UCIF Aims
to Address Standards, Interoperability Gaps

Several of the UCIF's directors and members (for list of names, see Table of Contents)

Fonality Talks Services, Search and Storage

Preparing Your Network for UC

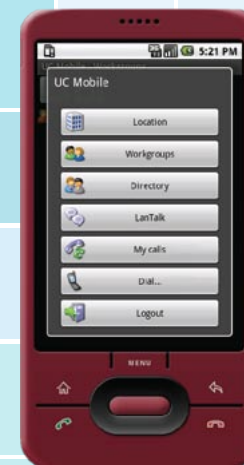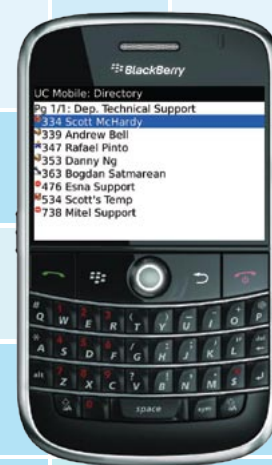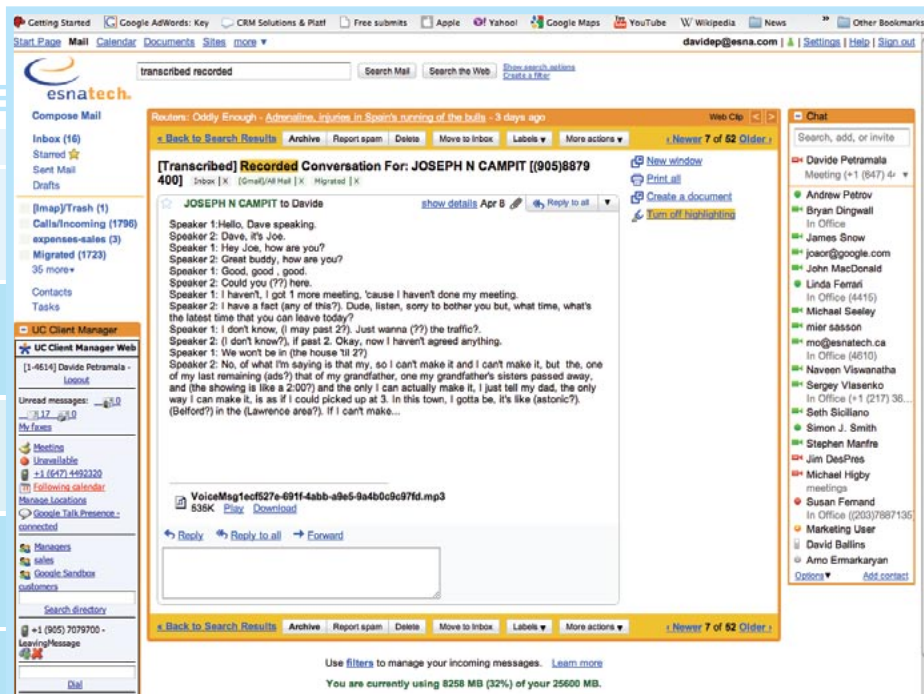College of the Canyons Gives NEC Solution High Marks

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Seeing Green

By Paula Bernier

A battle for supremacy between Avaya and Cisco, and an interest by businesses in green initiatives are two of the key trends shaping up on the unified communications front, according to new studies from Infonetics Research and Frost & Sullivan. The introduction of the iPhone 4 also has brought a new angle to the UC landscape.

In announcing its first quarter enterprise unified communication, VoIP and TDM equipment forecast, Infonetics Research reports that Avaya, with the Nortel assets now under its belt, and Cisco are going head to head as leaders in enterprise telephony. (For more on Avaya, see the "60 Seconds with Avaya" Q&A in this issue.)

The research firm says Cisco led the overall enterprise telephony market by just a nose in the first quarter. Meanwhile, Avaya experienced a 25 percent quarterly increase in its PBX revenue following its purchase of Nortel's enterprise solutions business.

As a whole, revenue from PBXs and KTS systems was $2 billion in the first quarter, which was a 4 percent sequential dip, according to Infonetics. Despite the decline, the enterprise telephony market continues to grow from the lows of the first half of 2009, the research firm indicates, noting this space has advanced 7 percent year-over-year from the first quarter of 2009 and that the North

American PBX equipment market posted the highest year-over-year growth between the first quarters of 2009 and 2010 worldwide. And while sales of unified communication applications are temporarily down due to expired promotions, the firm adds, this space is expected to see growth in the year ahead, with Avaya and Cisco leading the way.

Meanwhile, Frost & Sullivan indicates that the green IT trend should be a major, and growing, adoption driver for unified communications and collaboration.

Dorota Oviedo, industry analyst for Frost & Sullivan's unified communications and collaboration group, says businesses are beginning to move on efforts to reduce their greenhouse gas emissions. Naturally, using telepresence and UC tools as an alternative to business outings and office commutes is one key area that can allow them to do that. Indeed, the research firm notes that the Web conferencing services market in Europe grew 19.3 percent last year.

Speaking of green, Sipera Systems just got some more of it.

The UC enablement and security outfit earlier this summer closed a funding round of $10 million. The round – led by S3 Ventures, and including prior investors Austin Ventures, Duchossois Technology Partners, Sequoia Capital, and STAR Ventures – brings Sipera's total funding to $48 million. The new money will help the company advance its smartphone UC security solutions and UC-Sec enterprise UC security product family by enabling it to further develop its channel and expand its geographic target, says Adam Boone, vice president of marketing and product management with Sipera Systems. **UC**

Editor's Notes

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Bennett, Microsoft . (Front row, left to
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18   COVER STORY:
UCIF Aims to Address
Standards, Interoperability Gaps
Microsoft, HP, Juniper Networks, Logitech/LifeSize and Polycom this spring joined forces to unify what they say
is a vibrant, but fragmented, UC ecosystem. In an effort to piece things together, the companies have established
the Unified Communications Interoperability Forum, which as of early July had 21 member companies.
Noticeably absent from this group, however, are enterprise telephony leaders Avaya and Cisco.
Paula Bernier

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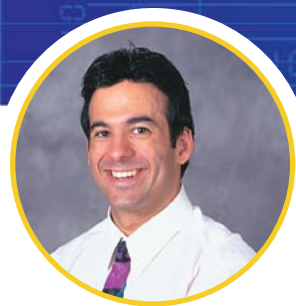**Find your Big Deal at www.adtran.com/UC_SMB**

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The Growing Role of Social Networking in Promotion

by Rich Tehrani

The online coupon business is booming and the reason for its recent boost in success is 100 percent related to the economy. On the one hand, customers have less money and need to shop for the best deals they can find. On the other, retailers want to spend money on marketing while being able to generate a direct pay back. Online coupons are the beneficiaries of these trends.

To give you an idea of how hot this market is, one company in the space, Groupon, has been so successful it has encouraged a wave of group-buying Chinese startups.

I often have conversations with people in the tech industry about Twitter and social media in general. In the B2B space, it seems that getting any sort of ROI from social media is tough to measure. Still, other business leaders swear by social networking as a valuable marketing tool. Companies like Facebook know this and are doing their best to leverage new tools to get businesses hooked on their platforms.

