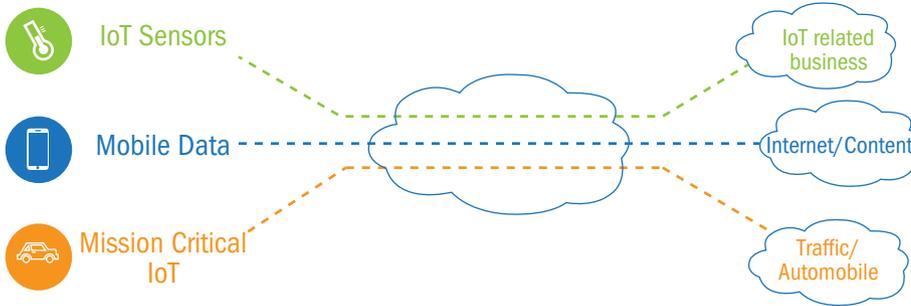
If the requirement is low latency and visual bandwidth, a different slice can be provisioned, while if moderate latency and moderate bandwidth are the requirements, that can be supported as well. Likewise, it should be possible to tune the network over time, to support demand "hot spots" during a given day, for example.

Only a virtualized network will be flexible enough, and controllable enough, to support network slicing.

So whether at the level of mobile phone access to core network transport and features, virtualization is becoming an architectural principle following the earlier virtualization of apps and services from physical layer access and transport.

Now, that trend is spreading to more parts of the business and will help reshape business models. The only issue is "how" the changes will be seen. □

**5G Network**



Source: Grandmetric

Some will quickly point out that smartphones and other computing devices have been able to use Wi-Fi in the past, so some degree of virtualization already has become commonplace. What is new, with LTE-U, is that the network and devices will treat some specific blocks of Wi-Fi spectrum as though they are part of the capacity the phones can use when on the mobile network.

Think of the concept of "convergence" as the difference, even if virtualization also

unlicensed Wi-Fi assets are virtually parts of one network.

Nor are virtualized mobile access networks the only ways virtualization will occur. A similar virtualized method of "creating" and managing discrete core networks also will be fundamental for future mobile and fixed networks.

Based on core network virtualization of several types, the new thinking is that core networks built on network functions virtualization (NFV) will under-

**New Spectrum Sharing Paradigms—Opportunity to Innovate**

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Source: Qualcomm

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# Cable Cop and the SLA Killer

## Other Implications of SD-WAN

By **Peter Radizeski**

**D**espite all the hype, we are in the very early days of SD-WAN. You've heard of it, SD-WAN, the term that stands for software-defined wide area network.

It is another term, such as VoIP and WebRTC, which people are mistaking for a product. It is a technology.

We have hit the point where our daily reliance on cloud computing applications and platforms has broken the enterprise MPLS. So much traffic goes out the Internet pipe that, in comparison, the traffic inside the private network is small.

We have transitioned to Office365, Google for Work, Salesforce and a host of other SaaS offerings. We have migrated business software to Azure, AWS, Rackspace and other IaaS and PaaS systems. All the traffic that used to stay within the walls of the enterprise network (the MPLS) has now left the network.

Enterprise networks now require direct connections to Azure, AWS and other computing platforms for secure application performance. If we reduce application lag on the often-used apps, employees are more productive and less frustrated. Application acceleration is just one function that is inside the SD-WAN umbrella these days.

WAN optimization that Riverbed was known for is now an SD-WAN function. Load balancing and circuit bonding are now under the umbrella.

Monitoring and analytics are the intelligence that is needed for the IT administrator. This new transparency into the WAN will be a bellwether.

Another function in the SD-WAN bucket is quality of service packet shifting, which will come in handy for many. As offices require bigger bandwidth at rural, remote and branch offices, where bandwidth may be at a premium or unavailable from more than one provider, circuit bonding will be standard on an SD-WAN white box deployment.

With monitoring and analytics layered on top of QoS routing, the CPE will determine which path is best for real-time packets such as VoIP and video. If a branch office can only get a DSL circuit, they can add a 4G card and perhaps fixed wireless (if available). These circuits can be bonded to look like a big pipe by the white box the provider sends out with the SD-WAN deployment. The best path for packets can be determined and switched in real time.

Analytics and monitoring mean that the SD-WAN box will act like a cop on cable modems, DSL circuits, 4G cards and fixed wireless. If those circuits have congestion, we will know. If those circuits are unusable, we will know.

If these circuits are blocking VoIP ports, the SD-WAN box will pick it up.

Take all of that together and not only does the branch office or remote site get failover from having two broadband pipes, it gets a traffic cop. This traffic cop will also be the SLA killer. Right now, unless we pay attention, there isn't a way to know when a circuit is out of SLA (the service level agreement). Yet with monitoring and transparency, we will know when the circuit is out of SLA. Then we can hold the provider to it.

It won't be fun for the network operators that like to over-subscribe or not worry about throughput. Soon they will have to worry. One cable company was caught by the state of New York charging for big pipes that they sold but actually delivering less than half of the promised speed. Soon the user will have a measurement and reporting tool. There are some available now, but with SD-WAN, that white box CPE will be performing many services and views.

The network operators have already installed SDN to power the SD-WAN offerings that they are currently testing. The umbrella for SD-WAN is covering many functions now, making the term murky, similar to unified communications. It holds great promise for the alternative providers, the former CLECs, that could be the leaders in SLAs and being traffic cops. □

*Peter Radizeski, president of RAD-INFO INC, started as a VAR, then became an agent. Now he writes about the channel and the telecom space while consulting to service providers and occasionally still selling some circuits.*

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# 5G Fixation

Fiber substitution emerging as early opportunity in the next wave of wireless

By **Martin** Vilaboy

**T**here are still lots of hurdles to overcome and details to discern before 5G becomes a true market-ready option for connectivity.

After all, the actual technology and standards it will follow, as well as where it will predominately live on the spectrum map, have yet to be determined, and business models must be developed to support investments.

It's not even clear yet if it will build on 4G LTE or something new, as the deadline for 5G definitions set by the ITU doesn't come until 2019, with finalized standards not expected until 2020.

That hasn't stopped the majority of wireless carriers, including AT&T and Verizon, from engaging in 5G "press release wars" of sorts regarding their various 5G lab tests, field trials and the buildout of test markets, even though these are pre-standard trials, and probably better described as 4.5G than actual 5G. On the other hand, 2020, when the vast majority of wireless service providers expect to see the first commercial deployments, is only a few years away, and looking at the widely supported goals for 5G that have been floating around for the last few years, pictures of early winners and opportunities have started to come into focus.

Ultimately, the expected capabilities that will come with 5G technology are elemental, many believe, to realizing the vision of a truly connected world where billions of devices interconnect and communicate in real time in order to put the "smart" into our homes, cars, buildings, farms and everyday lives.

Established goals, for example, put data volumes at 1,000x over current levels, supporting multi-gigabit wireless access. Transit times will see 5x reductions, meeting low-latency requirements of 5ms down to 1ms end-to-end round trip. Data transfer speeds will see 10x to 100x increases, and the number of devices supported in a given area likewise will grow by a factor of 10x to 100x.

Early indications suggest contestants initially will look to apply these upgraded capabilities to fixed wireless solutions, as many early trials are focused in this area, with mobile applications expected to come later.

"I call it 'wireless fiber,'" said Verizon CEO Lowell McAdam, speaking about the company's 5G fixed wireless trials at the UBS Global Media and

An aerial photograph of a city skyline, likely New York City, during sunset. The sky is a mix of blue, orange, and yellow. The city is filled with numerous skyscrapers, including the Empire State Building. The bottom half of the image shows a reflection of the city skyline in a body of water, creating a symmetrical effect.

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# THE RACE IS ON

Utilizing data compiled from publicly available sources, Viavi Solutions estimates that about 25 mobile operators around the globe have already announced they are at least lab testing 5G, despite standards not being expected until 2020. Among those, 12 report having progressed to field testing, while an additional four operators have announced their plans for 5G trials.

## 5G Data Speeds

Shows the highest claimed data speeds reached during 5G trials, where disclosed

35 Gb/s	Etisalat
35.46 Gb/s	Ooredoo
35 Gb/s	M1
35 Gb/s	StarHub
35 Gb/s	Optus
20 Gb/s	Telstra
20 Gb/s	Vodafone UK
15 Gb/s	Telia
14 Gb/s	AT&T
12 Gb/s	T-Mobile USA
11.29 Gb/s	NTT DoCoMo
10 Gb/s	Vodafone Turkey
10 Gb/s	Verizon
10 Gb/s	Orange France
9 Gb/s	US Cellular
7 Gb/s	SK Telecom
5.7 Gb/s	SmartTone
5 Gb/s	Vodafone Australia
4.5 Gb/s	Sonera
4 Gb/s	Sprint
2.3 Gb/s	Korea Telecom
2.2 Gb/s	C Spine

Source: Viavi Solutions

Five operators have reached data speeds of 35 Gbps or more in their 5G trials, says the provider of network testing and monitoring solutions, with Etisalat so far having demonstrated the highest data speed of 36 Gbps, and Ooredoo conducting tests at 35.46 Gbps.

Operators are testing across a wide range of bandwidths, ranging from sub-3 GHz to 86 GHz. Of the operators that have disclosed their test spectrum, currently the most commonly trialed wavelength is 28 GHz, with eight operators using it, as well as 15 GHz, which is being used in trials by seven operators.

Currently, five major network equipment providers have announced that they are involved in 5G trials: Ericsson, Huawei, Nokia, Samsung and ZTE. While some operators are using just one network equipment provider in their trials, many are using multiple vendors during trial stages, said Viavi. KT Corporation (formerly Korea Telecom) is including all five network equipment providers in its trials.

"The pace of 5G development is already beyond the expectations of many observers," said Sameh Yamany, Viavi Solutions CTO.

Communications Conference late last year. McAdam's said Verizon's 5G fixed wireless deployments are expected to support services similar to fiber-to-the-premises (FTTP) based offerings such as Verizon's FiOS service.

AT&T, meanwhile, recently acquired Fiber Tower, a provider of spectrum and fixed wireless services, and said its Austin trial will use fixed wireless 5G to stream AT&T's DIRECTV NOW OTT video services.

Charter, likewise, applied for experimental licenses to test 5G back in December and is currently ramping up tests of 5G technology. According to Charter CEO Tom Rutledge, about three-quarters of

## Verizon 5G Trial Cities Expected by Mid-Year 2017

Ann Arbor, Mich.
Atlanta, Ga.
Bernardsville, N.J.,
Brockton, Mass.,
Dallas and Houston, Texas,
Denver, Colo.,
Miami, Fla.,
Sacramento, Calif.
Seattle, Wash.,
Washington DC
Ann Arbor, Mich.

the bits being consumed by the some 200 million devices that connect to the cable company's high-speed network are coming through its Wi-Fi network. For that reason, he believes the products developed for 5G will be virtual reality and augmented reality products delivered over fixed wireless.

"How that manifests itself is a little unclear, but my sense is that many of those will not be mobile

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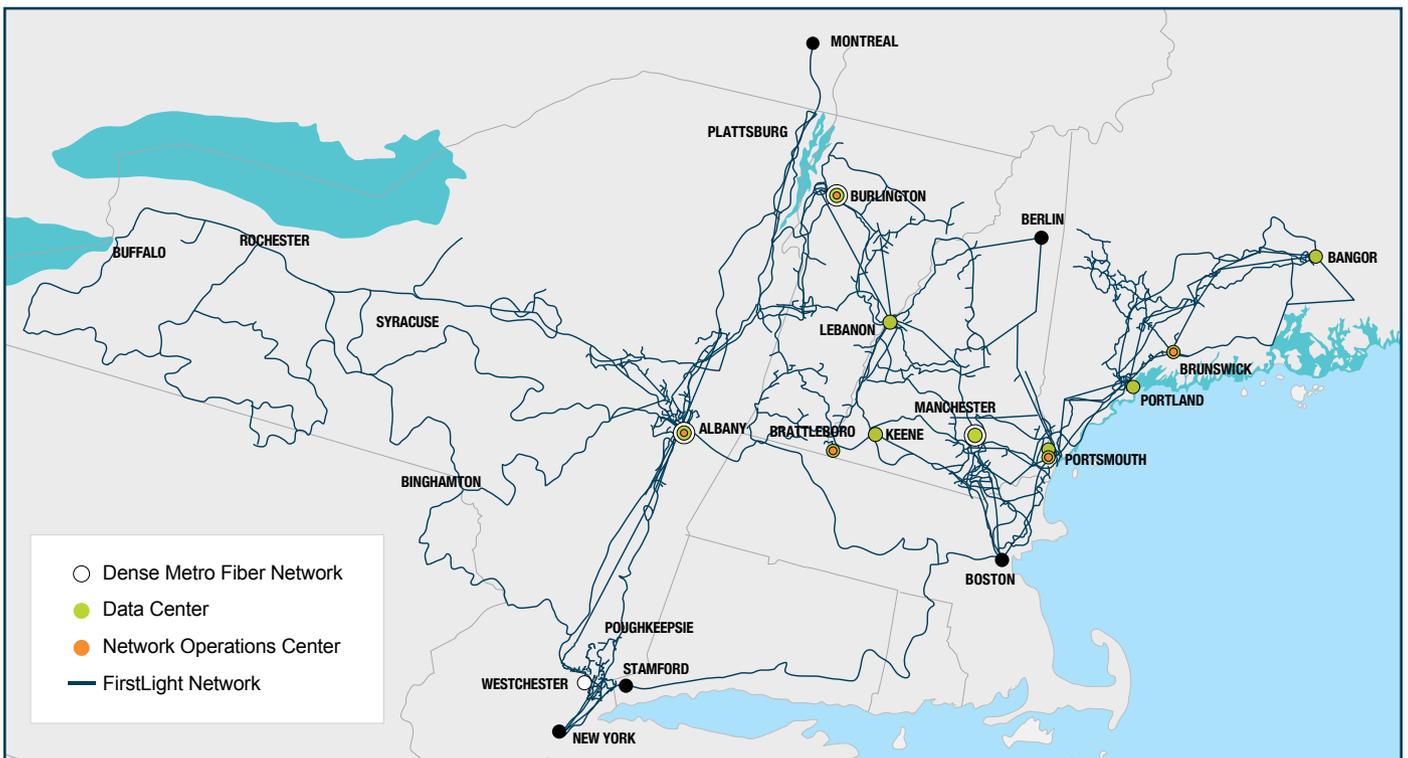
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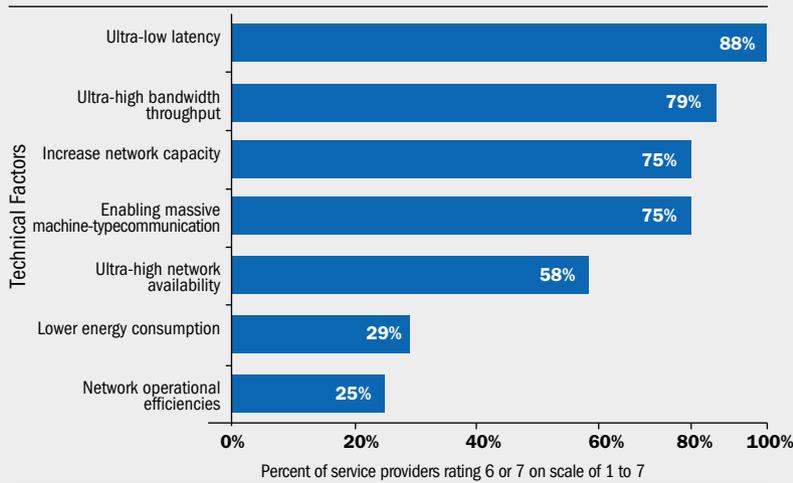


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**Primary Technical Factors Drive Upgrade to 5G**



Source: IHS

products,” Rutledge said at a recent quarterly conference call. “They will be fixed products in the dwelling or the office. They’ll be how you learn and how you play. They’re less

about mobility than they are about capacity and low latency.”

In other words, with the ability to offer gigabit capable speeds, 5G is being eyed as a potential alternative

to fiber, particularly in the last mile, or at least the last 1,500 feet.

“Using 5G may allow broadband operators to use wireless for the ‘drop’ into the home, rather than fiber or coax,” say executives at telecom infrastructure firm Finley Engineering. “That significantly reduces cost for broadband upgrades and overbuilds.”

Researchers at Strategy Analytics believe fixed 5G is particularly well suited for delivering pay-TV and video services because, unlike with FTTP, 5G packet wireless can provide virtually dedicated bandwidth to support applications such as video without having to nail up fixed ports and wavelengths. Instead, individual 5G streams can be switched very quickly between different parts of the frequency band. According to Sue Rudd, Strategy Analytics director of ser-

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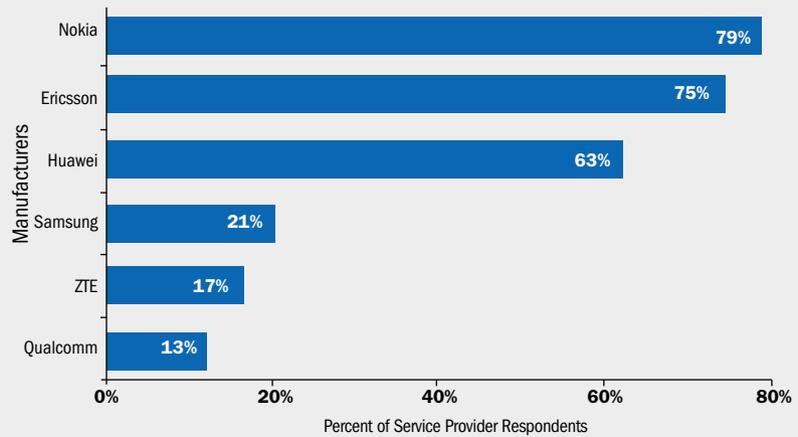
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vice provider analytics, TV even could be an “anchor use case” for deploying fixed 5G and is “very much in line with carriers’ rural broadband plans.”

The ability to deliver pay-TV as well as broadband over a 5G fixed wireless link could help carriers build a business case for deploying 5G in a fixed configuration in areas where the carrier cannot justify an investment in fiber-to-the-premises, argued Rudd in a recent report on the matter.

“Everyone is looking for a business case for 5G,” commented Rudd. “It’s not the Internet of things and it’s not connected cars.” Rudd also noted that the short range of 5G could be viewed as an advantage. “5G in high frequencies won’t go very far, so [spectrum is] infinitely reusable,” she said.

### Top 5G R&D Manufacturers



Source: IHS

Not everyone believes that fixed 5G wireless is a true substitute for wireline broadband. Consulting firm Vantage Point Solutions cautions that 5G wireless networks can

become congested if multiple users stream video at the same time.

“Networks that dedicate capacity to each customer, as is the case with most landline technologies,

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are better suited to deliver [constant bit rate applications such as video] than networks that share capacity among many users,” Vantage Point analysts argue.

But even beyond video, considering that business fiber penetrations in U.S. commercial buildings is less than 50 percent, according to the last count by Vertical Systems Group, fixed 5G seems to represent a huge opportunity in “lighting up” lots of businesses.

“The arrival of 5G technology will completely transform fixed wireless broadband network deployments,” says Khin Sandi Lynn, analyst at ABI Research. “Trials show that the technology’s superior performance over LTE will allow operators to deploy 5G for fixed wireless broadband service in densely populated areas.”

## Seeing the Spectrum

Also not content to wait for 2020 standards, the Federal Communications Commission has already identified multiple spectrum bands for 5G use. While there certainly will be more added to the band plan, the initial 5G spectrum is concentrated in the millimeter wave (mmWave) band, which is characterized as high bandwidth and high capacity but with short range.