One company early to Twitter was Dell, which uses the service to send coupons to customers. So with this in mind, Twitter is looking to monetize its site and has launched a new user name @earlybird, which is focused on bringing coupons to the masses. As of this writing, this account is adding about 1,000 new users per hour. This is a far cry from Lebron James who added well over 100,000 users in a day, but it's still respectable. And, yes, the company will take a percentage of the sale items it promotes.

For those people wondering how and if Twitter would be able to monetize its site, they should be very happy that the company is not standing still. But to really start flying high it needs to get rid of the dreaded and frequent fail whale messages.

Speaking of Twitter and Lebron, I recently tweeted that Lady Gaga has surpassed President Obama in Twitter followers and that Lebron recently joined Twitter at @kingjames. At the time I wrote about this, in early July, Lebron had just 30,000 followers – a far cry from the 4.8 million followers of Lady Gaga or the 4.5 million of President Obama. But, as noted above, the basketball great's following has quickly increased.

The underlying theme here it that it is clear the Web is becoming more important than ever in everyday life through the dissemination of information and even helping businesses promote their products and customers manage their budgets. It's also become a key resource in helping to shape the image of celebrities, athletes and politicians.

As discussed in the June cover story of INTERNET TELEPHONY, a sister TMC publication to Unified Communications Magazine, social networking in the business world has gotten a lot of buzz in recent months.

However, figuring out the most effective way to employ social networking is challenging because it doesn't fit neatly into the project constructs enterprise IT groups typically use, says Gartner Vice President and Fellow Steve Prentice. The current model, he explains, involves evaluating a need, accessing available technological solutions and then implementing the solution that best addresses the need within the budget. But creating a social networking strategy should be less about technology and the deployment of a particular solution, and more about defining the goal of the effort and then looking at who will be involved, says Prentice.

And Prentice adds that integrating social networking into a business environment doesn't necessarily mean huge new investment given products such as Cisco's WebEx, IBM's Lotus tools, Microsoft's LiveMeeting and SharePoint, and many other conferencing and collaboration solutions can easily fit under the social networking umbrella.

Indeed, ON24 now offers what it calls Social Webcasting, which allows the company's webcast customers, and their webcast participants, to alter their interfaces, include various widgets on the interfaces, and bring group chat or Twitter conversations onto the screens.

Doing this kind of thing, explains Mark Szelenyi, ON24's director of product marketing, can allow for a more interesting experience for webcast participants.

"Our assumption is that when the user can engage with the event and customize it a little bit and share pieces of it with other parts of [his or her] digital life – like sharing or commenting on it – that drives a higher level of engagement with our customers' content," he says. "So it is this whole notion of re-engaging with that very multitasking-oriented user that's just a click away from just leaving it and shutting off the event."

Other popular products on the social networking for enterprise front include Jive Social Business Software, which according to Jive is in use at Cisco, Deutsche Lufthansa AG, Intel, NIKE Inc., SAP, Swiss Re, T-Mobile and Yum! Brands; and Yammer, a microblogging solutions provider.

Gartner's Magic Quadrant for Social Software in the Workforce, which was released in October 2009, reports that "established workplace vendors with communication, portal, content or general collaboration platform offerings have continued to invest in social media support, and they are gaining market traction. Specialist vendors directly target social media prowess, so are enhancing product functionality, moving toward solution selling that appeals to non-IT buyers, and innovating with viral adoption techniques both within and between user organizations." **UC**

http://tmcnet.com/32988.1

Cloud UC Outfit Enhances Solutions

PanTerra Networks, a provider of cloud-based unified communications solutions, has introduced enhanced service features suitable for legal, health care, financial and accounting firms. Readable Voicemail, which was added recently to the WorldSmart UC package, translates voicemail into text. Text-transcribed voicemails need less storage and are searchable.

www.panterranetworks.com

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- Analog Device Support
- MPLSConnect

http://tmcnet.com/32989.1

Infonetics Reports Growth in MPLS, Ethernet Services

The worldwide IP MPLS VPN and Ethernet services markets continued growing throughout the economic downturn in 2009 as companies gravitated to the efficiency and cost-cutting features offered by these services. Worldwide, service providers generated $20.8 billion from Ethernet services in 2009, a 23 percent jump from 2008.

www.infonetics.com

http://tmcnet.com/32991.1

Verizon Early to Cisco UC&C Cloud

Verizon Business is the first U.S.-based global service provider to deliver Cisco UC&C services. The Cisco UC&C solutions enable Cisco partners and service providers to offer a wide range of Cisco collaboration applications to their customers via the cloud.

www.cisco.com
www.verizonbusiness.com

http://tmcnet.com/32992.1

Hotel Chain Checks in with Thing5

Thing5, which sells SIP trunking and hosted PBXs to the hospitality industry, has completed another brand-wide deployment. This latest announcement brings the company's total in-production sites to almost 3,000 hotels.

www.thing5.com

http://tmcnet.com/32993.1

UniTek Hops on Whaleback

Telecommunications installation, engineering, design and project management services provider UniTek Global Services has implemented managed VoIP service CrystalBlue

Voice from Whaleback Systems. UniTek has more than 110 field offices that support a workforce of more than 5,000, providing installation and engineering services for wired and wireless telecommunications, cable broadband and satellite television customers in the United States and Canada.
www.unitekglobalservices.com
www.whalebacksystems.com

http://tmcnet.com/32994.1
SMBs Targeted by Genisys
Genisys Group LLC, a provider of SANs, disaster recovery, hosting, and many other services, has launched business class VoIP phone solutions for small and medium businesses. Some of the benefits of Genisys Group Business Class VoIP include the ability to transmit more than one telephone call over a single broadband connection without the need to add extra lines and the ability to secure calls using standardized protocols like Secure Real-time Transport Protocol.
www.genisys-group.com

http://tmcnet.com/32995.1
Digium's Switchvox Goes Mobile
Switchvox Mobile applications for the iPhone and BlackBerry are now available from Digium, the Asterisk Company. Designed to deliver advanced unified communications functionality to employees on the go, the applications are freely downloadable and integrate with the Switchvox VoIP UC solution.
www.digium.com

http://tmcnet.com/32996.1
Intermedia, SpiceWorks Offer Hosted Exchange Buyer's Guide
Hosted Exchange services can save up to 90 percent on e-mail costs, Intermedia says. To help businesses find the right provider, Intermedia and SpiceWorks have developed a buyer's guide.
www.intermedia.net
www.spiceworks.com

http://tmcnet.com/32997.1
Ingate, TMC to Stage SIP Trunk-UC Summit
Ingate Systems is joining efforts with TMC and a number of vendors and experts to hold a new SIP Trunk-Unified Communications Summit at ITEXPO West 2010. The three-day seminar series will be free to all the attendees of ITEXPO.
www.ingate.com

http://tmcnet.com/32998.1
The Upside of AT&T's New Data Pricing
Though some people really dislike caps on data plans, most users, perhaps as many as 70 percent of mobile data users, can save money on the new AT&T tariffs that emphasize $15 plans (200 Mbytes) and $25 (2 Gbytes), instead of a one-size-fits-all $30 a month pricing.
www.att.com

http://tmcnet.com/32999.1
New BES Ready to Be Picked
The BlackBerry Enterprise Server Service Pack 2 offers additional metrics reports and notifications that will help admins in monitoring the system health. This latest service pack will also provide self-service tools and the pre-population of messages of up to 3,000. The BES 5.02 also offers a single sign-on, the ability to separate business and personal content on the BlackBerry, new security self-service options, support for Microsoft Hyper-V for server virtualization and more.
www.blackberry.com

http://tmcnet.com/32990.1
Zayo Finalizes AGL Buy
Zayo Group, a bandwidth and network-neutral colocation services provider, has closed on its purchase of AGL Networks. The deal gives Zayo around 850 route miles of added fiber footprint and 270 new buildings. AGL was a provider of dark fiber in Atlanta, Phoenix and Charlotte.
www.zayo.com

http://tmcnet.com/33000.1
Cisco Jumps on the Tablet Bandwagon
Cisco says its new Cius is a first of its kind mobile collaboration business tablet. It includes collaboration applications including Cisco Quad, Cisco Show and Share, WebEx, Presence,