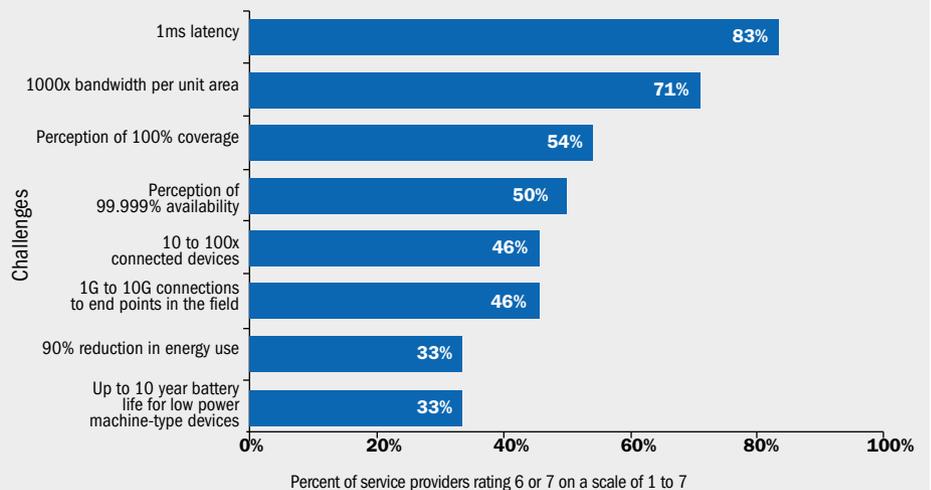
“The characteristics will require specific wireless engineering tactics to achieve acceptable performance, chief among them is densification of the network,” say Finley Engineering consultants.

That seems to suggest opportunities for infrastructure and device providers, as early 5G will likely require not only more towers but also more small cells and distributed antenna systems than previous 3G and 4G deployments.

“Because of its high power, low range characteristics, early 5G networks will look and act more like a super Wi-Fi network, providing

very high bandwidth, low latency connectivity in short range, than a traditional mobile network,” says Finley Engineering. “5G mobile applications will come later, as the 5G interface is applied to lower spectrum bands.”

### 5G Technology Challenges



Source: IHS

In addition to the opportunities for wireless carriers and infrastructure providers, there are distinct wireline opportunities early on as well. Most notably, the densification of the network required by 5G will mean lots more sites will need fiber backhaul than did in 4G environments, “and it’s not just traditional wireless towers,” says Finley Engineering. “Hundreds of sites, including the use of small cells and DAS sites, will be needed to cover a 5G area that may have only needed 20 to 30 towers in a 4G environment.”

These sites will more than likely not require optical wavelength services over traditional Ethernet, due to lower latency requirements, continues the engineering and professional services firm.

In terms of the top 5G vendors so far, IHS Technology recently surveyed service providers from around the world that have deployed or trialed LTE, and in an

open-ended question, respondents named the manufacturers they consider to be the top three in 5G research and development. Nokia and Ericsson, not surprisingly, topped the list, since both have been at the forefront of 5G devel-

opments and are both engaged together in every single account that matters in Japan, South Korea, and the U.S., where the 5G front-runners are, said IHS researchers. Huawei is also involved in many 5G projects but misses some markets such as the U.S., where the company is banned.

In the long term, 5G has the potential to be transformational to all sorts of technology and IT services. “Perhaps the biggest single lesson is that any supplier that is touched by the mobile Internet, the Internet of things, cloud services and consumer electronics or automation needs to track and assess the coming impact of 5G,” say analysts at 451 Research. “Few will be left unaffected.”

Implementation, however, will be patchy at best, and the earliest applications will likely be those that do not cannibalize existing 3G and 4G/LTE mobile investments. □



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# Interior Designs

## Options for SMB customers with poor cellular connections in the office

By **Joe Schmelzer**

**T**he odds are pretty good that a business customer has asked about help for a problem with the cellular reception inside their building.

Dropped calls and/or poor voice quality can happen in any room, in any size building – the boardroom, the sales office, hallways, elevators and storage areas. It is not uncommon to have bad coverage in places you would expect it to be good, such as the edge of a building with glass sides.

There may be physical and environmental issues that impact cellular coverage. Depending on the business location (e.g. in a low-lying area surrounded by hills or in a remote region), workers may not be able to get any kind of reliable signal at all. Building materials could

also interfere with cellular transmissions. Treatment rooms in hospitals or industrial zones often block or interfere with in-building signals. Some environmentally friendly techniques to reduce energy costs in a building also can adversely affect cellular performance.

So when that customer call comes through, what are your options for tackling poor cellular reception?

For years, solutions for solving the cellular coverage needs of the small and middle-sized enterprise space (15,000 to 200,000 sq. ft.) have been limited. Many are either too complex or costly to install for

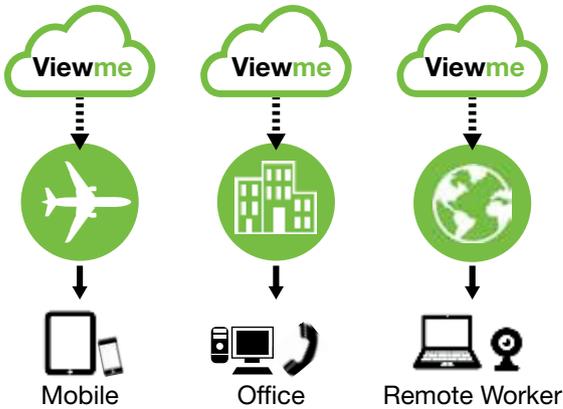
a medium-sized business or limited in their capability because they are designed for residential rather than robust business environments.

The good news for integrators is there is a growing number of options that improve in-building cellular coverage for medium-sized businesses. However, choosing the best solution that meets the exact business and construction requirements of each venue can be difficult, even for an experienced integrator. There are many issues to consider, such as backhaul (if any), coverage footprint and potential interference with other networks. Design and



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compatibility requirements, cabling and configuration, and maintenance must also be considered

Following is a synopsis of the available coverage solutions for the mid-sized enterprise space to date which have met with some success, as well as an outline of a new approach – a hybrid solution combining the performance of the high-end systems with the ease-of-install and lower-cost that the middleprise needs.

## Wi-Fi Calling

Wi-Fi calling is an option that typically requires at least 1 Mbps of throughput. On the plus side, it is relatively easy and cost effective, but it does have drawbacks. With a limited footprint and the questionable reliability and security of unlicensed spectrum, as Wi-Fi gets more crowded with users and devices, it has increasing difficulty in delivering quality service.

Wi-Fi calling has four issues to consider. The first issue is carrier-support. In the U.S., all carriers support Wi-Fi calling. But in other parts of the world, Wi-Fi calling has received a mixed reception from carriers.

The next issue is the handset. Not all devices are Wi-Fi calling compatible. T-Mobile has 20-plus smartphones that support this option. On Sprint, Wi-Fi calling is available on a number of iPhone models that run iOS 9.1 or higher. Most Android devices have the service as well but not all. AT&T offers Wi-Fi calling for several handsets, while Verizon has nearly 20 phones in its Wi-Fi lineup. This could be problematic in an office setting since not all users would necessarily have compatible handsets.

The third issue is that calls can be dropped as individuals move beyond the Wi-Fi zone because the calls will not always automatically hand over to the mobile network. And finally, while some carrier plans will provide Wi-Fi calling at no cost or penalty, others charge for minutes just like they would a normal cellular voice call, which could escalate users' monthly costs.

Given the limitations of Wi-Fi, most enterprises will use Wi-Fi calling as a supporting connectivity layer but not as the primary mission-critical connection.

## Small Cells

Indoor small cells are low-powered cellular radio access nodes that have a coverage range of around 10 to 30 meters. Small cells are one way the carriers can provide capacity and coverage, and many operators see small cells as crucial to managing their limited spectrum more efficiently. The macro network with its big cell towers can provide only so much cellular service. Small cells provide additional cellular service capacity, that doesn't rely on the macro network, to the specific venues where they are located.

Carrier-grade backhaul connectivity is important to effectively connect small cells to the core network, to deliver robust cellular coverage. More users on a small cell (higher density) will increase the bandwidth demands on the backhaul. Backhaul is essentially an Internet con-

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nection, and is typically provided via fiber or DSL, depending on what is available at the site. In most of the developed world, sufficient backhaul is available, for a cost. In the case of enterprise small cells, the backhaul connection is paid for by the tenant/building owner, which is favorable to the network provider, but an added cost to the enterprise.

A small cell delivers a single radio signal radiating point. However, most building infrastructures have offices, walls, corridors, etc., that can be very challenging to service with a single radiating point. As the signal propagates (spreads) and attenuates (diminishes in strength) throughout the building, it can potentially be negatively affected by interference from outside signals from the macro network and even from other small cells.

## Cellular Signal Boosters

Signal boosters (bidirectional amplifiers and smart signal boosters) do not require a DSL connection and are designed to boost the mobile network signal to resolve problems with dropped calls, poor voice quality and/or low data throughput caused by a weak in-building cellular signal.

These come in two forms, a bidirectional amplifier (aka a repeater) and a smart signal booster. A bidirectional amplifier (BDA) is typically a low-end solution that is aggressively priced but limited in performance. BDAs are not typically endorsed by carriers as they can interfere with the operator's cellular signal and reduce the service quality for all users on that segment of the network.

The smart signal booster is the preferred choice for in-building cellular coverage needs because it is built on technology that prevents interference with mobile operator networks. Because of this, smart signal boosters are FCC-approved for a 1,000x greater signal gain and can boost voice quality and data speeds in spaces up to 15,000 sq. ft. They have been deployed effectively for filling in coverage gaps in complex enterprise

environments and small businesses for several years.

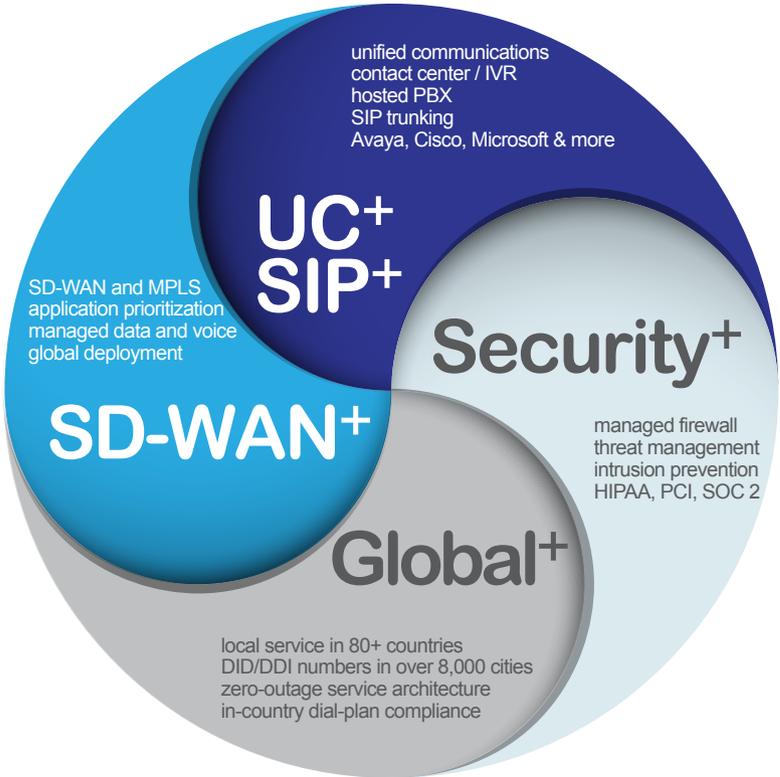
A good smart signal booster can be installed in minutes when there is even a weak signal inside the building because it does not require cabling, external antennas, ladders or drilling, or any configuration. Once the hub and remote radio units are plugged in, the system automatically adjusts to changing network conditions to ensure optimal coverage.

In the case where there is no indoor signal due to factors such as the terrain or construction issues previously mentioned, a smart signal booster can be installed with an external antenna to bring the signal indoors. Smart signal booster technology variations are available in a variety of additional applications, such as mobile workforce vehicles, remote/temporary offices and industrial IoT settings.




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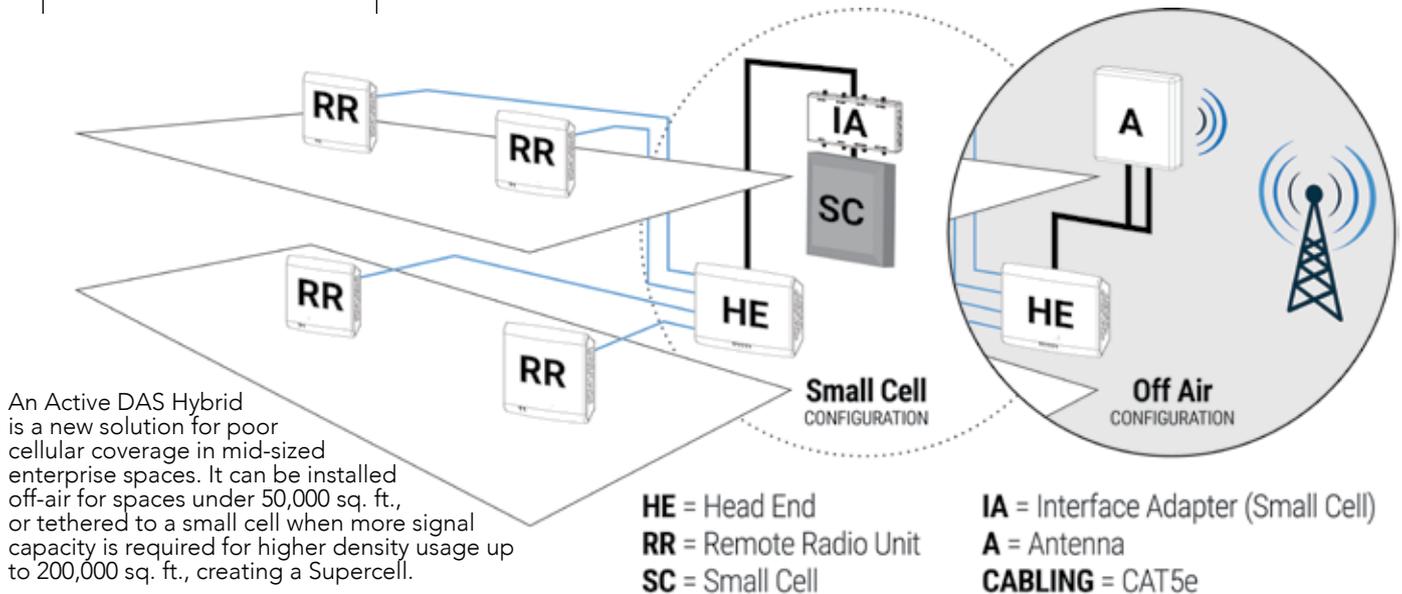
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## Distributed Antenna System

Distributed antenna systems (DAS) are commonly deployed at very large venues – such as high rises, stadiums and airports – at a much higher cost than what venues under 200,000 sq. ft. usually can afford.

A typical DAS system requires a substantial upfront investment in hardware, cables, antennas and installation. Historically, large-scale DAS systems that cover hundreds of thousands of square feet will be in the \$2 per square foot range. If the space to cover is below 200,000 sq. ft., the cost per square foot can be \$5 or even \$10, deterring most middleprise venues.

## Hybrid In-Building Cellular

New hybrid solutions are emerging to service the mid-sized enterprise. These in-building, multi-carrier enterprise cellular systems provide the RF distribution techniques of an intelligent active DAS but with easy installation and at a price point that can fit most mid-sized enterprise budgets.

The hybrid active DAS for smaller spaces can be installed off-air, with or without an external antenna depending on the available indoor signal strength. Remote radio units connected by Cat 5 cable to the hub of the system are placed throughout the building, utilizing Power over Ethernet so they can be easily plugged in wherever needed.

This system can generally cover up to 50,000 sq. ft.

In a densely populated venue with extensive cellular use, or one larger than 50,000 sq. ft., a small cell/DAS hybrid is a new solution now available. This small cell/active DAS hybrid creates what is termed a Supercell (i.e. a large single cell versus multiple small cells) that provides uniform access to the capacity introduced by the small cell. Supercells are inherently uncomplicated from a planning and deployment point of view, and are far more resilient to the potential of interference or performance degradation considerations.

A small cell is generally centrally located on premises and connected to an intelligent DAS hybrid designed specifically for smaller spaces, with remote radio units that can be readily placed in the very best locations for the building construction, and ultimately for cellular use. By connecting a small cell to an active DAS hybrid, users can achieve uniform coverage and capacity distribution for venues up to 200,000 sq. ft. at a far lower price point than a traditional DAS, while eliminating potential interference and macro network dominance.

Most carriers already offer a small cell that can be used in a Supercell. Some carriers even provide a quick online order form and next-day delivery. A typical use case would be a medium-sized enterprise in a three-story, 20,000 sq. ft. space with 50 or so employees where network coverage is poor. A Supercell may be

expanded for larger spaces where the density of users is unusually high, such as a call center, and may be installed in configurations that improve cellular access for multiple carriers.

Overall advantages of the hybrid approach include lower cost per sq. ft., scalability and an unconditionally network safe option for voice and data (i.e. no risk of interference with other systems or networks). The systems are also self-configuring and self-optimizing, which takes the guesswork out of deployment in delivering optimal coverage.

Some systems can be managed remotely, via a cloud platform. A variety of basic or sophisticated reporting tools give the system administrator or integrator confidence that things are working as designed.

This latest hybrid approach is playing a key role in bridging the technology gap between the small and large-scale enterprise spaces, providing integrators with a solution that can be offered to middleprise customers at a price they are willing to pay to resolve their cellular connectivity challenges. □

*Joe Schmelzer is senior director at Nextivity and a 20-year veteran of the wireless industry. He has played a critical role in developing devices for chipset vendors, device OEMs and service providers, including products for Sony, Qualcomm, Google, Verizon Wireless, AT&T, Dell and HP.*



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#### Marketing

Marketing collaterals	100%
Dedicated Channel MGR	100%

**Main ingredients:** Cloud based phone system, UCaaS, all telephony features, contact center solutions, national and international coverage, SIP trunking, Disaster Recovery solutions.  
**Warning:** This program can contain traces of happiness for your LIFE.

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# Enterprises to Up WAN Spending

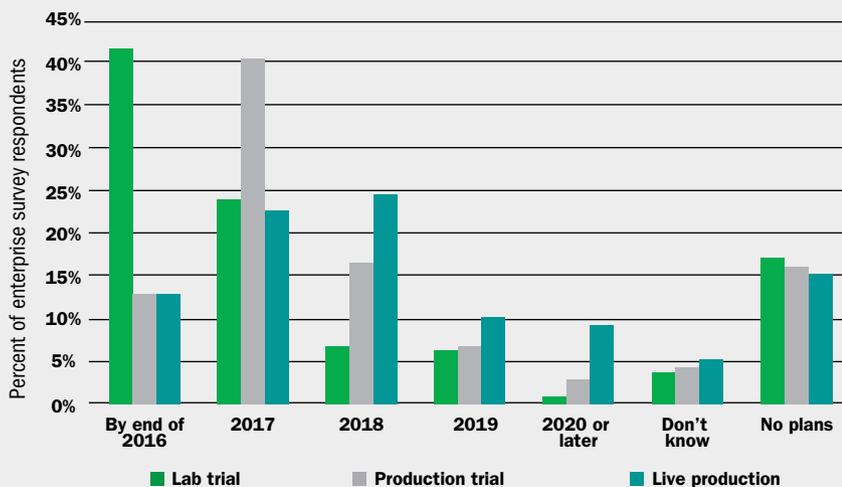
The WAN is becoming a strategic component of technology infrastructure for enterprises and is driving a renewed focus on WAN security and performance, say researchers at IHS Markit.

Interest in software-defined wide area networking (SD-WAN) also is reaching critical mass, with four out of five respondents having plans for SD-WAN during the next 4 years.

and improving security. The leading drivers of WAN traffic, show survey figures, are backup/storage and collaboration tools.

Meanwhile, SD-WAN lab trials of

## Most North American Enterprises Have Some SD-WAN Plans Brewing



Source: IHS Markit

Across private, public and hybrid networks, enterprises surveyed by IHS plan to increase WAN spending by more than 20 percent annually. The top changes expected over the next year are increasing capacity

and improving security. The leading drivers of WAN traffic, show survey figures, are backup/storage and collaboration tools. 2016 are turning into production deployments in 2017 and 2018. Forty-two percent of respondents started SD-WAN lab trials in 2016, and in 2017, many are moving into production trials and onto live production networks.

## Google Fiber Turns to Fixed Wireless

It's probably not a coincidence that shortly after Google Fiber acquired wireless ISP Webpass, it began pausing its FTTP overbuild plans in previously announced Google Fiber markets. Webpass offers fixed wireless services, including 100 Mbps, 200 Mbps, 500 Mbps and 1 Gbps tiers, in Boston, Chicago, Miami, Oakland, San Diego and San Francisco, with prices starting at \$60 per month.

"Webpass has been offering superfast Internet service – up to a gigabit per second – in these cities for some time, and has the full support of Google Fiber to continue doing so going forward," posted Google Fiber president Dennis Kish.

Kish says Google Fiber and Webpass have been "working together in the cities both Webpass and Google Fiber share: Chicago, San Diego and San Francisco."

### Where Google Fiber is Going



Source: Google Fiber, 1/17

Webpass currently uses point-to-point technology, limiting wide coverage of a market, and it does not currently blanket any market with its fixed services. But with all the hype around 5G, its expected boost in capacity and cost savings over fiber in an overbuild scenario, it's not hard to see why Google Fiber might view "Google Fixed" as a smarter option, especially now that the company has had a taste of passing actual homes with fiber.

## Overheard

"Our DVD by mail service was the original digital distribution network. Each DVD carries 5 GB of data – and sending that out to people by mail was still the fastest way to get content to a computer. We launched in 1997, and started streaming in 2007. We knew that eventually the Internet would catch up with the U.S. postal system, but it took 10 years."

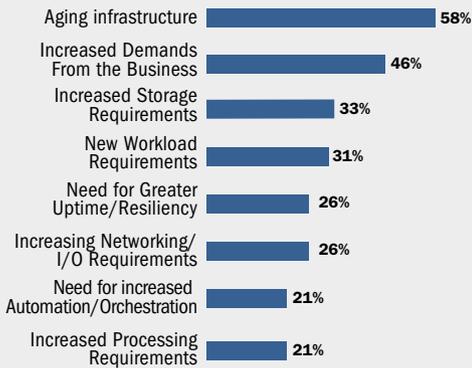
– Netflix CEO Reed Hastings, speaking at Mobile World Congress, on broadband growth

## Data Center Refresh Drivers

Aging infrastructure remains the primary driver for refreshing corporate data center facilities (including SMB server closets and rooms), show 451 Research surveys, but increased demands from business

### Datacenter Refresh Drivers

What are the drivers of datacenter refresh at your organization?



Source: 451 Research

needs, changing workload requirements and increased storage needs are also pushing refreshes. In terms of top-priority projects, improving existing IT asset utilization (44%) remains at the top of the list from the previous survey. Datacenter consolidation (26%) is a distant second, followed by upgrading/retrofitting an existing facility (23%), which is up four points from the previous survey.

## Ports Go 100GE

In 2016, 16 percent of the 10/40/100GE router ports purchased by telecoms were 100GE on average, according to surveys by IHS Markit. By 2018, these service providers expect their 100GE port purchases to more than double to 38 percent.

Carriers largely expect to be paying "10GE parity" or less in 2017, meaning that a 100GE port is priced at 10 times the price of a 10GE port, says Michael Howard, senior research director and advisor, carrier networks, IHS Markit.

## AT&T Gigabit Fiber Tops 50 Metros

In February, AT&T brought Gigabit broadband connectivity to five new major metro areas, increasing the coverage of the operator's fiber broadband access network to 51 major metros nationwide. The latest deployments are

in Columbia, S.C.; Jackson, Miss.; Knoxville, Tenn.; Milwaukee, Wis.; and Shreveport, La. AT&T says it markets Gigabit connectivity to nearly four million customer locations, more than 650,000 of which are apartments and condominium units. Going forward, AT&T plans to reach at least 12.5 million locations across 67 metro areas by mid-2019. □

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# What's happened to long haul?

By **Gary Kim**

**A**re U.S. businesses spending more – or less – on “telecommunications” services such as wholesale or retail long haul capacity?

To what extent are sales of “long haul capacity” products important for channel partners? Arriving at a clear answer is harder than you might think, for all sorts of reasons.

Among those reasons, modern communications increasingly are cloud and Internet based, and enterprise requirements therefore are for high-capacity but local connections. At the same time, much long haul capacity now is removed from the “public market,” and where long haul is necessary, prices have tumbled. Meanwhile, there is less enterprise demand for long haul capacity to support voice and data, and some charges now

are indirect (capacity is built into the cost of buying other services).

For all those reasons, wholesale and retail long haul markets arguably are smaller than they used to be, even if more traffic is carried.

Decades ago, enterprises purchased long haul services such as T1s and DS3s, both to support their data and voice operations. Today, enterprises are more likely to buy dedicated Internet access or ports. In other words, businesses these days are more likely to buy “local access” service to an Internet point of presence, and less likely to buy dedicated bandwidth services “across the Internet.”

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Consider international and long haul capacity across North America, for example, a product essential for a growing number of content and application companies. Virtually every statistic you see about demand shows skyrocketing volume. From 1983 to 2016, for example, user bandwidth has grown 50 percent per year, according to the Nielsen Norman Group. So the easy assumption would be that enterprise buying of capacity products, and therefore channel partner and service provider revenue from such sales, has continued to grow.

Not so much. A huge percentage of those requirements no longer are supplied by “public network suppliers”

last two decades. So margin compression and product substitution are key issues affecting both service providers and channel partners. Not only do legacy products cost less, they are used far less, as business customers have substituted Internet access for legacy data products.

In turn, the market for long haul wholesale and retail products sold by channel partners arguably is smaller than it used to be. Also, businesses have made big shifts in the types of communication products they buy.

In addition to price declines and margin compression, plus the shift to local access as the key capacity product, mobility now represents a huge per-

the “public” (telecom) networks. During the last 20 years, much long-haul traffic has shifted off the “public networks” and onto private networks.

In fact, as much as 60 percent of trans-Atlantic traffic now moves over private networks operated by the likes of Facebook and Google, according to Jonathan Hjembo, a senior analyst at TeleGeography.

On Latin American routes, about 70 percent of total traffic now moves over private networks. In other words, only about 30 percent of undersea, long haul traffic actually is sold to customers who use “public” networks, according to Erick Contag, Globenet CEO.

On trans-Pacific routes, over-the-top app providers account for about 33 percent of lit demand on the “public” networks, says Jonathan Kriegel, CEO of Docomo Pacific.

And these are private networks that generate no revenue – wholesale or retail – for public network service providers.

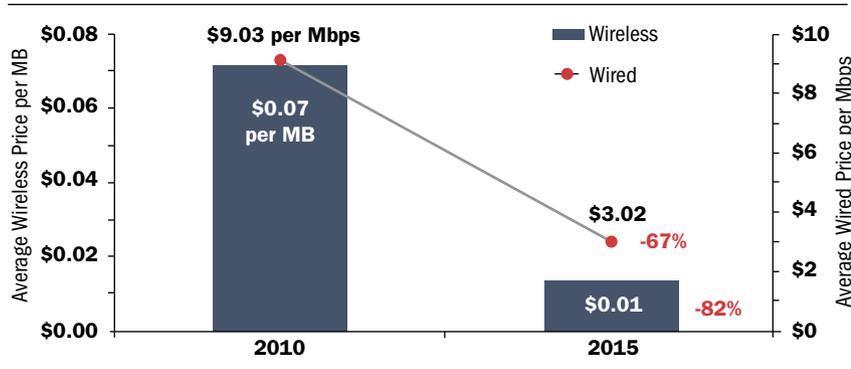
That now seems to be a prominent theme in telecom industry dynamics: even as usage grows, markets for “paid” services shrinks, as a percentage of total usage. In the long haul capacity markets, a growing percentage of traffic (33 percent to 70 percent) now is removed from the “public” markets.

Efficiency also now is an issue. Businesses these days often find they can spend less than they used to, and achieve higher performance. That applies to any long haul product as it does to any computing product.

Also, some spending might now be avoided because consumers use their own tools and apps, and such spending is not captured in business accounts, or applications have no retail price (consumer versions of Google Docs, Sheets or Slides, for example).

On the other hand, a hosted or cloud service provider obviously has to recover its bandwidth charges of supplying a retail service, so some amount of “long haul” costs actually are

### Examples of Declining Broadband Prices



Source: US Telecom; Well Fargo; Merrill Lynch data

but instead are fulfilled by enterprise-owned-and-operated private networks. That is a huge change, as a disproportionate share of global traffic and capacity now is driven by a handful of hyperscale app and content providers.

Firms such as Google and Facebook build and operate their own private networks, and relatively rarely must buy capacity (retail or wholesale) from long haul capacity suppliers.

Also, the structure of demand has changed: most businesses now mostly need local access to local Internet points of presence, not long-haul capacity. So retail and wholesale capacity demand has shifted to “metro” connections, not wide area connections.

Also, prices for any required capacity have fallen steadily during the

percentage of business communications spending. Nearly half of all enterprise spending is for mobility, where there is no need to separately buy “long distance voice” capacity or services; those are simply part of the base service.

In addition to the fact that business data services in most cases involve Internet access, which is a “local” service, not a “long haul” service, managed services increasingly use cloud mechanisms, which likewise only require local access to the nearest Internet point of presence.

Overall, retail “capacity” services for businesses increasingly require only local access to a point of presence, not dedicated capacity across the long haul network.

Some 50 years ago, nearly all that traffic would have moved over

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All that noted, Gartner forecasts suggest that U.S. businesses are spending less money on telecommunications than they used to, or perhaps, will spend less in the future than they do today. According to Gartner, less money will be spent in 2019 than was spent in 2013, for example, on a global basis.

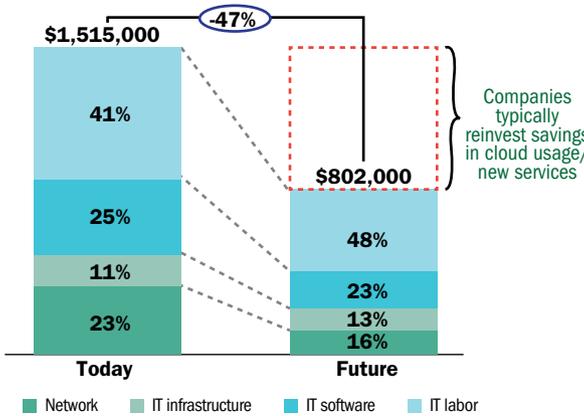
Consultants at Deloitte, though, working from tier one service provider annual reports, estimate that U.S. business spending on telecommunications services sold by the tier one service providers actually is dropping substantially.

That is not the whole story, though, as some business spending on telecommunications, or on services that could be provided by telecom service providers, is shifting to newer and non-traditional suppliers such as Amazon Web Services and Google, Zayo and others.

That said, customers are buying more “next-generation” products that arguably offer better efficien-

### Cloud Technologies Offer Huge Cost Savings

ANNUAL IT SPENDING OF A MEDIUM-SIZED RETAILER



Source: BCG

cies. BCG analysts suggest a medium-sized retailer, for example, could reduce baseline IT costs by 47 percent after replicating its existing IT stack in the cloud.

Still, one important change is that “private global networks” now have become truly significant. And those new app and content providers do not buy as much wholesale capacity from the public carriers as they might have in the past.

These days it is a handful of “enterprises,” namely big content and app firms such as Facebook

and Google, that actually build and operate their own cable networks, essentially removing as much as half of all global long haul traffic from carriage over any public network through the backbone.

“Content providers are removing a large portion of the customer base,” says Brianna Boudreau, TeleGeography senior analyst. That “makes the rest of the market extremely competitive.”

So to answer the original question, many enterprises are buying less long haul capacity than they used to. In some cases, huge hyperscale app providers build and operate their own private global networks.

Other enterprises and businesses are spending more on mobility, and less on other things. Where those businesses buy managed and cloud services, they pay only indirectly for capacity services required to deliver those services. And even to support basic voice and data, most businesses now require only local Internet access connections, not long haul capacity. □

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## 2016: A Banner Year for Cybercrime

2016 saw approximately 82,000 cyber incidents that negatively impacted businesses and organizations around the globe. It's higher when accounting for unreported incidents.

That's the word from the Online Trust Alliance (OTA) 9th annual *Cyber Incident & Breach Response Guide*. It shows that an average of 225 organizations were impacted worldwide every day, more than 20 times the rate of the consumer data breaches reported for 2016.

According to OTA, cyber incidents involve business interruption from ransomware, stealing of funds via business email compromise (BEC), distributed denial of service attacks

(DDoS), and takeover of critical infrastructure and physical systems. Examples include attacks on the Democratic National Committee and the breaching of the World Anti-Doping Agency database.

"The high-profile cyber incidents of 2016 have taught us that financial loss is only one of many other potential dangers of cybercrime," said Craig Spiezle, executive director and president of OTA. "Organizations are susceptible to security threats, reputation damage and much more."

OTA also determined that more than 90 percent of all cyber incidents in 2016 could have been easily prevented.

## Endpoint Protection Starting at \$1

VIPRE's mission is to make it easier for SMBs and partners to choose and deploy next-generation endpoint security with advanced machine learning. The company launched VIPRE Advanced Security for Business, a single solution that provides "top-rated" endpoint protection, anti-phishing and email security, zero-day malware and other threats, all for as low as \$12 per seat annually.

The solution includes everything needed to ensure the safety and security of networks and data, according to Usman Choudhary, chief product officer for VIPRE. For SMBs with 250 employees, VIPRE Advanced Security priced at \$12 annually per seat compares to \$25 - \$81 per seat/year for competing solutions.

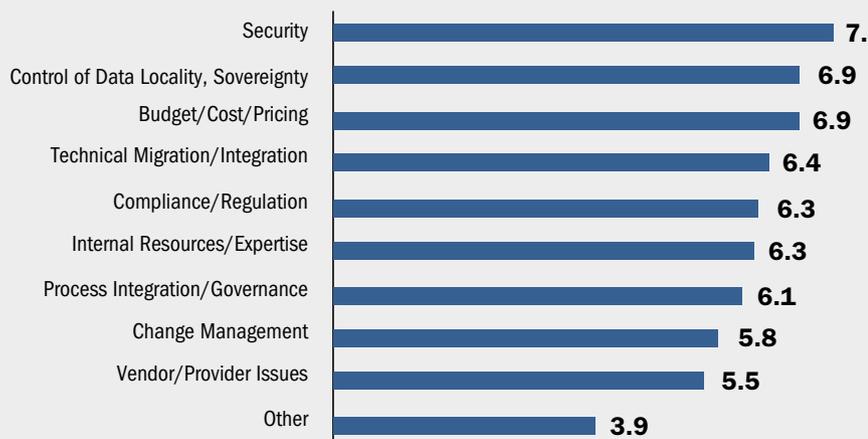
"Industry wide, there are too many complex packaging and pricing options that all too often turn into Trojan Horses – sub-standard protection plans that are ineffective and lead to costly, unforeseen upgrade cycles," said Choudhary. "So we are making it simple for SMBs. We are offering them a single solution that provides top-rated anti-malware so they always have the highest level of protection they need when they need it."

## Security Concerns Still Impede Cloud Adoption

While the mantra "cloud first" is becoming the "new normal" for many organizations, significant challenges remain for organizations making this shift – especially those in regulated industries. Tops among the list of challenges, ranking right above accessibility to data, security remains the top inhibitor to cloud adoption, show surveys by 451 Research.

### Inhibitors to Cloud Computing

Please rate how much of an impact the following will have on inhibiting your organization's use of cloud computing. Please use a 0-10 scale, where 0 is 'No Impact' and 10 is 'Massive Impact.' (Mean)



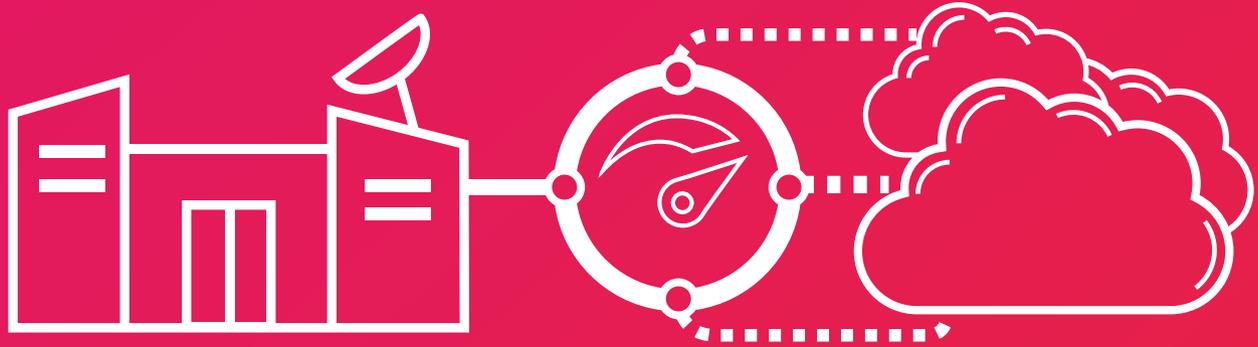
Source: 451 Research

## Overheard

"Any code has bugs—and that's the biggest problem. There are about 15-50 bugs for every 1,000 lines of code," he said. "If you take the operating systems in today's cars, you're looking at 100 million lines of code for each car—which translates into 1.5 to 5 million bugs."

— Craig Smith, Research Director of Transportation Security at Rapid7, on why hackers always have an "in."

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# Risks of Rewards

By **Tara** Seals

**T**he Zen monk Shunryu Suzuki said that one should pursue even the most advanced study with the mind-set of a beginner – coming to it open in order to consider new possibilities.

**Large enterprises lack security confidence thanks to cloud, mobility**

This is also a good way to approach the challenges of enterprise security. Today's business landscape is constantly evolving, presenting new opportunities and challenges – such as the migration to public and private clouds, wider roll-out of mobility and bring-your-own-device (BYOD) programs, and the emergence of new cyberthreats seeking to exploit these technologies.

As their networks change and evolve, just 35 percent of 1,900 IT professionals surveyed in U.S.-based companies with

1,000 or more employees say they're "extremely confident" or "very confident" in their organization's overall security posture – leaving 65 percent feeling vulnerable. Check Point Technologies' *2017 Cyber Security Survey* suggests that the lack of confidence is directly linked to cloud and mobile security concerns.

## Rising Cloud Concerns

Shared cloud hosting offers many direct advantages to businesses, particularly those without extensive on-site data

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infrastructure. It's inexpensive, it's easy to access, it doesn't require maintaining your own hardware, and you've got experts on-call if there's ever an issue.

The big issue, of course, is security and privacy. When a company is handing over its data to another business for handling, it's cause for some worry. In fact, survey respondents said that adoption of public cloud computing in their organizations is a top security worry: a full 81 percent expressed concern over public cloud usage, with 49 percent being extremely or very concerned. While greater efficiency and agility were reasons given for driving cloud adoption, enterprises of all sizes cited cloud security as their top concern.

This highlights the fact that in the cloud, organizations desire comprehensive threat prevention as well as email security, web security, application security, data protection – all the measures that organizations use to protect their traditional on-premises networks.

### Enterprises' Biggest Cloud Security Headaches

Visibility into infrastructure security	43%
Setting consistent security policies	38%
Compliance	36%
Reporting security threats	34%
Lack of integration with on-prem security technologies	34%
No automatic discovery/visibility/control to infrastructure security	30%
Can't identify misconfiguration quickly	28%
Complex cloud-to-cloud/cloud-to-on-prem security rule matching	26%

Source: Check Point Technologies

“Organizations are adopting cloud in droves, and they're really taking the rapidly expanding approach to how they're bringing cloud online,” said Donald Meyer, head of marketing for data center and cloud at Check Point. “They're moving from capex to opex models,

which is very attractive. But 81 percent are concerned about security. We've got to think about that shared responsibility model that a lot of public clouds operate with. Their infrastructure is agile and mature and secure, but when you take your own slice of that, you have to have your own security to filter out what you want and don't want in that environment. So businesses need to port over their legacy security into a highly elastic, dynamic environment, where things move from place to place, and it's not physically tied down. We have to rethink security and how we do it as we move into this virtual space.”