Visit the **Voice Quality** Community
On TMCnet

While the cost-saving benefits of VoIP are well documented, voice quality has emerged as one barrier to adoption, for businesses and consumers alike. Now, consumers have access to a device from Ooma that provides free U.S.-based telephone calls and advanced telephony features for superb voice quality.

Ooma's appliance offers exceptional voice quality and the reliability of a traditional phone service, but at a fraction of the cost. You don't need a headset. You simply connect the device to your high-speed Internet and your existing phone, and that's it. You're ready to start calling and experience Ooma's great voice quality.

Community Features:

- Listen to recorded samples and compare voice quality with Ooma vs. a leading VoIP provider.

- Track breaking news about voice quality in VoIP appliances and services.

- Read white papers relating to IP telephony.

- Get access to case studies detailing successful deployments of Ooma's products.

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http://voice-quality.tmcnet.com/

and IM. HD Soundstation in the device supports Bluetooth and USB peripherals, 10/100/1000 wired connectivity and a handset option.
www.cisco.com

http://tmcnet.com/33001.1
Source Cable Tests InnoMedia SIP Gateway
InnoMedia has successfully completed a customer trial of its ESBC 8528-4B, an integrated enterprise SIP gateway with device-initiated DQoS. The trial was conducted by Source Cable on a DOCSIS cable system. Endorsed by Clearcable Networks, the ESBC 8528-4B is part of InnoMedia's portfolio of enterprise voice over Internet protocol products.
www.innomedia.com

http://tmcnet.com/33002.1
Siemens Unveils OpenScape Office MX
Siemens Enterprise Communications has announced OpenScape Office MX, an all-in-one unified communications solution for SMBs. The product includes features designed to yield SMBs greater employee productivity, improved customer collaboration and reduced communication costs. OpenScape Office MX is the successor to HiPath OpenOffice ME and delivers voice, UC and critical data network capabilities in a single, easy-to-install service application.
www.siemens-enterprise.com

http://tmcnet.com/33003.1
Verizon Business Unleashes VIPER
Verizon Business says it is now offering new IP capabilities that make the adoption of unified communications and collaboration simpler and more cost-effective than ever before. The new capabilities feature IP audio conferencing;

VoIP IP Enterprise Routing, a new cloud-based VoIP feature that enables more cost-effective business-to-business voice calls by eliminating domestic or international per-minute calling charges when calls are made between Verizon VoIP customers in either the U.S. and Europe that sign up for the VIPER feature; and centralized multi-site designs for Verizon Hosted IP Centrex customers in Europe to aggregate calls through a central hub location connected to Verizon's expansive global IP network, including calls from sites in other countries and/or using third-party wide area network access.
www.verizonbusiness.com

http://tmcnet.com/33004.1
CallTower, Cisco Go to School
Santa Clara Unified School District has secured E-Rate funds to procure CallTower's unified communications solution, which is built largely on Microsoft and Cisco technologies. The federal E-Rate program's goals are to provide discounted telecommunications, Internet access and internal connections to eligible schools and libraries, providing them with affordable access to modern telecommunications and information services. The service connects SCUSD's 24 schools with advanced IP phones and equipment from Cisco and software from Microsoft.
www.calltower.com

http://tmcnet.com/33005.1
Geos Uses Agito Router
Geos Communications Inc., a developer and distributor of mobile applications and services, has deployed Agito's Roam-Anywhere Mobility Router in its data center. As a result, Geos has begun offering new mobile UC services to its growing customer base. Geos has a new product offering called

MyGlobalTalk ROVE (Roam Often…Virtually Everywhere), which integrates its MyGlobalTalk VoIP service with mobile UC functionality on an array of smartphones, including the BlackBerry and the iPhone.
www.agitonetworks.com
http://geoscommunications.com

http://tmcnet.com/33006.1
Cox, TOA Address Mobile Workforce Management
TOA and Cox have co-developed a solution that reduces customer service windows to one hour and allows customers to track technician location real-time, similar to UPS/FedEx packages.
www.cox.com
www.toatech.com

http://tmcnet.com/33007.1
Avaya, HP Partner on UC
HP has agreed to extend for an another three years its deal to sell Avaya's unified communications products to its enterprise customers. HP also plans to provide consulting and integration services as part of the deal.
www.avaya.com
www.hp.com

http://tmcnet.com/33008.1
Metaswitch Does Speech-to-Text
Speech-to-text transcription capabilities have been integrated throughout the Metaswitch unified messaging product portfolio. Users will now be able to convert wireless and wireline network voicemail messages into SMS texts or e-mail, and deliver the transcription directly to a network subscriber's screen of choice.
www.metaswitch.com

Leverage Your Business Data with Communications-Enabled Business Processes

by David Schenkel

Now UC It

Businesses large and small alike spend a lot of time and energy (not to mention their hard-earned cash) tracking their operations and customers in some type of database. These databases contain critical business information driven by line of business applications such as enterprise resource planning, supply chain management, customer relationship management, or vertical market applications such as those used in the health care and education sectors. All of that data is just sitting there, so why not make better use of it? UC can leverage that data using communications-enabled business processes to improve dramatically customer service levels while reducing costs, with ROIs in as little as 90 days.

Although not yet recognized as a primary driver for UC in a recent survey (only 4 percent of respondents identified CEBP-type applications as the primary driver for their UC deployments), some of the most dramatic results we've seen come from CEBP applications that not only generate a fast ROI but relieve significant pain points for organizations. The current low adoption rate is, however, actually good news for businesses that understand the value of CEBP and other aspects of UC and are deploying them now. Why? These businesses will likely get a two-to five-year competitive advantage from using this technology ahead of their competition.

Capabilities such as sophisticated auto-attendants; interactive voice response; notification, paging and alerting; and call pre-screening and redirection services are all part of CEBP.

Previously thought to be usable only by large enterprises due to cost and complexity, CEBP is now feasible for even the smallest organizations as part of affordable all-in-one UC solutions such as ADTRAN's NetVanta UC, or by using add-on CEBP products and hosted services that can be integrated into most UC solutions. And like most other aspects of UC, CEBP can be implemented using a blend and extend strategy on your existing TDM, hybrid or IP PBX.