### BYOD – Bring Your Own Disaster

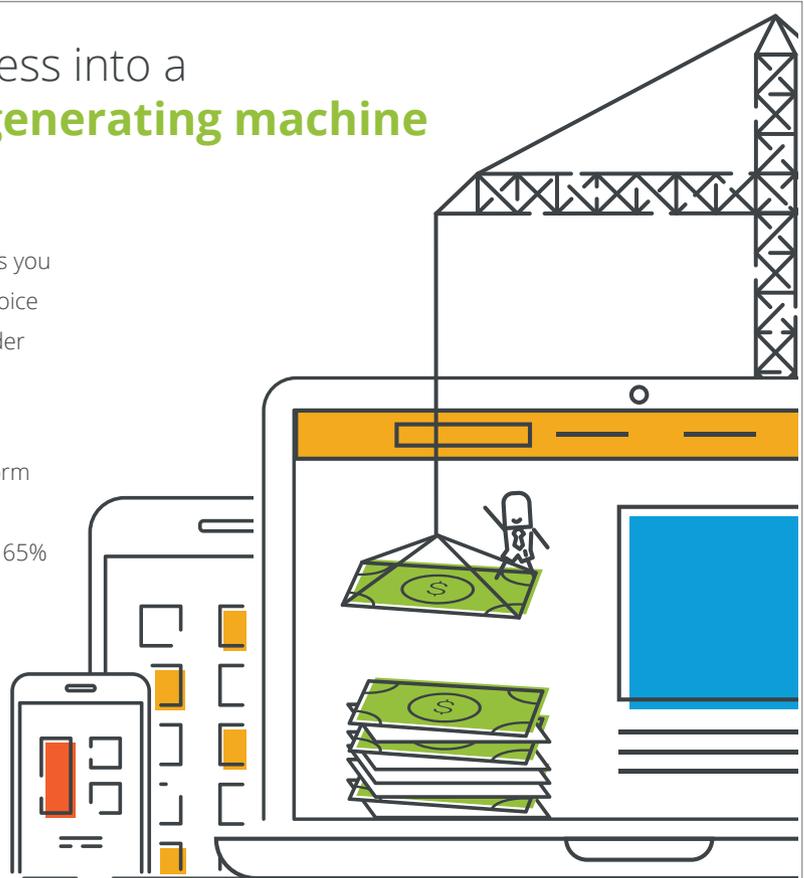
About 65 percent of the security professionals surveyed said data loss was their main mobile security worry, followed by lost or stolen devices (61 percent), users downloading unsafe apps or content (59 percent) and

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unauthorized access to corporate data and systems (56 percent).

Allowing employees to use their own devices for work purposes has many benefits but also introduces security risks. Many of these risks are similar to those experienced when securing PCs and laptops, but quickly become compounded due to the fact that BYOD devices, which are always connected to the Internet, are primar-

ily consumer grade and are updated or replaced far more frequently.

Mobile devices also come with personal and business applications, presenting additional challenges with respect to securing and managing these devices versus corporate PCs and laptops.

There's also the issue of the "roll the dice" attitude that workers have with BYOD devices. A separate sur-

**Enterprises' Main BYOD Security Concerns**

Data leakage/loss	65%
Lost or stolen devices	61%
Users download unsafe apps/content	59%
Unauthorized access to company data/systems	56%
Malware	56%
Vulnerability exploits	50%
Inability to control endpoint security	47%
Ensuring security software is up to date	40%

Source: Check Point Technologies

vey from Symantec found that nearly three in four (72 percent) of British workers use their own personal device for work, whether it's a smartphone, tablet, laptop or home PC. But just 15 percent of them make sure the security settings on their devices are automatically updated, meaning the vast majority (85 percent) have to do this manually. There's no guarantee that these workers will have the latest security on their device. In fact, 13 percent have no idea what the security status of their device is. Only about half (54 percent) were able to confirm that security on the device was up-to-date at all times.

Personal devices connected to corporate networks can spread viruses and other malware, which can have a direct route onto the corporate network.

Over half (53 percent) of all those surveyed said they use their personal devices for work when outside the workplace. The hours immediately before and after work are the most vulnerable for businesses – that's when 57 percent of workers confessed to using their personal device for work.

These challenges highlight the need for holistic, integrated solutions that can apply and enforce consistent security policies across all network endpoints, whether they are PCs, laptops or mobile devices.

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## Mitigating Mobile Threats

The Check Point survey also shows that 68 percent of respondents say malware protection is the key capability required for an effective mobile threat defense solution, followed by reporting and monitoring (64 percent) and ease of deployment (58 percent) close behind. PCs and laptops are different animals than smartphones and tablets, so it's no surprise that keeping these devices protected requires a different approach than traditional network security often provides. The report data also highlighted that more visibility across mobile estates is needed in order to ensure better security.

This news comes as mobile malware volumes continue to skyrocket – mobile ransomware alone has doubled its infections in the last year. It's also getting smarter. Consider HummingWhale, a new variant of the HummingBad malware, which has been found hiding in more than 20 apps on Google Play. It includes new, cutting-edge techniques that allow it to perform ad fraud better than ever before. In this case, the infected apps were downloaded several million times by unsuspecting users before the Google Security team removed them from Google Play.

HummingWhale's command and control server (C&C) provides fake ads and apps to the installed malware, which presents them to the user. Once the user tries to close the ad, the app, which was already downloaded by the malware, is uploaded to the virtual machine and runs as if it is a real device. This action generates the fake referer ID, which the malware uses to generate revenues for the perpetrators. HummingWhale also conducts further malicious activities, such as displaying illegitimate ads on a device, and hiding the original app after installation.

"When you look at how rapidly we're changing and evolving this digital transformation with everything

going to the cloud and everything being accessible via mobile, and mobile overtaking the desktop, and the Internet of things and all of these great technologies, our data is going places we never imagined it would go before," said Meyer. "It also means we're more interconnected than we ever have been before. Shadow IT is creating all kinds of problems, and BYOD is creating even more prob-

lems, and security is losing control. Most organizations' security posture is based on a physical, static, manual approach – but that doesn't work in today's environment."

He added, "Organizations are driving their businesses forward and it's all about being more dynamic and responsive. And that's great, but we also have to think about the security implications of that." □

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Sales are hard to come by. This isn't a product with a true pain point. It isn't a replacement service. The worst way to sell UC is as a key system replacement, but that's what people do. It's why there is churn and a slew of unhappy customers.

At its core unified communications is about change. For the business to get more efficient and productive, it has to alter how it does business. Problem: no one likes change. We aren't selling it as change. Hence, the disconnect and the hang up on sales.

Almost half of UC sales are now without phones – softphones or mobile apps only. Yet the industry, after more than a dozen years, has not penetrated more than 30 percent of the market. In fact, premises-based PBX sales still eclipse cloud sales. In 2020, it is expected to cross-over.

What's a channel manager to do? It's a challenge. You want to hit your UC quota; your company doesn't want to drop the price or match the spiffs. Here are three tacks channel managers can take.

One, be specific about where in the market your product fits. Product-market fit is a key ingredient for sales success. The market is at least seven segments (maybe eight). Repeat over and over where your sweet spot is. Partners tend to self-select where you fit if you don't tell them.

Two, follow this repeated message with signs of success. By that I mean, let them know you are closing deals. Every time you close a deal inside your sweet spot (or higher) email your partners with a quick note. What type

# The UC Price War: What Can You Do?

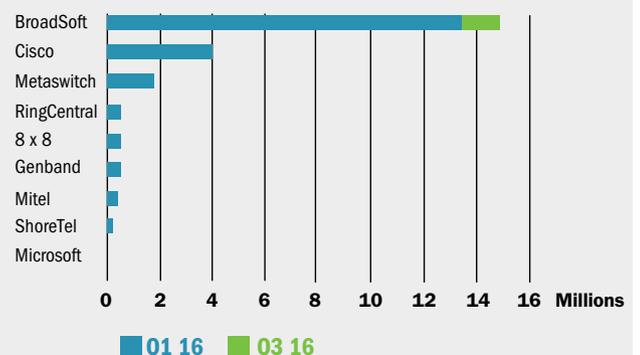
By **Peter** Radizeski

There are more than 2,000 providers in the U.S. offering some version of hosted PBX or unified communications. Of those, 400-plus are on a Broadsoft platform.

More than 700 are on a Metaswitch softswitch. Almost 200 are running Netsapiens. There are numerous on versions of Asterisk, Freeswitch and other proprietary systems (Fuze, Broadview, 8x8, RC, Dialpad to name but a couple). There are another hundred offering one Cisco plat-

form or another (HCS, Spark). CoreDial is just one white label UC provider, which has more than 500 customers. Add in 70 million users of Office365 with Skype4B, 3 million daily users of Slack and all the other collaboration space, and you can see how crowded the space is.

## UCaaS Seats Installed with Telephony



Source: Synergy; Broadsoft; courtesy RAD-INFO INC.



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of business bought the platform? How many seats? Why did they buy? It breeds competition. People want to work with winners. They want some of that good joojoo to rub off on them.

You can add on to this by getting a quote or testimonial from the partner – or record one as an audio file (mp3) or a video (on your smartphone). This is called “proof.” Proof builds trust. Trust is the foundation on which sales are

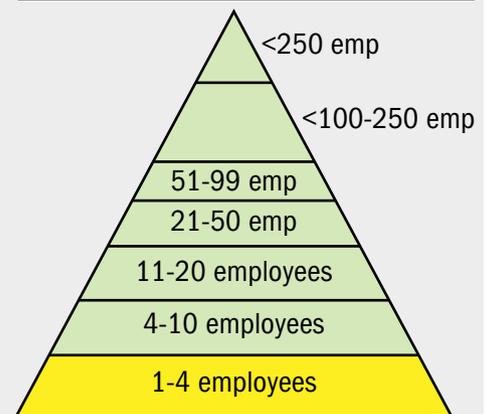
made. Build a library of trust.

Three, you are going to get price pressure (just like you do in bandwidth) on seat pricing. Remember to explain the value. The value may be in post-ink. By that I mean, after they sign the deal is where the real work begins. The deployment process, the training, the details are what make or break the implementation. Discuss those success stories when you can.

“The worst way to sell UC is as a key system replacement, but that’s what people do.”

Remember that you aren’t going to win every deal. Some partners will sell your service despite it costing more because of the post-sales service or the relationship they have with you. There will be partners that only sell on price. Identify them – and explain that you

**The Market Segments, Pick One**



Source: RAD-INFO INC

have a price floor. It makes it easier to do quoting when you admit this.

Remember though, we are still in the early days. There is still 70 percent of the market to capture. □

*Peter Radizeski, president of RAD-INFO INC, started as a VAR, then became an agent. Now he writes about the channel and the telecom space while consulting to service providers and occasionally still selling some circuits.*





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# Surviving the Cut

## How to avoid losing your residual commissions when suppliers start cutting

By **Bruce Wirt**

**L**et's face it: telecom suppliers (CLECs, ILECs, resellers, or virtually any other type of service-based organization around) both love and hate their agent programs at the same time.

Agent programs are the reason suppliers are able to put up the large numbers that shareholders crave, as it allows suppliers to cast a wide net in the marketplace and only pay for performance. That same program causes finance executives angst as they put together their monthly recap statements, and they dream of how great life would be if only they didn't have to pay those 20 percent residual payments that are attached to the agent accounts.

I hear it all the time from telecom executives: the easiest way to meet EBITDA goals in tough times is to chop commissions from the channel partners that helped to grow the organization in the first place. Agents that were once titans but have since slowed in production are forgotten faster than yesterday's junk mail.

While I can't provide a magic solution that works across the board, I can offer up a few things to consider when jumping into a relationship with a service provider. This comes from

years of executive management on the supplier side and hundreds of conversations with peers in the industry. Think about these things when managing your supplier relationships and it may save you heartache and pain years later.

**1. Be a partner.** Too many agents take for granted that the service provider is actually responsible for providing the service that we are selling to the customer. Agents sometimes take the position of dominance in the relationship, looking to restrict customer contact by the provider, talking down to the professionals that support their efforts, and forcing providers to participate in "pay for play" programs without reciprocation.

Suppliers remember this abuse when making the final decision to terminate a partnership. An agent that produces less but walks hand in hand with the supplier is more likely to survive a termination wave by a supplier. You don't want to be in the position of being somebody's revenge dish for years of abuse.

**2. Don't negotiate in bad faith.** Every agent out there presents themselves as the best in the world when it comes time to negotiate commissions. "I have so much business to bring you, I deserve to be paid at the highest level," knowing that there may be no intention to do anything other than a few deals a year.

Even the best written contracts can be torn up in times of trouble, and even if the agent wins a court battle with a supplier, often times the cost and time to do so will never make up for the money to be gained. Be honest with the provider, and ask that they in turn do business in good faith with you.

**3. Communicate.** That goes for both with your supplier and with your customers. Have a plan to support your customers, and make sure that it is aligned with the personnel responsible for supporting those customers at the supplier. If you are working on a revenue write-down contract renewal, while the supplier's account manager is trying to up-sell the customer on a 200 percent upgrade, everybody loses. Understand the goals of every party in the relationship and work together to make sure everybody is happy in the end.

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Remember that suppliers not only use channel programs because agents can provide substantial revenue gains but also because channel programs allow the supplier to save on personnel costs associated with individual account management. If the supplier feels that the agent is not working in stride to maintain and grow the customer base, that agent is at risk for termination.

**4. Don't fall victim to pride.** I've heard countless agents tell me that they will not use a master agent because they want a direct relationship with the supplier. While a direct relationship can provide an ego boost at the time of signing, consider that suppliers are much less likely to go to war with a master agent over an individual agent. Even if the supplier wins a commission battle with a mas-

ter, the PR hit during the process can have a devastating effect on future agent recruiting. With an individual partner, no matter how much revenue is in play, many times the supplier will take their chances when it comes to fighting a battle. Remember that there is strength in numbers.

Many times suppliers still will provide the same personal touch to subagents that they give to their master agent representatives. This includes access to channel managers, sales support, sales engineering and even senior management during times of need.

**5. Remember that the supplier is in business to make money.**

During my 15 years in the channel, I've heard this statement many times: "Why should I sacrifice ANY of my commissions to help you win a deal?" Agents sometimes want suppliers to take drastic margin hits on specially priced applications but want to preserve every penny of their commission. How is that fair? That can lead to short-term victories and dramatic long term losses.

When times are tough, executives look to low-margin deals and they search for ways to increase profit. If the agent played dirty to win, the supplier may play dirty when they need to win in front of their shareholders.

Keep these things in mind when managing your relationships with suppliers. Don't let ego or emotions get in the way of business, and you will be in tremendous shape for years of residual payments. □



*Bruce Wirt has 15 years in channel sales leadership and is currently the channel chief at Telesystem, which includes the LSI*

*organization as well. Connect with him on LinkedIn to share your success stories.*

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# SfB ABCs

## First in a series on partner opportunities in leveraging Skype for Business

By **Greg Plum**

**S**kype for Business Online is a component of Microsoft Office 365 and is a hosted version of Skype for Business Server in Microsoft datacenters.

It is accessed across the Internet typically using software that is installed on your device. Software is available for PCs, MACs, iPads and most mobile platforms. Here, we will continue to refer to the service as Skype for Business, assuming the access is via Office 365.

Skype for Business is a Microsoft product that is available either on site or from the cloud. It is an integrated solution for instant messaging, presence, conferencing and voice communications. It also provides direct integration into other Microsoft products such as Outlook, SharePoint and Office desktop applications including Word and Excel, which permit you to communicate with team members without leaving your document. With Skype for Business, you can share desktops, files, whiteboards, presentations, online polls and more.

With the Skype for Business presence feature you can see the status of other members in your team; are they available, busy or away? By the way, your “team” can extend beyond the walls of your company. You can add contacts from different companies all over the world and even add someone who prefers “consumer Skype” for their communications (more on this in a bit). Skype for Business also allows you to control how your own status is presented to others. When you collaborate with people, you can do so using

integrated video to make communications more personal.

You can use Skype for Business with others who don't have the Skype for Business software installed, via a free Skype for Business client attendee software download, or directly from a web browser. This allows team members



Skype for Business meeting with desktop sharing and chat in Windows; courtesy Microsoft

to join a meeting or a presentation with nothing more than a browser.

## SfB vs. Skype

Microsoft purchased the consumer version of Skype a number of years ago. It has been working to align its business communications tool, previously branded “Lync,” together with the consumer version of Skype. The re-branding of Lync to Skype for Business in 2015 is part of that process.

As mentioned, Microsoft also has taken steps to integrate Skype, which is now often referred to as “consumer

Skype” or “Skype consumer,” and Skype for Business together. You can now directly connect with users on consumer Skype using Skype for Business. This removes the need for multiple communications clients and allows businesses better compliance while still maintaining connectivity with a massive, global audience. Imagine adding the 300-million-plus consumer Skype users to your Skype for Business contact list.

Consumer Skype is a free service with a few commercial add-ons. Skype for Business, however, is a commercial product and the online version is part of the Office 365 group of services. To use Skype for Business, you will need to have a standalone Skype for Business account, or an Office 365 subscription that includes a Skype for Business license. The future should see tighter integration between consumer Skype and Skype for Business, but, for now, they remain two separate and distinct products, with Skype for

Business providing a higher level of security and compliance being aimed directly at business users.

In essence, think of Skype being the brand with two distinct products, consumer Skype, which is free, and Skype for Business, which is a commercial, paid, service. These products can interoperate, but Skype for Business has more features, enhanced security and stability, as well as better administrative control.

It should, therefore, be the natural choice for any business as a communications platform. □

*Greg Plum is the VP of U.S. channels for OBT Anywhere, a cloud solutions*



*company with a focus on helping partners provide enterprise voice services for their customers leveraging Skype for Business.*

*This content is based on an excerpt from “Getting Started with Skype for Business Online,” a guide for Microsoft partners and end users, written and published by Greg Plum and Robert Crane.*

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# Verizon Debuts SMB Business Unit, Incorporating XO

By **Tara** Seals

Verizon Enterprise Solutions (VES) has debuted a new business division, focused on local businesses and government technology. Dubbed Verizon Business Markets, it will rely on the channel partner ecosystem as its primary distribution path, consisting of a combination of existing Verizon partners as well as partners from XO Communications, which Verizon acquired for \$1.8 billion in February.

"We see an immense opportunity in the local markets," said Janet Schijns, vice president of solution and sales channels at Verizon. "Innovation is flowing from small and medium-sized businesses (SMBs), and from state and local governments – and, in fact,

the biggest influence on our GDP is SMBs and local organizations. They're the lifeblood of America."

The idea is to reinvigorate and reassess the technology that is made available to this sector.

"We are seeing a heightened amount of investment returns and successful start-ups in city and town centers, after a decades-long 'mall-economy' phenomenon," Schijns said. "Businesses are coming back to downtowns, and to compete for foot traffic, they need rich but simple tech solutions. A small bakery, for instance, needs a Facebook page, mobile ordering, Google search elements, etc. We are looking at how to help them with technology that hasn't

been shrunk down from enterprise platforms or grown up from the consumer space but rather with solutions tailored specifically for them."

Plenty of local start-ups are pioneering things that need connectivity, to start with. In New York City, a company called Dog Parker is installing self-contained dog houses in front of local businesses. It's a convenient way to shelter and protect one's dog while on the go – and the idea is simple yet ingenious.

Users are issued membership cards, which they can swipe to unlock the Dog Parker (the key card is unique to each person, so only he or she can unlock the door to retrieve their dog). Users can access dozens of Dog Parkers



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throughout Brooklyn, and, via a mobile app, monitor their dog in real-time.

“Businesses like Dog Parker and others need connectivity for features and entertainment,” Schijns said. “It’s really a unique time with a lot of creativity – and we’re working with our sales channels to uncover what entrepreneurs are looking for.”

The new business unit also targets state and local governments looking to implement smart-city initiatives. “We’re asking how to help them become better places for people to live and work,” Schijns said. “This is beyond core connectivity. The future is here. Smart connections make for smarter communities. The smart city means connecting all the parts, coordinating emergency response, monitoring energy usage, traffic and so on. Solutions include connected traffic lights, kiosks and security cameras – there’s a whole IoT ecosystem.”

In terms of the technology pieces, VBM will offer connectivity (including MPLS-tiered dedicated pipes and secure cloud interconnect), along with



Dog Parker is installing self-contained, connected dog houses in front of local businesses

tailored applications and website services with FiOS packages, including collaboration and unified communications, business digital voice, cybersecurity and video services.

Verizon’s IoT initiatives are important for SMBs as well. For instance, asset tracking and asset management, for employees, machines and devices in the field, is a critical need, as is smart monitoring and management.

“We have one customer that has 150 sensors in a large restaurant doing

everything from testing cooling temps in fridges to making sure diners won’t get sick to cameras that keep an eye on customer service,” Schijns said. “They also have mobile point-of-sale. In another case, many local schools are implementing computer lab equipment tracking. The use cases go on and on.”

To support the new division, Verizon is combining all of its small business channel partners, some VES partners and also XO’s channel under one umbrella. This integrated, single channel program is expected to officially launch in the second quarter. In the meantime, it also has designed and launched new certification and training programs for partners, including around cybersecurity, working with CompTIA.

“Our channel strategy is critical to VBM,” Schijns said. “Our partners will continue to join this one program, which lets them sell into a range of customers, from enterprise to small business. Now we’re incorporating XO and adding benefits. It’s a very exciting time, for us, our partners, and for local businesses.” □



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By **Tara** Seals

**F**or any business to be successful, there needs to be a focus on both the today and the tomorrow.

For net2phone, the today is about providing a high-quality VoIP experience to business customers that are migrating from traditional systems to the cloud. The tomorrow includes embracing global expansion and millennial-friendly communication paths such as messaging, chat and collaboration.

"net2phone understands that voice is the lifeline of business communications today, and we're excelling at providing superb service every step of the way," said net2phone president Jonah Fink. "At the same time, we are proud to say that we're laser-focused on the tomorrow. We are committed to supporting our customers and channel partners as they look to support existing and future business objectives – and this positive experience is felt from our customers right from the start with successful onboarding, and follows the customer daily as they benefit from our service."

## Move to Cloud: Today's Opportunity

As more and more businesses become interested in leveraging cloud technology to support core organizational initiatives, channel partners have a key talking point: modernizing the core communications of bread-and-butter local businesses. At the

same time, the company is working on global expansion of those core services and providing solutions that scale to large enterprises.

"If a channel partner would take a moment to walk down the main street of any town in America and analyze just how many of the existing businesses are still using legacy phone systems and incumbent telecom services, the opportunity is clear," Fink said. "Law firms, real estate offices, medical practices, really any type of professional service or retail business, all share the common goal of needing more features and functionality to improve their business's communications and add savings to their bottom lines."

Fink said that partners have a big opportunity to provide leadership and market education to many of these organizations – fulfilling their roles as trusted advisors.

"The challenge is to wake up Main Street and make them aware of what's out there," he explained. "'Cloud' is a vague term and can be scary to some businesses, so it is incumbent on net2phone and the channel partners to define the advantages of cloud telephony. Here at net2phone, we are prepared to make the investment and assist channel partners in this very important set of education."

Another strategic initiative for the company is its global presence; it's expanding its technology to international offices around the world. net2phone has already launched services in Brazil, and soon, the net2phone products and feature sets will be available in other South American countries as well as in Europe, where net2phone already has the local infrastructure, talent, licenses and know-how.

"There is no other provider today that can state they have this range of solutions in all of these markets, so it is absolutely going to be a compelling statement in the marketplace that net2phone is providing an international service around the world," Fink said. "We want to be a one-stop shop for businesses of all sizes – whether you are a startup or a large enterprise, net2phone will have a solution."

## Advanced Applications: Tomorrow's Promise

net2phone is taking strategic action to prepare for the next generation of communications as well. As young millennials begin to join the workforce, they're driving the use of technology that slants dramatically toward non-traditional voice applications, such as chat and messaging.

To dovetail with this, net2phone has made a strategic acquisition of Live Ninja, based in Miami.

Live Ninja's expertise and focus is on messaging, collaboration, video and presence – and net2phone plans to integrate and absorb these technologies into its hosted voice product set.

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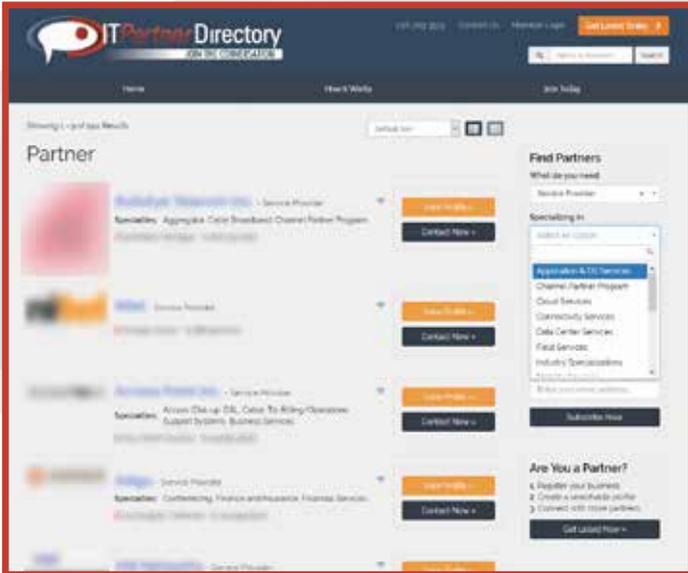
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“Just as the young millennials are relying on chat and messaging, we believe that the business community will do the same, and we very much look forward to bringing them the ability to use alternative methods of communicating, along with our hosted voice, all in a single offering,” said Fink. “This eliminates the ‘swivel-chair syndrome,’ as a net2phone business user can enjoy all methods of technology and communicating rather than toggling between alternative applications. It’s clear this will be a strong, value add to the channel, as it will increase ARPUs, stickiness and longevity to the customer lifespan.”

### Focus on Channel Excellence

Against this state-of-the-market backdrop, net2phone is keenly aware that there are two sets of valuable customers: end users, and then the channel partners that contribute to the growth of the business and overall success. That said, a channel partner has a different set of requirements from an end user, which the company seeks to fulfill with an advanced set of channel partner tools. It’s also enhancing its program to accommodate new types of partners.

On the tools front, net2phone’s partner portal is a key differentiator: it allows partners the autonomy to easily create executable quotes and sign the customer up for service quickly.

“What we’ve noticed with our competitors is that there’s this concept of a ‘quoting desk’ where the partner has to ask for a quote to be created, and there’s some time involved in between the partners’ sales meeting and when an actual quote goes out and then eventually is turned into a live order,” said Fink. “However, the net2phone partner portal enables our partners to quote their customers at any time themselves via an easy to use web panel.”



net2phone president  
Jonah Fink

The quote is automatically sent to the customer as an executable agreement where the user can click, sign and the order is automatically sent for processing. The entire flow is completely automated at both the partner level and the customer level.

Fink also explained that sales partners that offer services such as cloud storage, data security or network quality already possess the skill sets that are some of the key ingredients in providing a successful cloud telephony installation – and due to this marriage between cloud and telecom, the partner ecosystem for net2phone is widening.

“Cloud telephony is no longer a technology just geared to the telephone installer,” Fink said. “The benefit

of the cloud is that it’s bringing in more IT professionals and managed service providers (MSPs) to the VoIP space.”

He added, “The program is now suited for a wide array of IT professionals, managed service providers and value added resellers. The net2phone partner program is designed to suit anyone who has a portfolio of businesses and makes it easy for them to sell the net2phone solution.”

As net2phone moves through 2017, the company has a commitment to help channel partners make the most of all of these opportunities: transitioning legacy infrastructure, supporting the needs of millennial workers, growing globally and offering tools to support a wider set of partners.

“I think what makes net2phone truly unique is our passion and energy for the channel,” said Fink. “Complacency is a dirty word in the halls of net2phone. We are constantly evolving our product set and improving our channel partner tools to meet today’s needs and prepare for tomorrow’s demand. net2phone is not looking to follow, we are looking to innovate. There seems to be a lot of ‘me-toos’ in the market. However, net2phone has the resources and will to do things differently. We are determined to shake up the industry, both at the end-user and channel levels. Interesting things are coming. Stay tuned.” □

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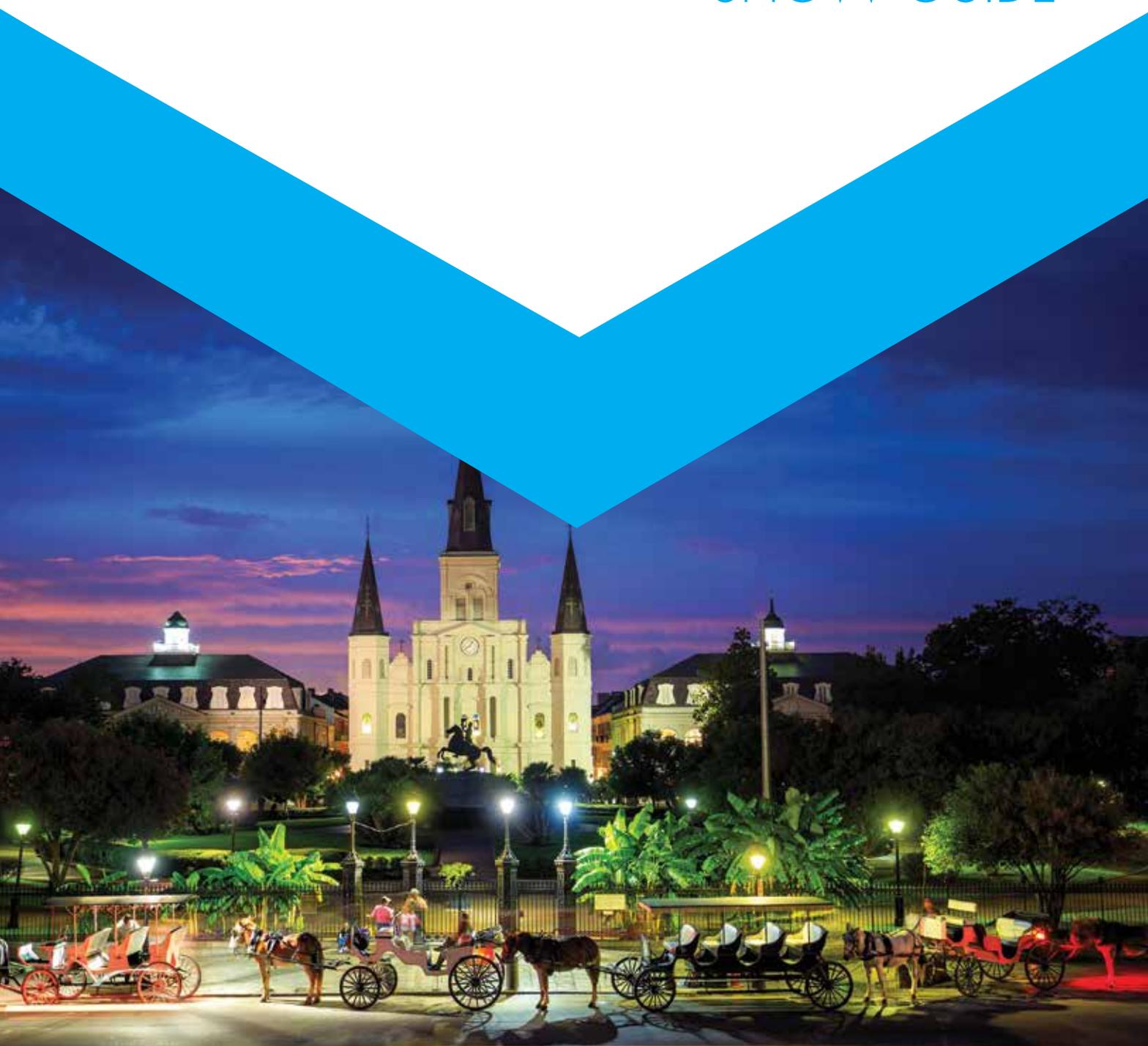
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THE 2017

# INCOMPAS SHOW

APRIL 3-5, 2017 | NEW ORLEANS, LOUISIANA

SHOW GUIDE





# WELCOME TO NEW ORLEANS

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Dear INCOMPAS Show attendees,

Welcome to New Orleans for The INCOMPAS Show: Spring 2017! We have an exciting three days lined up, designed to help you expand your professional network, do business with the industry’s top buyers and sellers, gain insight into the latest technology trends and updates, and of course, have fun!

As the competitive communications landscape continues to evolve, The INCOMPAS Show does just the same. We have a number of exciting activities aimed at providing you even more access to what is most relevant to you:

- Facilitated meetings with top buyers from the industry’s leading companies
- Deal-making opportunities at every corner, especially in the Deal Center, sponsored meeting rooms, and on the show floor
- Industry thought leaders providing relevant discussions ranging from revenue opportunities for fiber based competitive providers to what is happening with mergers and acquisitions
- Exciting social events offering you the opportunity to connect with current and potential customers in a fun and relaxed atmosphere
- And more!

Join us on Monday afternoon in The Hub for two can’t-miss sessions: “Regulatory and Legislative Session for Business,” beginning at 3:00 p.m., and “New Revenue Opportunities and Strategic Infrastructure Initiatives for Competitive Fiber Providers,” beginning at 4:30 p.m. Then, join us in the Expo Hall at 5:00 p.m. as we officially kick off The INCOMPAS Show with our French Quarter Fête opening reception, sponsored by Spread Networks, Sunesys, TSI, and Wave Wholesale.

The INCOMPAS Show then continues with a line-up of thought-provoking sessions and events on Tuesday and Wednesday, including:

- Industry Keynote Session with Uniti Group President and CEO Kenny Gunderman
- Key Strategies and Emerging Trends for Buyers
- How to be a Part of Granite’s Success Through its Partner Solutions Program
- Business Opportunities in the Federal Universal Service Programs
- Beers with Peers Networking Reception
- Trends in Competition Amid Consolidation
- Small Cells, Big Opportunity: How Local Governments and Providers Can Lead the Way

It all comes to a close at The INCOMPAS Show’s highly anticipated Big Easy Bash closing party, taking place at Generations Hall, beginning at 5:30 p.m.

It is my hope that your experience at The INCOMPAS Show proves to be a valuable one. On behalf of INCOMPAS and our Board of Directors, I thank you for your continued support of INCOMPAS and look forward to these next few days with you.

Sincerely,

**Chip Pickering**  
CEO, INCOMPAS

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## GENERAL INFORMATION

### Admission

All attendees are required to wear the badge provided to them upon registration. Badges must stay on for the duration of The INCOMPAS Show to guarantee designated access to INCOMPAS Show space and events. No one will be permitted in the Expo Hall, meeting rooms or networking receptions without the appropriate conference badge.

COLOR	REGISTRATION TYPE
Clear	Full Conference
Red	Tuesday Only
Blue	Wednesday Only
Yellow	Exhibitors
Orange	Networking Pass

### Registration Hours

**Location:** Great Hall Pre-Function

Monday, April 3	2:00 p.m. – 7:00 p.m.
Tuesday, April 4	7:00 a.m. – 6:00 p.m.
Wednesday, April 5	7:00 a.m. – 3:30 p.m.

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### Exhibit Hours

**Location:** Great Hall

Monday, April 3	5:00 p.m. – 7:00 p.m.
Tuesday, April 4	1:00 p.m. – 6:00 p.m.
Wednesday, April 5	1:00 p.m. – 3:30 p.m.

### Deal Center

There is no better place to make deals than at The INCOMPAS Show! Use the new INCOMPAS Show mobile app to reserve meeting space in advance and to set up your valuable one-on-one meetings in the Deal Center. You can also stop by for a limited number of meeting times that are available on a first-come, first-served basis.

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### Deal Center Schedule

Tuesday, April 4	7:00 a.m. – 6:00 p.m.
Wednesday, April 5	7:00 a.m. – 3:30 p.m.

### Networking Spaces

Interested in meeting with a specific company to talk and do business? Visit them in their designated networking space! See pages 16 & 17 for a list of companies that have networking spaces and their locations.

### The INCOMPAS Show Mobile App

Download the brand new INCOMPAS Show mobile app for instant access to everything about the show.

- Easily view the show agenda
- Add sessions to your personal schedules
- Set-up meetings with fellow attendees
- Access the entire 2017 list of exhibitors, including company description, website, and contact information
- Stay on track with show notifications.

Simply download the free app to your mobile device by searching for INCOMPAS in your app store. To access the app, use the email you registered with. The password to use is **incompas17**. To schedule meetings:

- Click on “Book Meetings” and login using your same login credentials
- Click “Book” and use the search bar at the top to find the company or individual you would like to meet with
- Click “Book a Meeting”
- Select the time and Deal Center table
- Meeting booked!

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### Complimentary Wi-Fi

Enjoy complimentary wireless Internet access throughout the show floor!

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### NCAA Finals Square Pool

Join us in a squares pool for the finals game taking place Monday, April 3. Stop by The Hub on Monday evening during the Opening Reception to enter. \$500 prizes will be awarded for winning the half time score and the final score. We'll be announcing the winner on Tuesday in the Great Hall during the Beers with Peers reception!

### Hear from Industry Experts in The HUB

**Location:** Great Hall

You no longer have to travel to keynotes and important panel sessions – all the action takes place right on the show floor. Check the agenda on pages 10 to 15 to see when you can see Kenny Gunderman, President and CEO of Uniti Group, Inc., top industry CEOs and more in The Hub.

### Snack Break

**Location:** Booth 316, Great Hall

Stop by Granite (booth 316) on Tuesday from 2:00 p.m. - 2:30 p.m. for a New Orleans themed snack.

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**Get Social at The INCOMPAS Show!**

There are countless opportunities to expand your network at The INCOMPAS Show. The next partner or deal awaits you at the Deal Center, The Hub, during meals and in the lounges and networking spaces located throughout the Expo Hall. And, of course, our amazing parties:

**Bloodys and Beignets on BlueSky**

Tuesday, April 4, 9:00 a.m. - 9:30 a.m.

Wednesday April 5, 9:00 a.m. - 9:30 a.m.

**Location:** *Great Hall*

Enjoy complimentary Bloody Marys and Beignets on BlueSky!

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**MONDAY, APRIL 3**

**French Quarter Fête Opening Reception**

5:00 p.m. – 7:00 p.m.

**Location:** *Great Hall*

Kick off The INCOMPAS Show by making new connections and renewing old ones. Join us at our French Quarter Fête opening reception, where you'll mix and mingle with peers while enjoying a delectable array of appetizers and drink selections.

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**TUESDAY, APRIL 4**

**"Beers with Peers" Happy Hour**

4:00 p.m. – 6:00 p.m.

**Location:** *Great Hall*

Join your peers for a Happy Hour in the Expo Hall.

**WEDNESDAY, APRIL 5**

**Member Pre-Party (INCOMPAS Members Only)**

4:30 p.m. – 5:30 p.m.

**Location:** *Generations Hall, 310 Andrew Higgins Drive*

Being an INCOMPAS member has its perks! If you're a member, join us for a special Member Pre-Party, where you'll mix and mingle with other INCOMPAS members before the official closing party takes place.

**Big Easy Bash**

5:30 p.m. – 8:00 p.m.

**Location:** *Generations Hall, 310 Andrew Higgins Drive*

The can't-miss event of the conference! Join us for delicious New Orleans favorites, cocktails, dancing, live music and much more!