So, how can you apply CEBP to leverage your business data? First, spend a bit of time to become familiar with the capabilities and benefits of the various aspects of CEBP, and then consider how you might apply them to your own business operations. Working with a trusted expert that is familiar with your business processes, such as a reseller, systems integrator or consultant, is a good way to find your first CEBP application. Every business has its own unique business processes, so CEBP solutions always contain unique aspects that require some level of customization for each business. The trick is to use CEBP to make existing business processes work better rather than changing them to use a standardized pre-built process that may not be suitable. CEBP generates an ROI by either reducing the staff time to interact with callers or to make calls, or to direct calls more efficiently, allowing you to reallocate staff to higher-value duties, while providing 24/7 customer self service.

Hopefully, some of the following common ways to leverage data using CEBP will give you some ideas that you can apply to your own business.

Auto-Attendants: Uses CRM and other databases to provide a unique set of responses to each caller such as press nine to reach the last person you last called – Sue Jones, or press one to reach your account manager – John Smith, or change call routing based on customer importance.

Automated Agents: Automate customer requests to receive or provide you with information reducing staff time and speeding response to customers while providing 24/7 service. Great for providing health care test results, financial information, and student report card information, or allowing clients to re-order prescriptions or change appointments.

Talking Property: This lets you provide information to callers about real estate, rentals, equipment, vehicles, etc., while enabling client follow-up requests. Great for applications like a talking house for real estate brokers or talking car for car dealers.

Call Pre-Screening and Redirection: Directs calls according to user and database-controlled policy. Useful for directing calls to after hour's on-duty personnel, follow-the-sun redirection to a site in a workday time zone, or to back up staff/teams when key staff becomes unavailable.

Telephone Notification: Delivers time-critical information to clients and suppliers. This is useful during emergencies, product updates and announcements, appointment reminders for service businesses and health care, absence reporting for education, and for payment reminders that help you reduce past due account balances.

Telephone Surveys: Automatically survey client service experience following orders, installations, or on-site repair.

Automated Paging: Useful for centrally managing and generating scheduled announcements, and emergency notifications for education, retail and transportation applications. **UC**

David Schenkel is senior technology analyst with ADTRAN (www.adtran.com).

Quality Matters

by Jonathan Rosenberg

The Voice of IP

Every engineer, product manager, salesman, project manager, tester, and really – everyone – knows that quality matters.

Quality is a differentiator between products in almost every market. It brings customers in, and more important, it keeps them from leaving. Indeed, quality is so central that companies often use it as part of their core branding. Ford's branding is: Quality is Job 1. And Zenith's is: The quality goes in before the name goes on.

In the telecommunications industry, quality can be measured in two ways. The first is uptime – whether or not a user is able to place a call. The famous five nines of reliability for telecom gear is directly related to the desire to provide continuous uptime. For landline phones, this uptime manifests directly to the consumer as dial-tone, giving them immediate feedback that the system is up and ready for a call. In the wireless world, coverage has replaced continuous dialtone as the way users think about availability. Instead of picking up the phone and listening for dialtone, users look to see if they have enough bars to make a call. The mobile operators have worked aggressively to improve their coverage and promote it when their coverage is better than the competition.

However, uptime is only one measure of quality, indicating only that a call can be placed. Once the call is placed, the intelligibility and fidelity of the speech is another way to measure quality. If the voice is unintelligible, it is nearly as bad as not being able to place the call in the first place. Yet, despite its importance, voice quality has seen little improvement over the years.

Landline networks have been operating with the same voice quality for decades. The public switched telephone network is locked to running narrowband, mono voice using the G.711 codec, making improvement extremely difficult. On wireless networks, the scarcity of access bandwidth has caused speech quality to take a step backwards. Even a perfect cellular call has noticeably worse quality than a landline PSTN call, and cellular calls are often far from perfect. Users have become used to fade-outs, drops, and robotic voice on cellular calls.

Yet, these quality issues have not stopped users from using mobile phones. Quite to the contrary, mobile phones have increasingly replaced landline phone usage, despite the decrease in voice quality. Perhaps, when it comes to voice, quality doesn't matter?

As it turns out, it does matter. Skype recently did a study on its user base to examine the impact of speech quality on user behavior. We selected a random subset of our users to participate in a test. The participants were completely unaware that the test was being run. For users in the test, we modified behavior of their client so that it always picked a certain codec, independent of available bandwidth. We then measured the MOS (mean opinion score) that these users provided to us in a post-call splash screen. We also measured the amount of time users spent on the call itself.

Different codecs were used in the calls. SILK is Skype's codec, which we have recently contributed to the IETF and made available to the public. It supports four different modes of operation, ranging from narrowband (8 kHz sampling), to medium band (12 kHz sampling), to wideband (16 kHz sampling), to super-wideband (24 kHz sampling). G.729 is an industry standard narrowband codec, using heavy compression with 8 kHz sampling. In general, as you move from left to right on the vertical axes, fidelity of the speech improves.

The users included in the survey talked on a call for approximately 40 percent more time when the codec was SILK-SWB, compared to G.729. The increased talk times show that call quality directly impacts the way users interact with the system. The higher the quality, the longer they are likely to talk. The longer they talk, the more they use the service. Because these results were obtained without user awareness, it demonstrates that this effect is not just perceived, but real.

Voice quality does matter. **UC**

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

> **Skype recently did a study on its user base to examine the impact of speech quality on user behavior....**
> **The higher the quality, the longer they are likely to talk.**

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Reach The Most Influential Technical Enterprise Decision Makers 24-7

Unified Communications That's Actually, Well, Unified

by Thomas Beck

The rapid and widespread adoption of modern connectivity is a testament to our basic human need and desire to correspond and stay in touch. Whether by e-mail, voicemail, instant messaging, text messaging, mobile phone or satellite phone – or whatever new method of talking to each other should emerge in the coming decade – we will always need to communicate.

And it's great to have so many new tools and platforms to do it with. But if you're anything like the millions of people who are finding themselves juggling multiple e-mail addresses, IM accounts, phone numbers and the like, you're asking if there's a time to say "when," and you're searching for a coping strategy.

Aside from the usual office telephone and e-mail systems, Americans are increasingly doing their business on the move. In the mobile market alone, more than 45.5 million people in the United States own smartphones, according to figures released earlier this year by ComScore. Smartphone technology is the fastest-growing segment of the U.S. mobile phone market.

We're talking about nearly 234 million subscribers. That's huge, but more intriguing than the massive adoption of this technology is the industry competition and variety by which the basic act of communication is available – Microsoft's Windows Mobile and Palm's WebOS, Google's Android and the iPhone. And let's not forget about the BlackBerry.

Competition is great, of course. But in the process of one-upping each other and advancing modern communication tools, these providers create different platforms and seem to try their hardest to ensure that each of their individual devices and platforms won't necessarily play well with others. Imagine being that IT guy with a third of his colleagues on iPhones, a third on Windows Mobile, and another third on Android. And what if that guy with Windows Mobile is working on a Mac?

That's where the unified communications solutions come in. It's about connecting the dots: connecting your people; connecting yourself to your people; and, of course, connecting yourself and your people to your customers.