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# SCHEDULE AT A GLANCE

## MONDAY, APRIL 3

2:00 p.m. – 7:00 p.m.	<b>Registration Open; Sponsored by CenturyLink</b> Great Hall Pre-Function
3:00 p.m. – 4:30 p.m.	<b>Regulatory and Legislative Session</b> The Hub - Great Hall
4:30 p.m. – 5:00 p.m.	<b>New Revenue Opportunities and Strategic Infrastructure Initiatives for Competitive Fiber Providers</b> The Hub - Great Hall
5:00 p.m. – 7:00 p.m.	<b>French Quarter Fête Opening Reception; Sponsored by Spread Networks, TSI, Sunesys, Wave Wholesale</b> Expo Hall - Great Hall

## TUESDAY, APRIL 4

7:00 a.m. – 6:00 p.m.	<b>Registration, Deal Center and Meeting Spaces Open</b> Registration sponsored by CenturyLink; Deal Center sponsored by GTT Communications
8:30 a.m. – 9:30 a.m.	<b>C-Suite Networking Breakfast (Invitation Only); Sponsored by ICONECTIV</b> Rivergate Room
9:00 a.m. – 9:30 a.m.	<b>Bloodys and Beignets on BlueSky; Sponsored by BlueSky IT Partners</b> Great Hall
9:30 a.m. – 10:30 a.m.	<b>Industry Keynote: Kenny Gunderman, President and CEO, Uniti Group, Inc.</b> The Hub - Great Hall
10:30 a.m. – 11:30 a.m.	<b>Buyer Open Meeting Time</b> The Hub - Great Hall
11:30 a.m. – 1:00 p.m.	<b>Lunch</b> Great Hall
11:45 a.m. – 12:45 p.m.	<b>Key Strategies and Emerging Trends for Buyers</b> The Hub - Great Hall
12:45 p.m. - 1:15 p.m.	<b>Board Elections (Voting Members Only)</b> Rivergate Room
12:50 p.m. – 1:05 p.m.	<b>Making NVF Easy; Sponsored by ADVA Optical</b> The Hub - Great Hall
1:00 p.m. – 6:00 p.m.	<b>Exhibit Hours</b> Great Hall
1:05 p.m. – 1:20 p.m.	<b>Welcome to the Edge – Your Blueprint for Success; Sponsored by Schneider Electric</b> The Hub - Great Hall
1:30 p.m. – 2:00 p.m.	<b>How to be a Part of Granite's Success Through its Partner Solutions Program</b> The Hub - Great Hall
2:00 p.m. – 2:30 p.m.	<b>Snack Break; Sponsored by Granite Telecommunications</b> Great Hall - Booth #316
2:00 p.m. - 2:30 p.m.	<b>Refreshment Break</b> Great Hall
2:10 p.m. – 2:40 p.m.	<b>Business Opportunities in the Federal Universal Service Programs</b> The Hub - Great Hall
3:00 p.m. – 4:30 p.m.	<b>Buyer Power Hour</b> Rivergate Room
4:00 p.m. – 6:00 p.m.	<b>"Beers with Peers" Happy Hour</b> Great Hall
5:00 p.m. – 6:00 p.m.	<b>PAC Reception (Invitation Only)</b> Rivergate Room
6:00 p.m. – 7:00 p.m.	<b>Executive Reception (Invitation Only)</b> Rivergate Room
7:30 p.m.	<b>Executive Dinner (Invitation Only); Co-sponsored by Bank Street and Schneider Electric</b>

## WEDNESDAY, APRIL 5

7:00 a.m. – 3:30 p.m.	<b>Registration, Deal Center, and Meeting Spaces Open</b> Registration sponsored by CenturyLink; Deal Center sponsored by GTT Communications
9:00 a.m. – 9:30 a.m.	<b>Bloodys and Beignets on BlueSky; Sponsored by BlueSky IT Partners</b> Great Hall
9:30 a.m. – 10:30 a.m.	<b>Trends in Competition Amid Consolidation</b> The Hub - Great Hall
10:30 a.m. – 11:30 a.m.	<b>Buyer Open Meeting Time</b> The Hub - Great Hall
11:30 a.m. – 1:00 p.m.	<b>Lunch</b> Great Hall
11:45 a.m. – 12:45 p.m.	<b>Small Cells, Big Opportunity: How Local Governments and Providers Can Lead the Way</b> The Hub - Great Hall
12:50 p.m. – 1:05 p.m.	<b>The Economics of Cyber Attacks; Sponsored by Radware</b> The Hub - Great Hall
1:00 p.m. – 3:30 p.m.	<b>Exhibit Hours</b> Great Hall
2:00 p.m. – 2:30 p.m.	<b>Refreshment Break</b> Great Hall
3:00 p.m. - 4:00 p.m.	<b>Board Meeting (Board Members Only)</b> Board Room 207
4:30 p.m. – 5:30 p.m.	<b>Members Pre-Party (INCOMPAS Members Only)</b> Generations Hall - 310 Andrew Higgins Drive
5:30 p.m. – 8:00 p.m.	<b>Big Easy Bash</b> Generations Hall - 310 Andrew Higgins Drive



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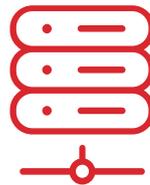


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## AGENDA

### MONDAY, APRIL 3

2:00 p.m. – 7:00 p.m.

#### Registration Open

Great Hall Pre-Function

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3:00 p.m. – 4:30 p.m.

#### Regulatory and Legislative Session

The Hub - Great Hall

##### Speakers:

Chip Pickering, CEO, INCOMPAS, and the INCOMPAS Policy team: Angie Kronenberg, Chief Advocate and General Counsel; Chris Shipley, Attorney and Policy Adviser; and Karen Reidy, Vice President Regulatory Affairs

The INCOMPAS Policy team will provide information about the regulatory and legislative landscape and the potential impact of this area on your business decisions. The discussion is intended to be interactive and informational. The Policy team will cover the status of key presidential appointments within the FCC, Commerce, the Department of Justice, and corresponding Congressional Committees. In addition, we will dive deep into a dialogue about Congress and the FCC's priorities specifically pertaining to the status of merger transactions and approvals, broadband deployment and infrastructure, net neutrality and open Internet and privacy.

4:30 p.m. – 5:00 p.m.

#### New Revenue Opportunities and Strategic Infrastructure Initiatives for Competitive Fiber Providers

The Hub – Great Hall

##### Speaker:

Andrew D. Lipman, Senior Partner, Morgan Lewis

This session will provide insight into opportunities that are available to fiber and infrastructure providers by various federal government programs. Please join us to learn more about existing programs as well as what is on the horizon under FCC Chairman Pai and Congressional activity on an Infrastructure Bill. We also will cover M&A opportunities presented by prior grant programs for fiber builds.

5:00 p.m. – 7:00 p.m.

#### French Quarter Fête Opening Reception

Expo Hall - Great Hall

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Kick off The INCOMPAS Show with a fun night of eating, drinking and engaging with peers at our opening reception. Visit The Hub to participate in our NCAA squares pool for a chance to win \$500!

### TUESDAY, APRIL 4

7:00 a.m. – 6:00 p.m.

#### Registration, Deal Center, and Meeting Spaces Open

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8:30 a.m. – 9:30 a.m.

#### C-Suite Networking Breakfast (Must be pre-registered)

Rivergate Room

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9:00 a.m. – 9:30 a.m.

#### Bloody and Beignets on BlueSky

Great Hall

Enjoy complimentary Bloody Marys and Beignets on BlueSky!

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9:30 a.m. – 10:30 a.m.

#### Industry Keynote: Kenny Gunderman, CEO, Uniti Group, Inc.

The Hub - Great Hall

Kenny Gunderman is President and Chief Executive Officer of Uniti Group, Inc. He has 17 years of investment banking experience and is focused on expanding and diversifying Uniti's real estate portfolio. Gunderman previously served as the co-head of investment banking at Stephens, Inc., where he advised on many of the firm's notable investment banking transactions and specifically focused on telecommunications services. Gunderman will focus on key current trends and future scenarios in the industry and share his experiences starting as a CPA at KPMG, his time as Senior Vice President at Lehman Brothers to his current position with Uniti Group, Inc..

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(Tuesday, April 4, continued)

10:30 a.m. – 11:30 a.m.

## Buyer Open Meeting Time

The Hub - Great Hall

Visit participating buyer company tables on the show floor for the opportunity to meet 1:1 with their buyers

11:30 a.m. – 1:00 p.m.

## Lunch

Great Hall

11:45 a.m. – 12:45 p.m.

## Key Strategies and Emerging Trends for Buyers

The Hub - Great Hall

### Moderator:

Nick Sgroi, Vice President, Carrier Strategy & Voice  
Product Portfolios, Bandwidth

### Panelists:

Jeanne Dale, Vice President, Voice Management, Windstream  
Douglas Gardner, Global Head of Carrier Relations, Twilio, Inc.  
Rebecca Sommi, Senior Vice President of Operations Support and Engineering, Broadview Networks

Take a break from meetings to hear from top industry buyers discussing the key factors impacting their buying decisions. Buyers attending this session can hear from their peers in the industry sharing best practices and the struggles they face, while vendors can benefit from the buyer feedback and gain a better understanding of how to effectively make business deals. Join us for this interactive panel session where senior communications buyers will engage in a discussion about industry trends and how they adjust their buying decisions to anticipate and accommodate shifting customer demands, particularly during a time of consolidation in our industry.

12:45 p.m. - 1:15 p.m.

## Board Elections (Voting Members Only)

Rivergate Room

12:50 p.m. – 1:05 p.m.

## Making NVF Easy

The Hub - Great Hall

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### Speaker:

Prayson Pate, Chief Technology Officer, Ensemble, ADVA  
Optical Networking

2017 is shaping up to be the year of NFV deployments – especially for operators that can solve the problems encountered when taking NFV from the lab to large-scale rollout. Service providers are collaborating with companies that have proven that they see beyond NFV, understand the unique challenges of the telco network, and that embrace the full benefits of the cloud. This session will demonstrate how ADVA Ensemble has helped leading service providers gain the benefits of cloudifying their networks with NFV.

1:00 p.m. – 6:00 p.m.

## Exhibit Hours

Great Hall

1:05 p.m. – 1:20 p.m.

## Welcome to the Edge – Your Blueprint for Success

The Hub - Great Hall

Sponsored by  | 

### Speaker:

Mark Hurley, Data Center Solution Architect, Schneider Electric

Are you considering adding data center services to your customer offering? Join Schneider Electric to gain an understanding of the business case for deploying an edge data center in your central office as a means to expand and diversify your sources of revenue. Learn about the options available for the deployment and management of an edge data center.

1:30 p.m. – 2:00 p.m.

## How to be a Part of Granite's Success Through its Partner Solutions Program

The Hub - Great Hall

### Speaker:

Charlie Pagliazzo, Vice President, Channels

Granite leads the communications industry as a service provider for more than 5,000 corporate clients. Partner programs are key to the success of Granite's clients as they provide personalized and scalable solutions that allow businesses to grow with imminent demand. Granite strives to build strong relationships that promote value and personalized customer support to provide cutting-edge solutions to businesses of all sizes. We invite you and your team to join us for a discussion of how you can be a part of Granite's success through its partner programs.

2:00 p.m. – 2:30 p.m.

**Snack Break**

Expo Hall, Booth #316

Sponsored by

2:00 p.m. – 2:30 p.m.

**Refreshment** 

Great Hall

2:10 p.m. – 2:40 p.m.

**Business Opportunities in the Federal Universal Services Programs**

The Hub - Great Hall

**Speaker:**

Steven A. Augustino, Partner,  
Kelley Drye & Warren, LLP

This session will provide information on ways to use the \$8.5 billion federal Universal Service programs to support your business growth as a communications service provider. The presentation will cover each of the FCC's four Universal Service programs, including Connect America Fund's upcoming auctions for fixed and mobile providers, E-Rate, Lifeline and Rural Healthcare programs. In addition to a brief overview of the various Universal Service programs, this presentation will cover the eligibility requirements as well as the ins and outs associated with utilizing these funds to support your business expansion.

3:00 p.m. – 4:30 p.m.

**Buyer Power Hour**

Rivergate Room

4:00 p.m. – 6:00 p.m.

**"Beers with Peers" Happy Hour**

Great Hall

Join your peers for a Happy Hour in the Expo Hall.

5:00 p.m. – 6:00 p.m.

**PAC Reception (Invitation Only)**

Rivergate Room

6:00 p.m. – 7:00 p.m.

**Executive Reception (Invitation Only)**

Rivergate Room

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(Tuesday, April 4, continued)

7:30 p.m.

**Executive Dinner (Invitation Only)**

**Location:** Galatoire's, 209 Bourbon St.

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WEDNESDAY, APRIL 5

7:00 a.m. – 3:30 p.m.

**Registration, Deal Center, Meeting Spaces Open**

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9:00 a.m. – 9:30 a.m.

**Bloody Marys and Beignets on BlueSky**

The Hub - Great Hall

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9:30 a.m. – 10:30 a.m.

**Trends in Competition Amid Consolidation**

The Hub - Great Hall

**Moderator:**

Rich Lukaj, Senior Managing Director, Bank Street Group

**Panelists:**

Rick Calder, President and CEO, GTT

Chris MacFarland, Chairman and CEO, Masergy

During the past several years, there has been a significant amount of consolidation throughout every segment of the communications industry. Join us for a discussion with financial and industry executives as they examine merger and acquisition trends in the tech and telecom sector.

10:30 a.m. – 11:30 a.m.

**Buyer Open Meeting Time**

The Hub - Great Hall

Visit participating buyer company tables on the show floor for the opportunity to meet 1:1 with their buyers.

11:30 a.m. – 1:00 p.m.

**Lunch**

Great Hall

11:45 a.m. – 12:45 p.m.

**Small Cells, Big Opportunity: How Local Governments and Providers Can Lead the Way**

The Hub - Great Hall

**Moderator:**

Todd O'Boyle, Deputy Director, Next Century Cities

**Panelists:**

Rondella Hawkins, Telecommunications & Regulatory Affairs Officer for the City of Austin

Charles McKee, Vice President, Government Affairs Federal and State Regulatory, Sprint

Russell Sarazen, National Director, State Legislative Affairs, T-Mobile

This panel will bring together local government and industry leaders to discuss innovative strategies to deploy small cells: a key to meeting growing wireless demand and getting more people online. We will also discuss surprising uses for small cells, including emergency preparedness.

12:50 p.m. – 1:05 p.m.

**The Economics of Cyber Attacks**

The Hub - Great Hall

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**Speaker:**

Michael O'Malley, Vice President of Carrier Strategy and Business Development, Radware

This presentation will provide attendees with an up-to-date picture of the rapidly changing landscape of cyber-attack tools and services, the buying criteria and locations for these tools and ease of use. Additionally, it will provide an understanding of how the combination of the proliferation of these tools and their corresponding

**SAVE THE DATE**



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use has dramatically changed the dynamics of the return on defense strategies. This presentation will provide unique insight into the world of the Darknet, specific customer attack stories, new economic models of measuring security deployments and a refreshed look at how controls should be deployed going forward.

1:00 p.m. – 3:30 p.m.

**Exhibit Hours**

Great Hall

2:00 p.m. – 2:30 p.m.

**Refreshment Break**

Great Hall

3:00 p.m. - 4:00 p.m.

**Board Meeting (Board Members Only)**

Board Room 207

4:30 p.m. – 5:30 p.m.

**Members Pre-Party (INCOMPAS Members Only)**

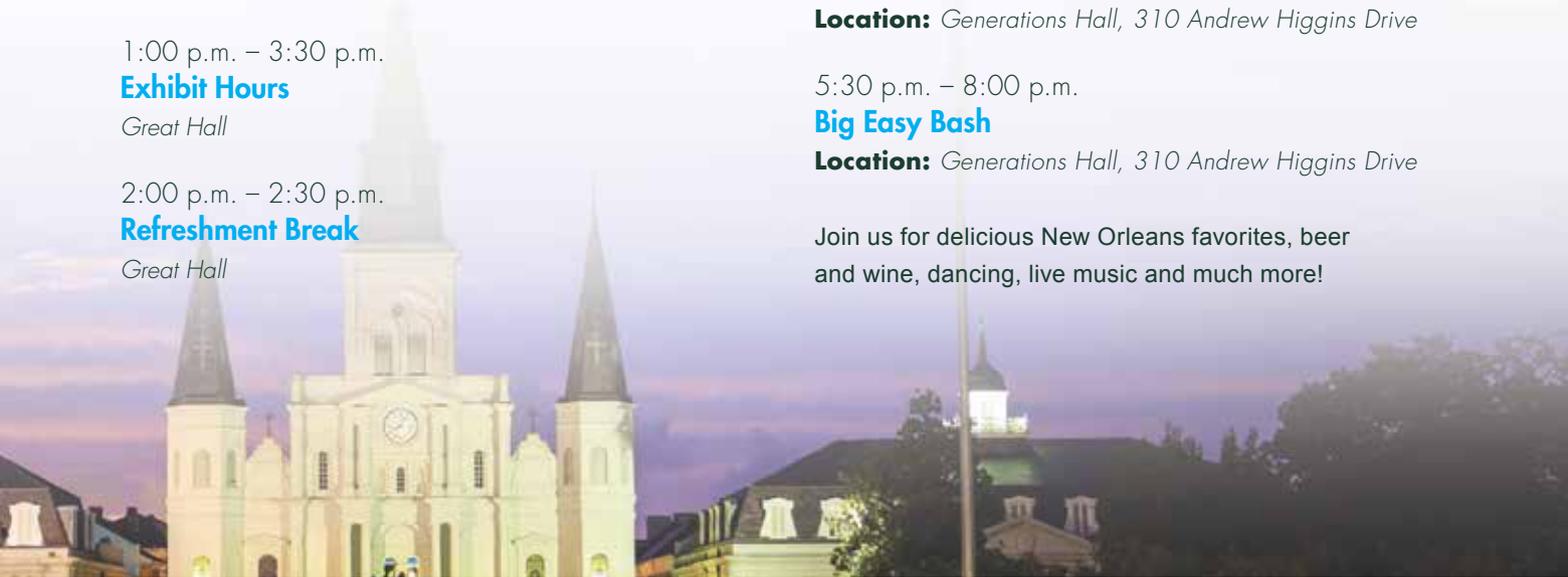
**Location:** Generations Hall, 310 Andrew Higgins Drive

5:30 p.m. – 8:00 p.m.

**Big Easy Bash**

**Location:** Generations Hall, 310 Andrew Higgins Drive

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## EXPO HALL

COMPANY NAME	BOOTH NUMBER	COMPANY NAME	BOOTH NUMBER	COMPANY NAME	BOOTH NUMBER
Axcent Networks, Inc.	304	GeoResults a ShareTracker Company	313	Rev.io	107
ChannelVision	310	Granite Telecommunications	316	Schneider Electric	108
CHR Solutions, Inc.	106	Henkels & McCoy, Inc.	216	Spirit Communications	302
Communications Data Group	103	Horizon Network Partners	105	TimelyBill	202
CSF Corp.	308	INDATEL	214	Uniti Fiber	113
Cspire	112	Kadence	101	VTX1	111
Data Tech, Inc.	314	Mapcom Systems	109		

## MEETING ROOMS

COMPANY NAME	LOCATION	NUMBER	COMPANY NAME	LOCATION	NUMBER
AT&T	Second Floor	204 & 205	Inteliquent	Great Hall	Pod
Bandwidth	Second Floor	203	Level 3 Communications, LLC	Second Floor	206
CenturyLink	Second Floor	208	NAPM Transition Oversight Manager (TOM)	Great Hall	2
eX2 Technology	Great Hall	Pod	Spirit Communications	Great Hall	9
Firstlight Fiber	Great Hall	5	Sunesys	Great Hall	4
Frontier Wholesale	Second Floor	210	Uniti Fiber	Great Hall	1
Global Capacity	Second Floor	211	Verizon	Second Floor	213 & 214
Granite Telecommunications	Great Hall	6	Wave Wholesale	Great Hall	3
GTT Communications	Second Floor	212	WOW! Wholesale	Great Hall	8
INDATEL	Great Hall	7	Zayo	Great Hall	10



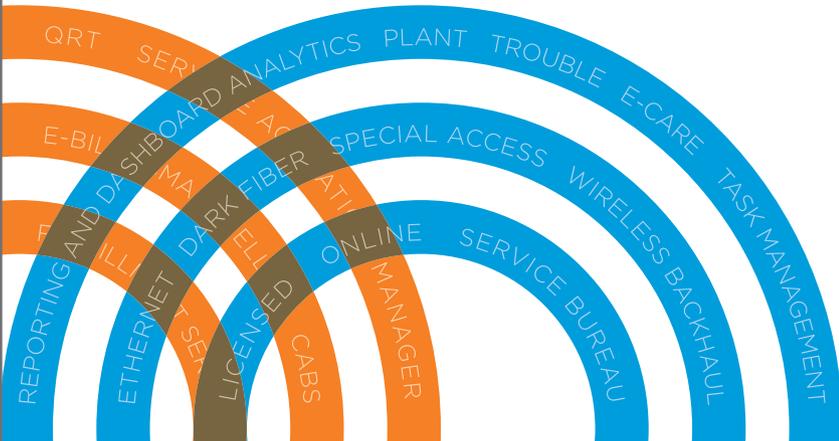
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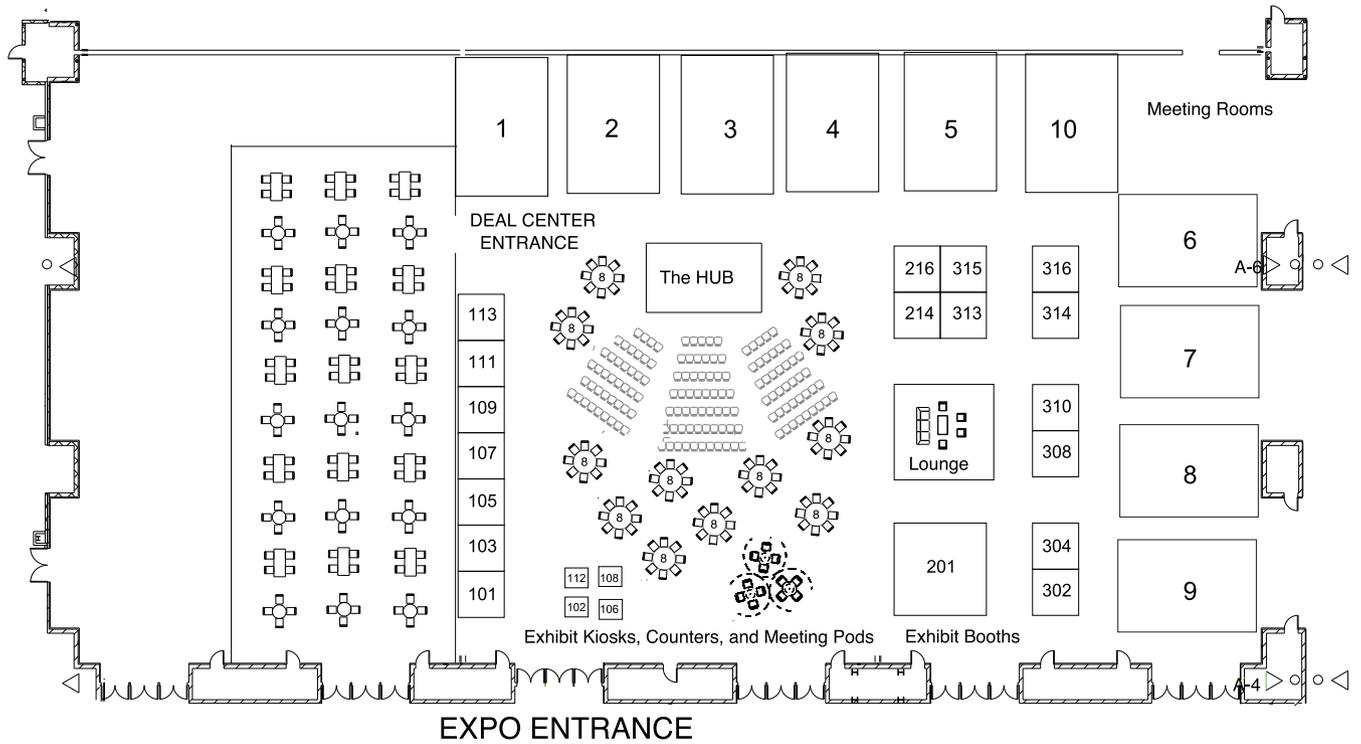


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BOOTH 102

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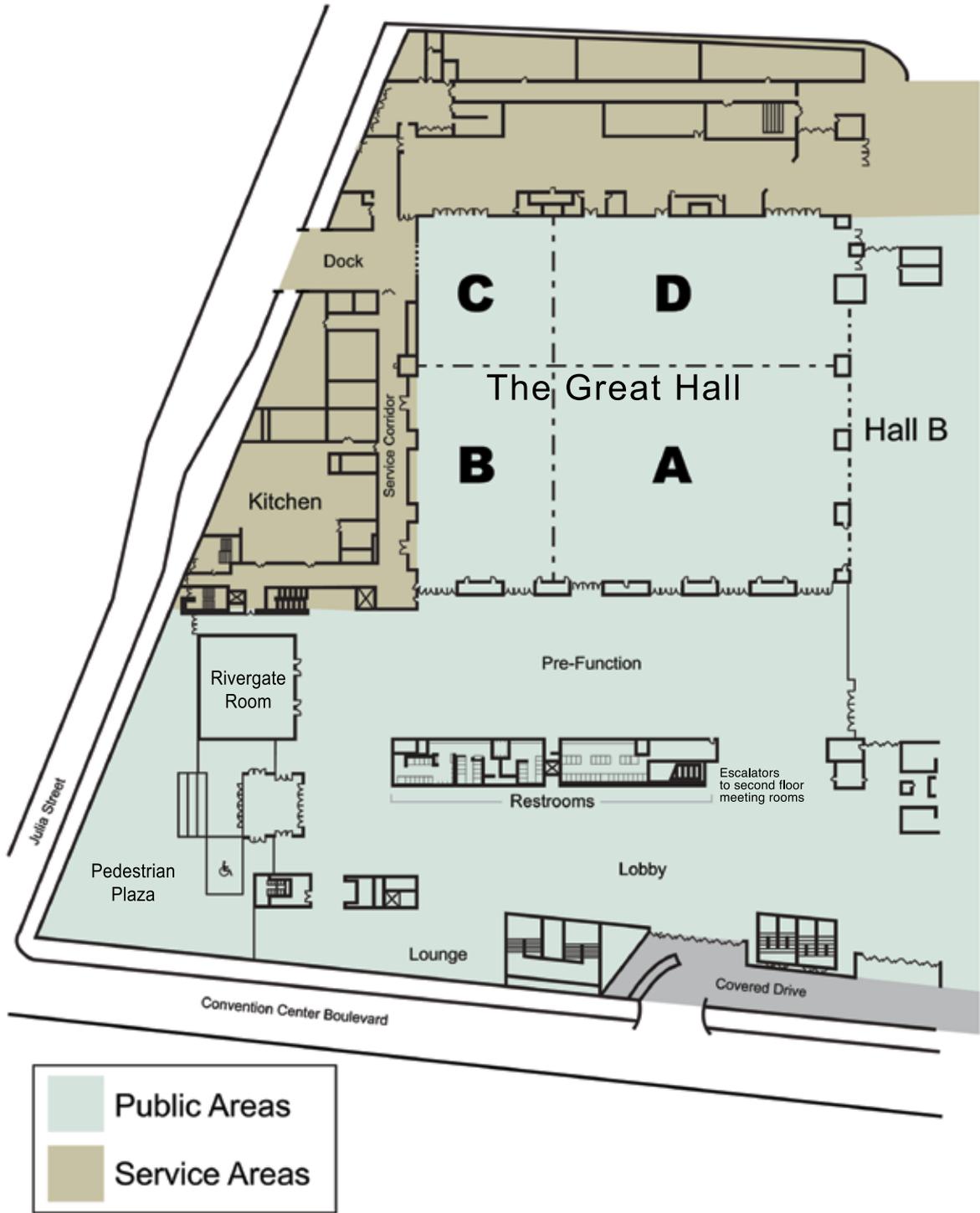
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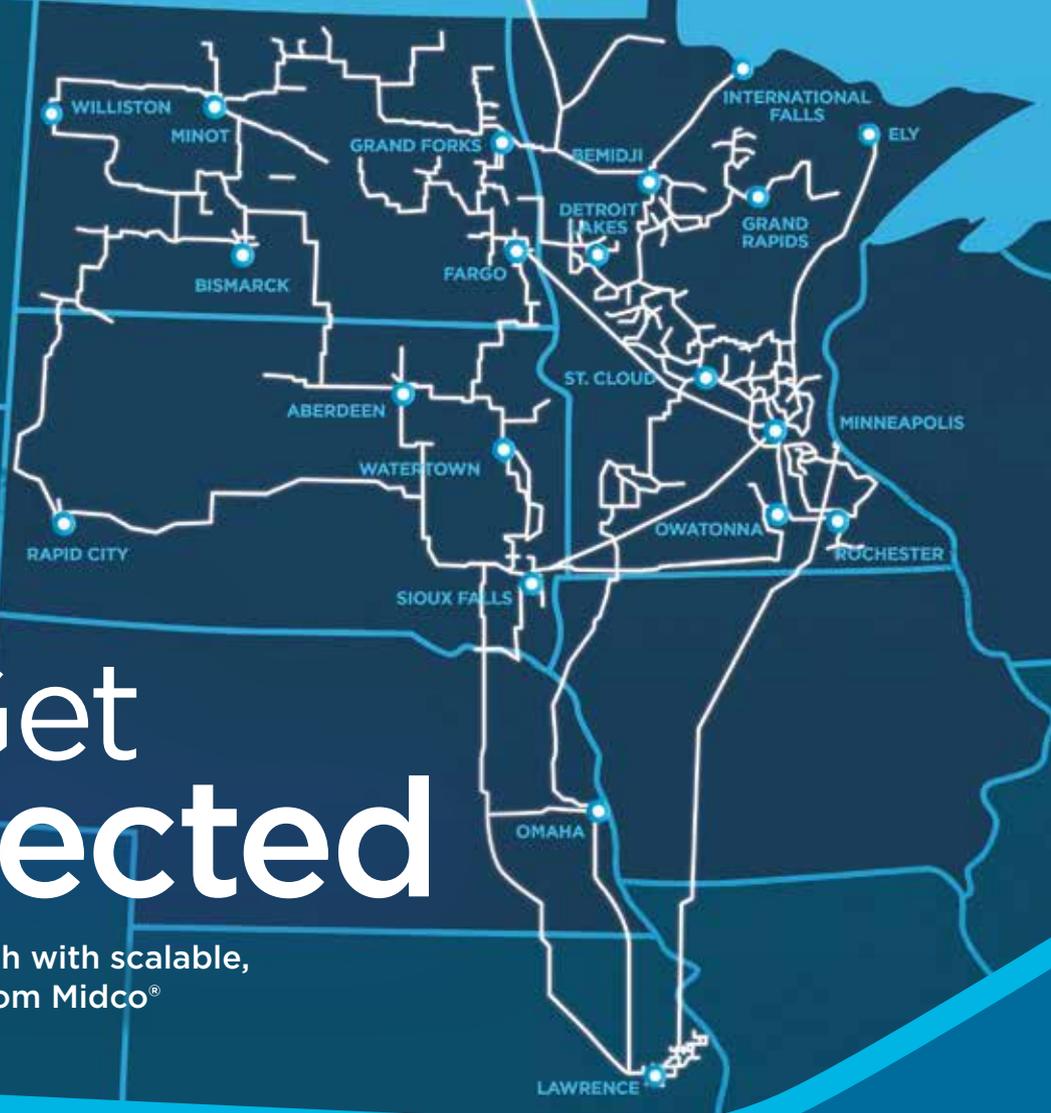
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# enSilo Launches Global Channel Program

enSilo has launched a global channel program, appointing security industry veteran Chris Marra to lead the program as director of channel sales.

Twenty-one resellers have signed onto enSilo's new channel program, nine of which are U.S.-based. The news comes as enSilo gains further traction as the only endpoint security provider capable of preventing the consequences of an attack when hosts are already compromised, enabling businesses to stop their critical data in real time from being modified, encrypted or stolen by the attackers.

"Endpoint security is an increasingly complex topic, where too often we hear teams say they do not have the resources to simultaneously manage multiple endpoint solutions," said enSilo co-founder and CEO Roy Katmor. "More so, they lack the resources to investigate the vast quantity of alerts to determine where true threats remain – and eliminate them before they cause damage. With Chris joining the team to lead our new channel program, I'm confident enSilo's effective all-in-one platform will continue to reduce the complexities of endpoint security for more organizations globally by reducing attack surfaces, pairing alerts down to one alert per one live threat, to ultimately stop bad things from happening to good data in real time."

enSilo plans to expand its program by 400 percent internationally in 2017. The 21 partners already signed onto enSilo's new program include Tevora, Morris Tech Partners and Monarch in the U.S. enSilo has also partnered with Security Validation, a managed security service provider (MSSP) in the hospitality industry, to ensure the security of thousands of point-of-sale (POS) systems used in retail, hotels and restaurants.

enSilo's channel program supports VARs offering security architecture,

processes and other services such as risk assessments and management, and white-label partners. The company also works with managed security service providers to deliver enSilo as a turnkey service to their customers. The program includes ongoing training and webinars, mutual marketing campaigns as well as 24/7 deployment assistance and ongoing premium support models. As the new channel program leader, Marra brings to enSilo more than 15 years of security industry experience in sales and management roles at Symantec, Dell, Tripwire, BAE Systems and Fortinet.

## AlixPartners Appoints European MD

AlixPartners, the global business advisory firm, has appointed telecommunications specialist Roman Friedrich as a managing director in its Technology, Media and Telecommunications (TMT) team, based in the firm's Dusseldorf, Germany office. Friedrich has more than 20 years' consulting experience, working predominantly with telecommunications companies across Europe to achieve strategic transformation and digitization.

At AlixPartners, he will be a key member of the leadership team in Germany and will help accelerate the development of the company's digital transformation capabilities in Europe. He joins AlixPartners from the strategy-consulting firm Strategy&, where he led the Global Digital as well as the Communications, Media and Telecommunications (CMT) practices since 2012. Prior to this, he headed up Booz

& Company's global and European CMT practice and was a member of the European management team.

## ShoreTel Expands UC to the EMEA

ShoreTel has introduced Connect CLOUD and the ShoreTel Connect Contact Center for CLOUD in the EMEA. These UC cloud services are sold through ShoreTel cloud partners that can also offer their customers a range of professional services for more complex environments. This launch follows the introduction of cloud-based solutions as a partner managed service in the U.K. in 2015.

"Our aim is to make cloud-based unified communications brilliantly simple for customers with a no risk pathway to cloud based purely on their requirements and needs," said Adrian Hipkiss, EMEA VP and managing director of ShoreTel. "This may include some elements that are not yet suited to a cloud-only approach. ShoreTel remains committed to providing choice and flexibility, so ShoreTel Connect CLOUD and ShoreTel Connect Contact Center for CLOUD are welcome additions to support a wider range of customer communication requirements."

ShoreTel Connect CLOUD has been available to U.S. customers for a year and a half.

## Featurecom to Distribute NEC Canada's UC

Ontario, Canada-based channel partner Featurecom has signed on with NEC Canada to distribute NEC's SL1100 unified communications platform, suited to the diverse needs of small and mid-sized businesses (SMBs). The SL1100 offers desktop phones, wireless handsets and a range of applications plus shortcuts that speed up working processes. It is part of NEC's Smart Enterprise solutions suite.

"NEC has really put all the pieces and value-added programs together," commented Steve Geraci, president of Featurecom. "They coincide exactly with what Canada's SMB-oriented business environment needs and wants." □



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## WHY PTC'17: *CHANGING REALITIES* MATTERS TO YOU.

By Sophie Ann Terisse

In his latest PTC'17 post-conference editorial, Stephen McClelland stated: "a very big wave indeed is headed our way!" By all accounts, PTC is riding a new wave. The organization is closing four decades of navigating the ICT industry transformation with its own transformation.

Visible signs of a renewed sense of purpose and confident identity were apparent: a new logo for the Council, a refreshed conference experience, a modern digital experience and a novel networking technology to connect attendees and content with a "spark." But, there was more to the conference than met the eye.

PTC'17 saw yet another surge in attendance. A continuous growth in participation that goes far beyond numbers. New members included the new driving forces of our industry: Facebook, Netflix, numerous cloud and OTT providers joined hundreds of PTC members to make their voices heard and their opinion count. New discussions on how ICT is a key global socio-economic driver and dialogues on how to deal with issues right were at the top of their agenda.

### CONNECTIONS OPEN THE WORLD

The PTC'17 Conference welcomed nearly 7,000 attendees from over 75 countries, opening its doors to more than 2,000 delegates participating to a packed three-day marathon of over 200 keynotes, panels and workshops.

Under its "*Changing Realities*" theme, one thing became crystal clear:

the connective fabric of PTC is rich, ever-extending and incredibly colorful – and the conference, a stage for an animated forum.

Discussions range from carrier strategies, data centers, subsea telecom and satellites to IoT and spectrum. Stephen summarized the content as a huge wave of possibilities only starting to gather its true strength. Amongst a plethora of facts and opinions, eight key take-aways stood out strongly:

**Everything is adding up.** Data drivers are exploding. Multiplicative, related and synergistic effects between big data, IoT, 5G, massive connectivity and AI are building and amplifying this wave.

Global connectivity build is rolling massively but it's not speculative or without substance. In the current climate, some suggest it will continue with no sign of the dotcom-like bust of the early 2000's.

**5G** will by itself usher in radically new network architectures to

continue to glue applications together. But it will require very high investment over many years. Spectrum availability will remain a key issue and a key driver on its own.

Meanwhile, **networks are changing rapidly**, and the change is fluid. The geography of data delivery and edge architectures matter. Latency is emerging as a key demand. Content and network issues more than ever are increasingly becoming aligned.

The **satellite community** is also bustling with renewed vigor as new projects—including a next generation of satellite constellation plans—take shape.

Generic **IoT applications** are in sight, but not quite yet within



PROJECTING THE NEXT DECADE, SO "CONNECTIONS OPEN THE WORLD"

reach. Nevertheless, experts are anticipating applications such as smart cities and self-driving cars will drive gigantic data demand.

**Security and privacy** considerations still matter but how they are mitigated is open to debate.

In the value chain, as applications surge, **OTT and content** businesses carry winning hands—for the moment—over infrastructure businesses.

Achieving the **Sustainable Development Goals** (SDGs), the leading planetary indicator of development, will desperately need more and more ICT.

Indeed, a very big wave is headed our way! No one yet knows how large, or how energetic it will be. We can't predict on which beaches it will eventually break. But break it will, and when it does, it will unleash even more pent-up possibilities. As PTC'17 indicated, realities for the ICT world are indisputably changing. If the commercial opportunities involved are inspiring, so are the resulting human opportunities for millions in the Asia-Pacific region.

## OPENING A NEW CHAPTER

As PTC moves towards the 40th anniversary of its conference and next generation thinking, all know that those opportunities will take form through more dialogue, more connectedness, and above all, more openness. The annual global conference is only one facet of

conversations and collaborations that set the stage for the deployment of ICT throughout the region and beyond. And with its 40th milestone on the horizon, PTC is committed to expand the relevance of its mission.

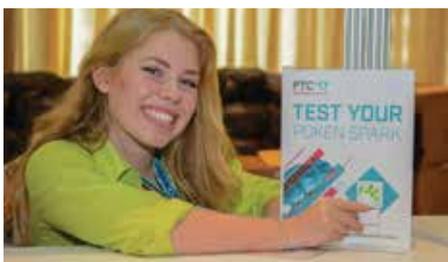
## MEMBERSHIP MATTERS

Industry trade events continue to proliferate at a faster pace than ever. Local, regional, topical, virtual, social – regardless of format, agenda or attendance, there is an outlet for each and every technology, segment and budget to promote organizations' latest offerings and innovation. Some have become commercial milestones and some innovation cornerstones. Almost none, however, are sustained and driven by membership.

One of a few organizations dedicated to its membership, PTC not only facilitates commercial connections, but quietly forges the links that change global realities. Ultimately, its mission nurtures a far deeper feeling – one that each member is a part of a far more meaningful purpose: connections open the world.

PTC powers connections that enable economic growth, entrepreneurial wealth creation, social interaction, enhanced productivity and increased standards of living.

As the 40th anniversary plans start unfolding, much can be expected: a new format to cater to the massive amount of collected intelligence; sustained networking throughout the year; access to projects and data gathered across new



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PTC, and the organization is set to strategically sharpen its focus and expand its leadership as it prepares for the 40th conference celebration at PTC'18.