With a UC solution, employees can have one phone for everything and a single IP extension for wherever they are, eliminating the need for expensive landlines and VPNs. And

technology today can readily integrate existing infrastructure with seamless LDAP, Active Directory and users' contacts, whether they use Macs or PCs. This simplifies system administration and lowers total cost of ownership.

This kind of solution increases employee productivity by fully integrating mobile, remote and distributed workers. Easy conference calling means no more dialing in from home or hotel landlines. Visual voicemail and call recording brings messages front and center, so employees don't have to call the office to retrieve voicemails left on their desktop phones. Advanced presence-based call routing, call reporting and call recording features reduce missed calls and replace notes jotted on sometimes vanishing Post-it notes.

Some companies, such as Verizon, have introduced cloud-based UC as a service. Teo recently has made available a premises-based UC solution that can be adapted to suit the individual systems of a company or organization.

It could be that another industry player will develop a different innovative approach to unified communications. But whatever the method, the objective is the same: wrangle the dozens of different high-tech tools before the gains in communications efficiency become dwarfed by the complicatedness.

UC is becoming more important to organizations today as they realize that it's more cost effective to manage a unified solution than it is to manage different systems – even if they decide to narrow the number of platforms down to a handful. Anyone who truly solves this problem with simple user experience and streamlined administration features will be emerge as the hero to IT departments around the world.

In the end, bringing our modern communications technology together under one roof will open the log jam and keep us all up-to-date and in touch with each other and our customers. **UC**

Thomas Beck is business strategy executive at Teo Technologies (www.teotech.com).

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UCIF Aims to Address Standards, Interoperability Gaps
But Some Key Industry Players are Missing

by Paula Bernier

Microsoft, HP, Juniper Networks, Logitech/LifeSize and Polycom this spring joined forces to unify what they say is a vibrant, but fragmented, UC ecosystem. In an effort to piece things together, the companies have established the Unified Communications Interoperability Forum, which as of early July had 21 member companies.

While Forrester in a February 2009 report forecast that the market for UC within enterprises in the Asia Pacific, Europe and North America will reach $14.5 billion in 2015, interoperability issues are a significant pain point for current and potential users of such solutions, according to Bernard Aboba, principal architect for the Microsoft Office Communications Server team.

The UCIF was incorporated April 5, held its first board meeting May 6, and formally announced its launch May 19.

"In terms of the spark [for UCIF], the thing that really motivated Microsoft was we had a number of major customers express concern about interoperability, particularly in the area of video and telepresence," says Aboba. "Many of our customers have disparate systems from different vendors, and they just not only couldn't make things work together, but they didn't even see a roadmap for it. And they expressed extreme concern about the direction the industry was taking and asked us to fix it."

As a result, he says, Microsoft and the four companies mentioned above formed the UCIF, which aims to develop profiles around UC implementations, create test suite and certifications based on those profiles, and do marketing around those efforts.

UCIF members (back row, left to right) Steve Crumb, Global Inventures; Roger Farnsworth, Polycom; Bernard Aboba, Microsoft; Jingyu Qiu, Microsoft; Jeff Rodman, Polycom; Russell Bennett, Microsoft and (front row, left to right) Matt Collier, LifeSize; Jonathan DeGooyer, Hewlett Packard; Gregory Lebovitz, Juniper Networks

The five founding companies are joined in the UCIF by Acme Packet, Aspect, AudioCodes, Broadcom, BroadSoft, Brocade, ClearOne, Dialogic, Edgewater Networks, Jabra, Plantronics, RADVISION, Siemens Enterprise Communications, Teliris, Texas Instruments and Vxi. (For information on how to join, visit: http://www.ucif.org/Join/BecomeaMember.aspx.)

Cover Story

Wed., Sept. 15, 2010 • 2:00pm ET/ 11:00am PT

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UCIF Aims to Address Standards, Interoperability Gaps

Noticeably absent from this group, however, are enterprise telephony leaders Avaya and Cisco, which as one Unified Communications Magazine source recently noted, launched a videoconferencing renaissance with its introduction of telepresence.

"[Cisco was] invited, and they have not joined as of now," says Aboba. "Basically all the major players were invited, but several have not joined."

When asked about its interest in and opinion of the UCIF effort, Avaya spokeswoman Deb Kline responded: "Avaya has long been a supporter of open standards and has actively participated in dozens of standards bodies to drive cross-industry interoperability. These include the International Multimedia Teleconferencing Consortium, Internet Engineering Task Force and the SIP Forum to name but a few. UCIF is not a standards body. We believe true multi-vendor interoperability will be dependent upon active participation in the appropriate standards bodies by the majority of players in the UC marketplace.

"That said, we have deep and long-standing relationships with many of the key players in UCIF, including HP, Polycom, LifeSize and Juniper and others, and we will leverage these partnerships to see how UCIF evolves," she added. "Avaya may choose to join in the future."

Cisco spokesman Doron Aronson commented: "Cisco has been in touch with UCIF. We are currently awaiting a response on a number of questions and recommendations that we believe would improve the effectiveness of the UCIF and would also increase the attractiveness of joining for Cisco and other major industry suppliers who have not yet joined.

"Cisco actively participates in a number of similar industry forums today," he added. "We seek to participate in forums that will advance existing standards, have a consensus-driven decision model, and include wide participation, including market leaders across the industry landscape, to ensure the right level of industry leadership."

In any case, Aboba says the goals of the UCIF are important given the current state of things in UC.

"The first important thing to understand is even very basic things in unified communications don't interoperate well, so it doesn't matter which scenario you pick, whether it's a trunking scenario, whether it's point-to-point video, whether it's instant messaging – and you can pick a protocol – basic interoperability isn't there today, not only just within a protocol let alone more complex scenarios," Aboba says. "So the feedback we've generally gotten [from customers] is that we need to start establishing basic interoperability in the major areas of unified communications."

The UCIF Board of Directors

Juniper
Scott Lucas is the director of product marketing for Juniper Networks branch solutions. Prior to joining Juniper, Scott developed network and security solutions for Extreme Networks and was vice president of marketing at Cranite Systems, where he defined and delivered FIPS-certified solutions for wireless LAN security. He also has held product and program management positions at Proxim and Cisco Systems. Scott began his career at Motorola, where he engineered wireless data networks for public safety and transit applications.

Logitech/LifeSize
Matt Collier is senior vice president of corporate development for LifeSize Communications, with a background that includes extensive experience in the telecommunications and high-tech industries. Previously, he was senior vice president for voice application services at Level 3 Communications Inc. Prior to joining Level 3, Matt was founder and CEO of Telverse Communications Inc. (acquired by Level 3 in July 2003). Before founding Telverse, Matt was vice president of business development and OEM alliances at Polycom. In late 1997, Polycom acquired ViaVideo Communications Inc., where Matt was vice president of worldwide sales and business development.

Microsoft
Bernard Aboba is a principal architect for the Microsoft Office Communications Server team, responsible for standards and interoperability. He is currently active in industry forums such as SIP Forum and NENA, as well as in standards organizations such as the IETF, where he has authored more than 45 RFCs and co-chairs the MARTINI and RADEXT WGs. Within IEEE 802, Bernard has been recognized for his contributions to the IEEE 802.1X, IEEE 802.11F, IEEE 802.11i and IEEE 802.11k standards. Bernard also currently serves on the Internet Architecture Board.

Polycom
Jeffrey Rodman is co-founder and CTO of Polycom. Jeff has been at the forefront of audio and video communications for most of his career. Drawing from this diverse experience in the industry and from his background as virtuoso pianist and composer, Jeff has developed a keen appreciation for the importance of clear, reliable vision and sound in human interaction, and the ways in which delivery of transparency in perception can be delivered in remote conferencing. Jeff holds a BSEE Cum Laude and an MS in electronic engineering from CSUN.

HP
Mark Gorzynski is chief scientist for the HP Halo Visual Collaboration business. Prior to that he served as senior imaging scientist at Hewlett-Packard, and held the title of imaging scientist at Tektronix. Mark holds a MS degree in Imaging Science from the Rochester Institute of Technology. He sits on a number of standards bodies for the Halo business, and helps in product development.

The first order of business, he says, is to establish basic interoperability relative to SIP trunking. The SIP Forum is working on that as part of its SIPconnect 1.1 effort, Aboba says, adding that he chairs an IEFT working group that's also involved in moving this effort forward.

"That's the foundation for at least the audio part," he says. "The UCIF isn't involved in that, but we will build on what The SIP Forum is doing with SIP trunking because that's a very basic step to get interoperability there and to have testing and certification in that area."

The second key requirement around UC interoperability, he continues, has to do with video trunking and point-to-point video communications. "To get that addition on top of the basic audio SIP trunking you need to have a profile primarily for H.264 video," he says. "That's a second step once you have SIP trunking."

He adds that basic interoperability for instant messaging also is lacking.

"Today the primary protocols for that are SIMPLE and XMPP," Aboba notes. "Both of them have interoperability problems, and so there's a need for basic test and certification and interoperability in that as well, to put the instant messaging piece in place."

And all of the above are just the tip of the iceberg for what needs to be done to enable UC interoperability, he continues.

"Beyond that there then would be the effort to get interoperable multi-stream telepresence, but you first have to get single stream before you can even try to go beyond that," he says.

That said, the general goal of the UCIF during its first 12 to 18 months of existence is to get the basics down, he says, "to have test and certification programs for basic audio, basic video, basic instant messaging – not even anything sophisticated, just put the basics in place and then build upon that with more sophisticated scenarios…."

The first bake-off events staged by the UCIF are likely to be around IM and presence, a video profile, and video trunking. The UCIF also is very interested in devices such as Web cams.

UCIF expects to forward its interoperability efforts by staging various ad hocs or bake-offs, as Aboba calls them, to get a sense of where the pain points are. (The first bake-off events staged by the UCIF are likely to be around IM and presence, a video profile, and video trunking. 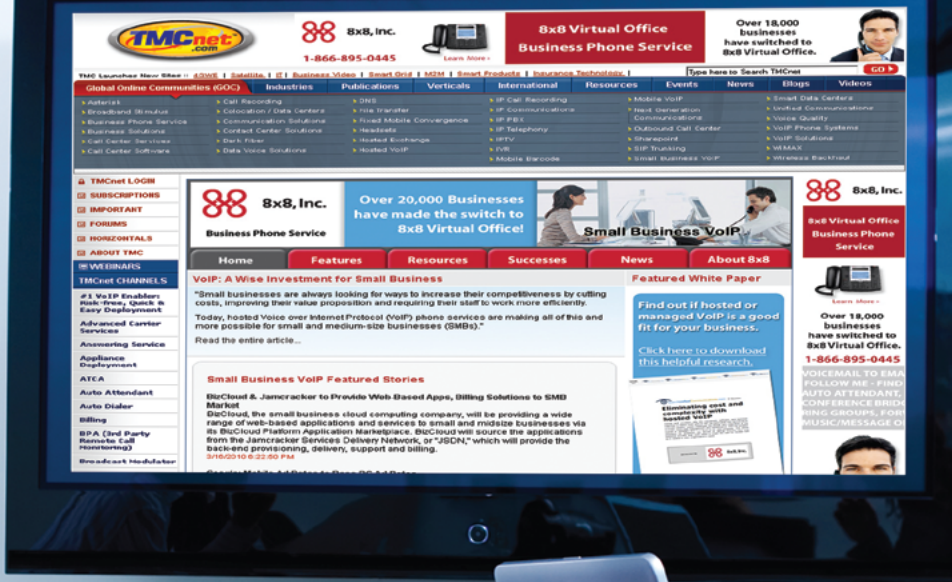The UCIF also is very interested in devices such as Web cams, adds Aboba. "You'll probably see quite a bit of activity in that area.") Then, the UCIF will build conformance to address those issues and do further interoperability testing as part of formal certification.

Because it can be prohibitively expensive to ship all the people and gear required for a physical event at a single location, the UCIF plans to run test suites over the Internet, Aboba adds. The goal, he says, is "to make interop testing a basic part of what vendors do when they ship their products." If those suppliers can do that testing over the Internet, he says, it creates a lower cost of entry. **UC**

Productivity, Responsiveness & Mobility
esnatech Delivers on the Three Keys of SIP-Based UC

Looking to increase revenue and improve customer service while decreasing communication costs? SIP-based unified communications can get you there. And it can help your business become more productive, responsive and mobile.

Just imagine how much more productive your business would be if callers were able to connect to your workforce more reliably and consistently without all the back and forth associated with messaging – both e-mail and voicemail.

SIP-based unified communications helps connect callers to your business. Applications such as esnatech's Telephony Office-LinX integrate mobility, presence and messaging under one application suite that works with any phone system, any e-mail platform and any core business application.

You will never have to worry about your communication system becoming obsolete, hardware upgrades, large service contracts, or integration with your e-mail and Internet servers. Telephony Office-LinX grows with your business to deliver a future-proof investment in communication, taking advantage of your existing voice network and providing technology that is ready for VoIP integration and implemention.

Delivering Access to Enterprise Messaging from Any Device
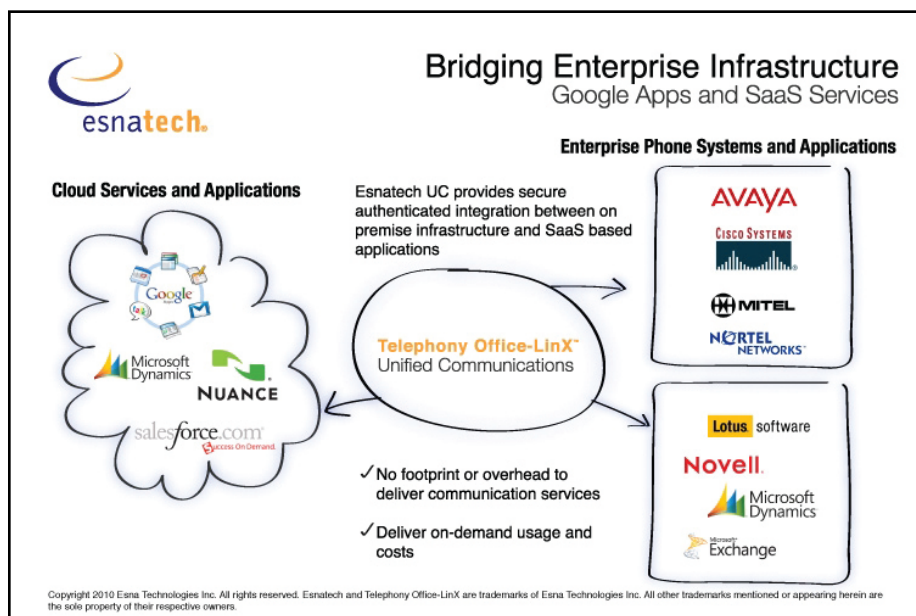Telephony Office-LinX integrates voice and fax with all major messaging platforms, including Hosted Google apps, Microsoft Exchange 2003/2007/2010, Lotus Domino, Novell GroupWise, and Zimbra.