As a global non-profit membership organization, PTC engages one of the broadest communities of professionals, organizations, technologists, researchers, academics and influencers who together ensure progress in the ICT industry while improving the quality of life in the Pacific Rim communities. The PTC community – leadership, secretariat and members – is active every day of the year, helping its members innovate and grow across the world's fastest growing markets. Its many actions help nations develop infrastructure that changes lives. Its daily initiatives spark and guide

technologies and markets; focus on raising the profile of selected new audiences; create new partnerships to expand visibility beyond existing boundaries.

As PTC looks to expand its reach to drive progress in all markets, the organization is empowered by its members – their insight, commitment to being part of new ideas and new relationships, and their ambition to grow in a changing landscape. They are the constant that makes the reality of change and transformation possible. And they will be at the center of celebrating 40 years of progress with PTC. ■

Sophie Ann Terisse is the senior advisor of growth strategy at 26FIVE Global Lab. Additional material supplied by Stephen McClelland, founder of PMP.

# Access to Asia

## Telstra's Cardi Prinzi discusses opportunities in Asia for U.S. channel partners

By **Tara** Seals

**A**ustralian powerhouse Telstra has invested heavily to become a major channel player in the United States, expanding its U.S. agent program after acquiring Pacnet in 2015.



Cardi Prinzi, head of U.S. sales at Telstra

That acquisition was part of Telstra's significant investment in product and network upgrades to help U.S. multinational companies connect to customers in the Asia-Pacific region. The result is that through Telstra, channel partners can access the largest sub-sea fiber network in that region, as well as data centers in key markets such as mainland China. And, the company has built a dedicated channel team with a presence in California, New York, Texas and the Pacific Northwest to support those efforts.

We sat down with Cardi Prinzi, head of U.S. sales at Telstra, to find out more about the company's U.S. strategy and latest portfolio initiatives that would be of interest to the channel community.

### **ChannelVision: Tell me a bit about your channel growth in the last few months.**

**Cardi Prinzi:** Over the past four years, vice president of channel sales Jason Kitmiller has worked with channel partners to help focus on the growing opportunities in the Asia-Pacific region. Following the Pacnet acquisi-

tion, he has added channel managers Kit Carker in Dallas and Anthin Zito in the Pacific Northwest. They join Dennis Calderwood in California and Marco Mancuso in New York to form a dedicated channel team with access to in-region experts in 22 countries throughout the Asia-Pacific.

### **CV: What benefits do you offer the channel from a product and portfolio perspective?**

**CP:** As many U.S. companies are expanding into the growing markets throughout Asia, Telstra has the expertise to help its customers execute their business plans. Many solutions combine multiple services – private line, MPLS, data center, managed and cloud services, and Internet services.

Our subsea network represents up to 30 percent of total active capacity in the Asia-Pacific region and connects all of the major markets in Asia. Unlike the U.S. and Europe, virtually all of the largest markets in Asia are connected with sub-sea networks, and Telstra has multiple routes and segments connecting the region together. With more than 2,000 global points of presence (PoPs), Telstra can work with agents and customers to offer global solutions. Importantly, with China continuing to draw considerable interest, our joint venture in mainland China, Telstra PBS, has a network with 26 PoPs in China's 21 key cities, providing MPLS, managed network and data center services.



### CV: What do you think are the greatest market opportunities for channel partners for 2017?

**CP:** There is an incredible opportunity in many of our channel partners' existing customer bases, as well as opportunities to gain expertise and help businesses expand into Asia. The market is expanding at double-digit rates, and U.S. businesses are either expanding in the region or looking to enter the market.

Asia is the world's largest economic region, and home to around half of the world's Internet users. Telstra has decades of experience working with customers in the region, and continued growth is an integral part of our future. For example, we have been operating in China for more than 20 years, and today our joint venture Telstra PBS is one of the only partially foreign-owned companies providing value-added network and data center services on the Mainland.

Opportunities in China have been a leading reason for agents to engage Telstra, and helping expand conversations with customers to drive new opportunities. We also continue to innovate and support our customers with talent from around the world, creating exceptional experiences for them.

### CV: What about the greatest challenges?

**CP:** The biggest challenge for channel partners and their customers is often not knowing how to get things done in Asia, where they don't necessarily have a lot of experience. Unlike the U.S., where for the most part there is consistency over a large geography, Asia's markets are very diverse, and each has nuances and characteristics that create opportunities for Telstra to use its expertise to help.

### CV: How has your partner ecosystem changed in the past year or so, and what do you expect going into 2017?

**CP:** Recently, we've been enthusiastically pursuing relationships with strategic channel organizations, including adding channel managers to work with agents throughout the country. The U.S. market and how the channel community there is positioned are unique and cannot be found on a large scale in the rest of the world. We are looking for ways to extend our focus from customers based in the U.S. to agents who are focused on customer opportunities in Europe and Asia. As a global service provider, the channel community is very important in helping us reach customers and leveraging relationships. When we get opportunities through our channel partners, we bring resources to bear in the U.S. and in markets throughout Asia to help our partners care for their customers.

### CV: What investments has Telstra made in the channel community of late?

**CP:** We've dedicated more resources to the channel community, as well as added solutions-engineering resources, and have been very aggressive in participating in channel events throughout the U.S. Since joining Telstra in 2013, Jason Kitzmiller has been a driving force behind the rapid expansion of the channel program and brings more than a decade of experience within the channel community, as well as extensive international sales experience. He has built a dedicated team across the U.S., with access to all of Telstra's resources, including almost 4,000 employees in 22 countries outside of Australia. And, we are very fortunate to have a very experienced team working with Jason. Kit, Anthin, Dennis, and Marco all bring extensive channel backgrounds to work with our partners.

### CV: What's guiding your overall company mission going forward?

**CP:** Our vision is to become a world-class technology company that empowers people to connect. To achieve this vision, we have a corporate strategy that highlights where our people, customers and shareholders can expect to see us creating value, and our vision and purpose articulate our company's goals. The corporate strategy, which has three pillars, outlines how we will achieve this ambition. The first is to deliver brilliant customer experiences; the second is to drive value and growth from the core; and the third is to build growth in businesses close to the core. The strategic enablers are building networks for the future, digitization, and culture and capabilities.

### CV: What does the future hold for Telstra and its U.S. agent program?

**CP:** At the annual Pacific Telecom Council conference in Honolulu in January, we introduced several exciting network initiatives that will continue to enhance our ability to provide additional services and an improved customer experience. The "always-on" service between Tokyo, Hong Kong and Singapore leverages multiple sub-sea routes to provide greater levels of redundancy between these key markets. We've invested in enhancing our networks in Taiwan and Korea to strengthen our terrestrial networks and connect multiple sub-sea routes. Upgrades to the China network and the ability to leverage multiple access and backhaul opportunities in the U.S. are all designed to create more opportunities and help us develop more solutions to meet customer needs.

The combination of Pacnet's assets, capacity and expertise, along with Telstra's dynamic networks, technology and services, makes Telstra the ideal global technology partner for the channel community and their customers. The Telstra Channel Partner Program is your smart choice for international opportunities. □

# Conservation-aaS

**M**ore specifically, its energy conservation as-a-service, and Arkados Group says it can lead to reduced energy consumption and maintenance costs of as much as 60 percent.

Software developer and system integrator Arkados has partnered with SparkFund to offer commercial and industrial facilities a subscription model for energy conservation services. One monthly payment covers installation, repairs, monitoring and ongoing services. The Arctic Energy Measurement and Verification (EM&V) platform is designed to enable the implementation of multiple types of sensors, such as temperature, humidity, light, energy and water consumption, motion and occupancy, indoor air quality and noise, that can gather information throughout a building or complex. The application can provide for initial benchmarking to determine the unique building signature and be used for continuous monitoring to yield insights that may not otherwise be evident.

"In nearly every case, customers can experience all of the benefits of these efficiency improvements and automation with no upfront costs and use the savings to offset the entire subscription fee and still net a cost reduction," said Terrence DeFranco,

CEO of Arkados Group.

To help prove the cost, EM&V provides verification of energy savings with granular, real-time data gathering, as well as insights into additional ways to reduce energy consumption.

"The revolutionary aspect of this partnership for Arkados is our ability to continue de-



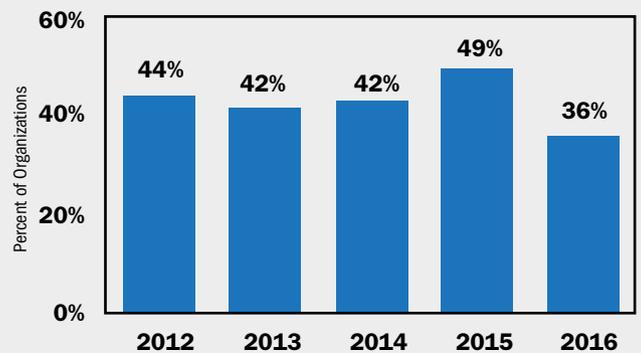
living new applications over time to our customers with this model, giving them flexibility, scalability and protection from obsolescence as their needs evolve," said DeFranco.

# 2016 Slip in Outsourced DR

Many IT organizations see the value in disaster recovery outsourcing, say researchers at Computer Economics. However, the percentage of organizations outsourcing this function dropped in 2016 after staying relatively static from 2012-2014 and seeing a bump in 2015. Could it be some of 2016's spending came at the end of 2015?

Nonetheless, Computer Economics analysts are still bullish on the market, and particularly on disaster recovery as a service. The research firms points to rapid growth in DRaaS during the past

## Outsourcing Frequency: Disaster Recovery



Source: Computer Economics

two years. So far, some pretty big names lead the market: Amazon, Hewlett Packard Enterprise, IBM, Microsoft, Verizon, VMware, as well as scores of smaller providers.

Overall, Computer Economics findings suggest the outsourcing level is very high, meaning that when organizations outsource disaster recovery, they often outsource most or all of it.

"Preparing for every eventuality can often require additional expertise and resources, and getting help is often useful," said Tom Dunlap, research director for Computer Economics.

90

Percentage of telecom providers that believe integrated, cloud-based platforms speed time to market for the delivery of unified communications offerings to business customers, says a survey conducted by Frost & Sullivan in collaboration with BroadSoft.

# CCaaS and the CX

## Moving cloud contact center forward in 2017

By **Jacki** Tessmer

**A**ll indications point to a dramatic spike in 2017 of cloud contact center adoption.

Compared to similar claims made during the past few years, several factors validate this assertion, not the least of which is the steady acceptance of the “as-a-service” delivery model.

Increasingly, however, the decision to move from premises-based contact center technology to cloud contact center is less about the type and location of the technology and more a decision about how to provide the customer a more connected and better user experience. It is these customer experience (CX) program goals that will create a connection with and become a key driver for increased cloud contact center adoption in 2017.

Research from Forrester shows the soundness of a corporate strategy focused on keeping customers happy. CX leaders grow revenue as much as 25 percent more compared to those organizations with a poor track record. The contact center is a key component to providing a connected and contextual customer journey, and a cloud contact center strategy allows the contact center to be more flexible in adopting technology and new functionality that's key to CX programs.

For starters, that's because the contact center as a service (CCaaS) model provides the flexibility to better adapt to changing business needs. After all, it's much easier to pilot new functionality

when the cloud provider already has it on its platform and only requires a simple activation for sets of agents. This allows contact center executives to see what works before rolling it out to the broader set of agents. Scalability of the cloud also is important, as scaling up/down and paying for what you use is especially common in the contact center space. The OPEX-based economics of cloud contact center also is a strong selling point for the C-suite, who likewise will be interested in the CCaaS model's ability to allow for better planning and staffing decisions, in addition to liberating in-house IT from contact center operations.

All the while, there's the underlying theme of a new key driver which, admittedly, includes all of the above drivers. This new, all-encompassing driver is successful customer experience initiatives. Here is why:

- It's less about where the technology sits and who maintains it and more about your CX business objectives. Companies are less focused on the logistics of the technology and more on how the technology can improve CX;
- Legacy, on-premises technology can be difficult and expensive, leaving it unable to keep up with the rapid pace of contact center

evolution. A service provider is a key partner in speed to market and keeping companies on pace with the latest trends and requirements. After all, a seamless user experience might require channels an infrastructure may not already support;

- As technology and customer demands quickly change, so does the technology skill gap. A CSP is well suited to closing the gap, both in technology and operational skills; and
- It's likely that a CX program involves solutions that may be on-premises and/or provided from another CSP, such as a cloud-based CRM solution. This means integrations is key and requires thoughtful planning.

Ultimately, the cloud is the answer to a business's CX objectives because of its capabilities to drastically improve the contact center's customer experience. In turn, customers will be looking to solution partners not just as their vendor but as a trusted source in executing their CX plan. This partnership requires a business approach which, similar to the technology you provide, is devoid of complexity and enables agility – two inherent advantages of cloud-based solutions. □



*Jacki Tessmer is vice president of cloud & service provider strategy for Enghouse Interactive, a global developer of contact center and customer interaction software and services.*

## Enzu Chooses INAP for West Coast Colocation

Internap Corporation, or INAP, and IaaS provider Enzu announced a multi-year colocation agreement in INAP's Los Angeles Data Center.

"To properly support our customers' growth, it was critical that we find a facility in the right location with the correct architecture, capacity and scalability for rapid, high-density, high-bandwidth deployments, and INAP's purpose-built data center fit the bill," stated Steve Empie, CEO of Enzu.

The facility's design allows Enzu to step in and deploy a wide variety of customers at the required 4-10Kw level without having to make modifications, said Empie. "INAP offers us access to dark fiber, allowing a multi-terabit DWDM solution, while maintaining not just the redundancy of being outside L.A.'s power grid but a very strongly built environment that can sustain power in an outage, which has frequently happened in this geography."

## BullsEye Beefs Up Channel Team

BullsEye Telecom has appointed Brian Babich as vice president of channel sales, and Chris Otenbaker as vice president of corporate accounts.

Babich is a 22-year telecom veteran who has served in both direct and channel sales leadership roles at BullsEye. He led the national direct sales team prior to spearheading the channel and as a result developed expertise in teaching BullsEye's partners how to sell and effectively position BullsEye for national multi-location enterprises. Babich said that he sees great untapped potential in the non-traditional agent space, given that BullsEye can integrate digital voice and VoIP, broadband and managed services to expand the opportunities for VARs and MSPs that already manage their clients' network infrastructure.

Otenbaker's role, meanwhile, was first established in October 2009, with Otenbaker as one of only two customer relationship managers. The team has since quadrupled in size. "Having served as a brand ambassador to our clients, I am passionate about our clients being excited with the solutions we propose and benefiting from the tangible results as they use them," said Otenbaker.

These appointments are in line with the Michigan-based company's continued growth in the enterprise multi-location telecom space during the past 17 years – it has seen more than 20 percent compounded annual growth in its broadband and VoIP businesses in the past few years alone. And, BullsEye's channel recruitment growth has increased by an average of 11 percent in the last two years.

## Transbeam, Intelisys Enter Partnership

Managed services provider Transbeam has expanded its channel partner program by partnering with national distributor Intelisys. The new agreement allows Intelisys' sales partners to sell Transbeam's suite of data solutions, including SD-WAN, MPLS and metro Ethernet, as well as voice, including hosted PBX and managed IT services, across the country.

Transbeam agent partners have access to pre-sale engineering and sales support, online tools and sales assistance. Post-sale resources include professional project management and installation and an Intelligent Network Monitoring tool for customers to manage and monitor their networks' performance.

## McBain joins Channel Mechanics

Channel Mechanics, the developer of a cloud-based channel enablement SaaS solution, has hired Jay McBain as strategic advisor. McBain's role at Channel Mechanics is to refine the firm's global strategy, identify new

market segments and raise visibility for the Channel Mechanics software platform.

McBain joins Channel Mechanics from ChannelEyes, which he co-founded and held the role of CEO. He has spent a 23-year career in sales, marketing, channel and strategy roles within IBM, Lenovo and Autotask and currently serves as Chairman emeritus of the CompTIA Vendor Advisory Council and Managed Services Community.

"I am very excited about the Channel Mechanics platform. It solves a very big problem for channel professionals who need a way to design, deploy, track, evaluate and change offers, promotions and sales programs in real-time," said McBain. "The software is easy to implement, use, and adds tremendous value right out of the gate."

## Skyriver Signs with TCG

Skyriver has signed a master agent agreement with Telecom Consulting Group to expand Skyriver's reach for its wireless broadband services. TCG's agents will offer Skyriver's wireless broadband Internet service and virtual private network.

With scalable speeds to GigE, Skyriver broadband is suited for businesses facing rapidly increasing broadband utilization, said the company, and because Skyriver's wireless service requires no construction, most new customers see their service provisioned in just a few days.

## PlanetOne Partners with Aryaka on SD-WAN

Aryaka is now part of PlanetOne Communications' growing portfolio of preferred providers. The new alliance provides PlanetOne channel partners with an opportunity to deliver Aryaka's global SD-WAN solution to enterprises, enabling them to replace their legacy MPLS connectivity worldwide. It is also expected to further expand Aryaka's reach into the IT and telecom partner communities through targeted engagement with PlanetOne's agents, MSPs and VARs.

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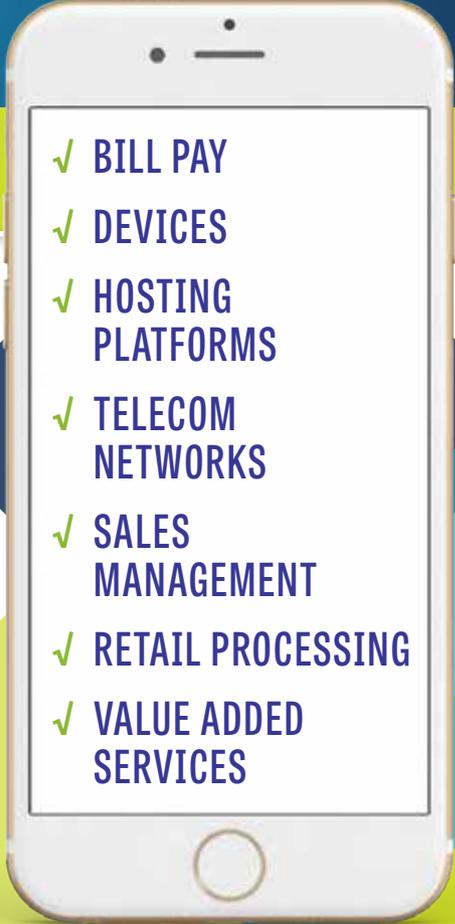
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“As global businesses look to replace their legacy MPLS-based connectivity, they need a WAN solution that is quick to deploy, affordable to use, simple to manage and offers performance improvements for all applications including SaaS; all this in addition to the reliability and consistency traditional MPLS users have come to expect,” said Jim Hilbert, chief revenue officer at Aryaka.

## Honeywell Launches Productivity Solutions Channel Program

Honeywell announced the North America launch of its 2017 Performance Partner Program, which the company says enables channel partners to grow their revenue and increase the depth and breadth of their customer portfolios. Enhanced with sales, marketing and support services,

Honeywell’s Safety and Productivity Solutions Business includes barcode, RFID, printer, scanner and wearable devices; accompanying software; and workflow, enterprise mobility and voice-directed solutions.

Highlights of the program include Platinum and Platinum Elite tiers, with growth incentive rebates; a loyalty rewards program for channel partners at all levels; new partner enablement tools including an enhanced price book, a more robust partner website and partner performance dashboards; and a new “rising star” program to reward and recognize growing partners throughout the year.

Honeywell’s solutions enable end users to accelerate productivity, simplify operations and provide transparency for their connected workforce. Channel partners deliver Honeywell’s technology to customers in the direct-store-delivery, distribution center, field service, healthcare, logistics, manufacturing, postal and retail markets.

## Alliance Partners Adds Liquid Networkx to Roster

The Alliance Partners has announced that Liquid Networkx has joined its membership ranks. San Antonio, Texas-based Liquid Networkx is a telecommunications lifecycle management organization with a vertical focus on mobility, cloud and vendor management and automation solutions. It offers audit, design, consulting, compliance, help desk, implementation, training, monitoring, disaster recovery and spend-optimization services, serving corporate customers throughout the United States and abroad.

Liquid Networkx has longstanding relationships with many leading communications services providers offering voice, data network and application services. It also offers a range of managed services under its own banner, including managed security, managed network monitoring and expense optimization.

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