This SIP-based software solution enables you to access, manage, and respond to any kind of message (voice, fax or e-mail) using any device from anywhere at anytime. Its powerful messaging engine and call processing applications allow legacy voice mail users to migrate to a new SIP-based messaging platform while maintaining existing legacy interfaces and applications.

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A high-availability architecture allows organizations to migrate from legacy voice mail to a cluster of geo-redundant messaging servers, providing them the ability to have local survivability, fail over and redundancy in one single system. Each voice node can manage up to hundreds of SIP sessions and provides multiple PBX integrations through SIP pooling. Calls can come from any phone system and forward to any node, and they will be answered and delivered to the appropriate user while enabling MWI and UM support regardless of the location to which the call arrives.

> **Applications such as esnatech's Telephony Office-LinX integrate mobility, presence and messaging under one application suite that works with any phone system, any e-mail platform and any core business application.**

Calls coming into your company represent a major asset: Your customers. Having customers call your staff directly on their mobile devices compromises your control over these assets. If an employee leaves the company, the customer should be contacting your organization's main number, not the mobile number of the former employee. With unified mobility services, a company retains control of incoming calls and their distribution, ensuring that calls are promptly connected and answered by company staff. Not only does your organization now have full audit and logging of calls going to mobile devices, but you now provide your staff privacy by allowing them to never have to publish personal numbers.

And by employing esnatech's Mobile UC application for SMART PHONES (BlackBerry, Android, iPhone, Windows Mobile, Symbian), staff will have remote access to their enterprise presence and voice network. They can view coworkers' availability and location, and from there initiate a live voice conversation or real-time secure instant message. Leveraging Mobile UC client manager, staff can move their mobile long-distance rates off the mobile network and back on your enterprise voice network, providing both major cost savings and consolidated call reporting and logging off your existing PBX and voice network.

Extending UC to Cloud-Based Business Applications
Esnatech solutions also provide voice/fax/e-mail integration with on-premises and cloud-based business solutions such as Google apps.

esnatech's Telephony Office-LinX for Google apps integrates Google Gmail, Google talk, Calendar and Contacts with an enterprise's existing phone system to deliver native voice features like unified messaging with any phone system; rich phone presence and status within Google talk; click to dial and screen pops within Google apps; and mobility phone integration. Esnatech offers unified communications for Google apps in three specific flavors and licensing. **UC**

To find out more information about this award winning technology go to http://www.uc4googleapps.com.

This architecture enables solutions such as esnatech's Telephony Office-LinX platform to manage more than 30,000 users in a single platform, while enabling application consolidation and regional survivability.

esnatech's Telephony Office-LinX Powers Intelligent Office Mobility
The first and most prominent feature of Telephony Office-LinX is accessibility, which leads to its second key feature: responsiveness. All employees can be more productive, responsive and flexible with Telephony Office-LinX services like location-based routing, find me/follow me automation, call filtering and contact specific messaging.

Fonality Talks Services, Search and Storage

by Paula Bernier

Fonality, which may be best known for its HUD desktop communications platform, is gearing up for some important announcements, Aron Aicard, senior director of product management, told Unified Communications Magazine in a late June interview.

"We're going to be a new kind of company," he says. "We're going to be making a lot of noise starting next month."

The six-year-old company traditionally has sold to the small business market, and for most of its history it has delivered hybrid hosted/premises-based solutions. But last summer Fonality got into the pure hosted space, mostly targeting small business customers. "And that area of our business has just exploded," says Aicard, indicating the company is expanding its target to also include more medium businesses and enterprise customers.

HUD, a component of the service, is a client interface and comes in various tiers – for example, a call center rep that spends a lot of time on the phone and needs specific functionality might use a higher-end tier. HUD can be integrated with other applications like Salesforce.com and SugarCRM as well. Fonality also offers mobility features, so users can have their cell phones as an extension, in effect, of their business's phone system. And it enables centralized chat logging for enterprises that need to archive chat and various other desktop options.

Aicard says that while unified communications traditionally has been about taking what already exists in customer environments and letting those systems communicate, moving forward UC is expanding to do even more. For example, UC could potentially be leveraged to enable users to access multiple interactions across various communications modes with a particular customer, he says.

"There is an emerging gap in the UC space with search, content aggregation and social networking," he adds. "People are using all sorts of mediums to communicate. For example,

I'm using HUD with a colleague, while he is chatting with the president of a worldwide telephone manufacturer using Skype. This illustrates how major business negotiations are being held in an unconventional manner nowadays. Files are exchanged via e-mail, there are internal chat discussions and external social/consumer tools in play.

"So, in a month from now, how do I recall that collective body of communications? It seems ridiculous to search e-mail, HUD, file systems, Skype logs, voicemails, etc.," he says. "Users need their content aggregated. The UC market is falling behind the user curve. Users need all their communications to come together in a new wave of unification. This next wave has to focus on content aggregation, storage, search and legal compliance." **UC**

College of the Canyons Gives NEC Solution High Marks
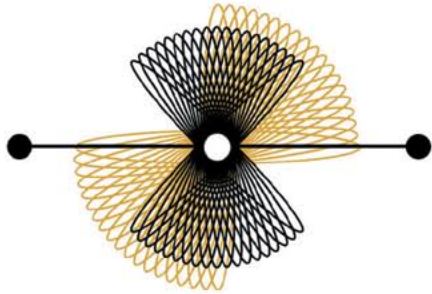
by Paula Bernier

Feature Article

The recession has sent hoards of employees packing. And when these folks can't find a job with their existing skill sets, many use their free time to go back to school. That has been both a boon and a curse for College of the Canyons.

College of the Canyons

That's because while the Santa Clarita, Calif.-based community college welcomes the expanded interest and enrollment, it wasn't near ready to handle the capacity of calls that hit its front desk as a result of the early pick-up in activity.

"Our contact center is one of the first impressions experienced by students and prospects of our campus, and we need to ensure it is a positive and efficient operation," says Jim Schrage, vice president of facilities planning, operations and construction for College of the Canyons. "COC has experienced a record number of enrollments by individuals seeking additional education and training to re-enter the job market during the recession, which has in turn caused an increase in call volume. Without the budget to hire additional staff to support the increased call volume, we needed a solution that could help us staff appropriately while also increasing our service level."

Robert Betancourt, telecommunications coordinator at College of the Canyons, says the school originally had an old ACD system. The only real visual users of that system had about call volume was how many calls were in the queue; but, he adds, users had to seek out such information, so even that feature seldom was used.

As a result of growing call volumes and inefficient call handling with the ACD, Betancourt explains, many callers would get caught in the system, being put on hold for long periods of time, and sometimes dropping out and calling again in an attempt to reach the operator. This vicious circle was creating a huge bottleneck that eventually would flood the operator, the counseling and admission departments with more than 900 calls per day each, Betancourt realized after doing some statistical data mining on the school's voicemail system. Clearly, he says, it was time for a new system that included an interface that was palatable to callers.

So Betancourt worked with Digital Telecommunications Corp. to select and install the NEC UCB Contact Center Solution. The NEC system has the capability to support call center and UC functionality, and deliver mobility and conferencing, all in a single server. Customers can add licensing for functionality as they need it.

The new system is making a huge difference at College of the Canyons because everybody using it can see from their desktop computers what's happening from a call handling standpoint, including how many calls are in the queue, who's logged in, approximate caller wait times, and the like, he says. These capabilities, he adds, have enabled College of the Canyons to cut down its circle of calls by three fourths.

"Our efficiency rate has just gone up tremendously," he says.

David Seller, the college's account executive at Digital Telecommunications Corp., notes that the new system offers rules-based routing, and because of its multiple queues organizations like College of the Canyons can set things up to have primary and secondary answering agents. For example, after 30 seconds or a minute, a call can be sent to a secondary agent if the primary agent is unavailable.

Betancourt adds that although new systems that require employees to learn new ways of doing things can often create resistance within an organization, there was very little pushback with the implementation of the NEC solution.

"It wasn't rebuffed," he says, adding that although there was some initial fear about the system, DTC went out of its way to help employees get comfortable with the new processes, which already were extremely intuitive.

In fact, Betancourt adds, the folks who are on the front lines answering calls at the college are now much more relaxed.

"It's just made a huge difference, especially because we don't have people zeroing out just to reach a department," he says, adding that some of those callers were pretty unhappy by the time they reached a live person. "The stress level has gone down among all the departments who use it." **UC**

Stay Connected.

Preparing Your Network for UC

And Keeping It Up to Snuff on an Ongoing Basis

by Paula Bernier

Unified communications and virtualization have seen good uptake in the past couple years despite the economic downturn. Indeed, according to data recently released by Network Instruments, about 75 percent of companies were expected to have invested in these technologies by the end of 2009 due to their perceived cost savings and fast return on investments. But the same study indicates that three-fourths of those organizations lack the tools and visibility needed to monitor and troubleshoot performance problems on such platforms.

That probably shouldn't come as a surprise given performance management is often an afterthought and that ensuring high-quality end user experiences becomes even more difficult as more applications and end user devices are introduced.

Dave Kofflin, manager of sales engineering at Network Instruments, which offers tools for benchmarking and trending that are used primarily in enterprise network applications, says some companies do benchmarking and trending before deploying VoIP, but many do not. That leads some companies to Network Instruments after they deploy VoIP and have a less than optimal experience.

The Network Instruments solution provides various views into network activity. It has a solution that looks specifically at VoIP, offering MOS scores, tracking protocols and precedents around QoS, and providing insight on how VoIP impacts the load on the network. The system also offers various levels of access to ensure voice traffic remains secure during the monitoring process, adds Kofflin.

Dave Kresse, CEO with Mu Dynamics, which sells a testing appliance, adds that as more applications move onto networks, the challenges of ensuring networks are prepared to deliver a quality experience related to those apps
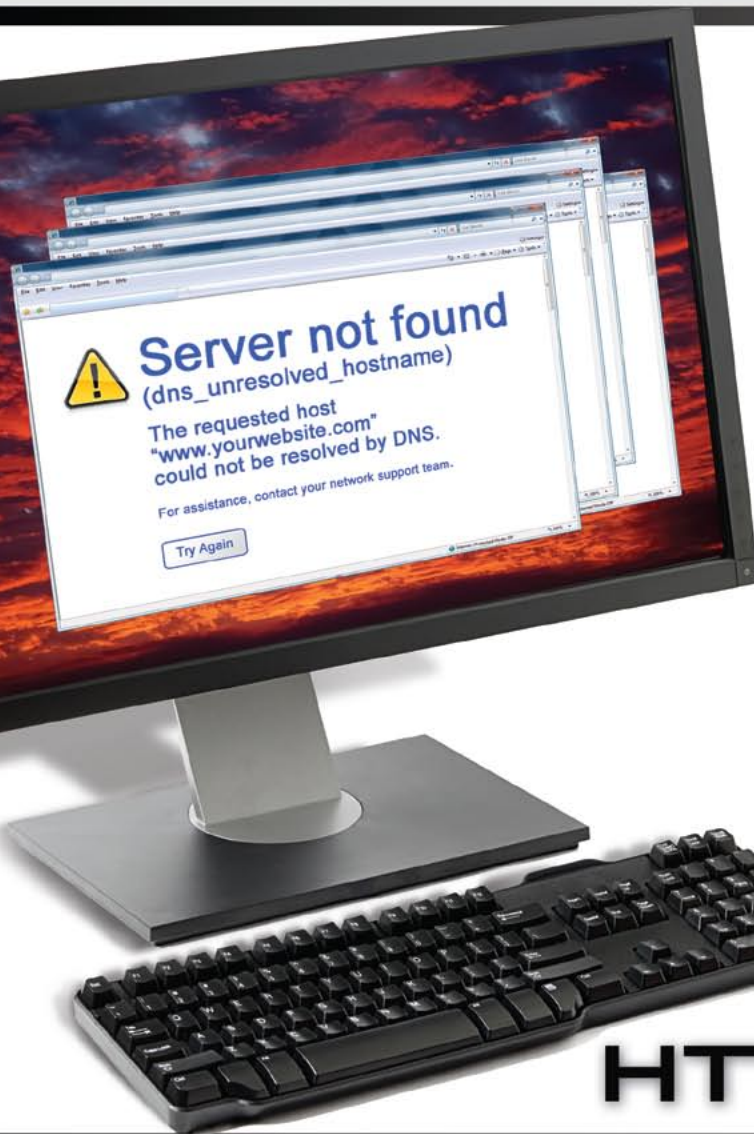
multiplies. Indeed, there are something like 10,000 new apps introduced on the Android platform each month.

"IP networks are extremely reliable from a connectivity perspective," notes Jim Melvin, president and CEO at network performance management outfit Apparent Networks. "You can walk into a Starbucks with Wi-Fi card and connect to anywhere in the world. But networks are not as predictable by a long shot relative to their performance."

That's why Apparent Networks sells technology (available both as a product and as a SaaS offer) that looks at any IP address in the world and provides end-to-end performance data on that connection. Melvin adds that it's important to do this analysis on an ongoing basis given networks are dynamic, so anytime they reconfigure it can impact performance.

Gurmeet Lamba, senior vice president of product development at Clarus Systems, which sells testing, monitoring and configuration management software and SaaS-based services, adds that small changes that may not seem important can take into darkness a business or one of its branches.

Brendan Reidy, CEO of Clarus, also notes that expectations for different applications and traffic types can be very different. If the data network is down, he says, employees will simply reboot. If the phone doesn't work, however, it's a much bigger deal.

"The expectation is still five nines availability" for voice, he adds.

When it comes to UC, says Manfred Arndt, distinguished technologist for UC&C solutions at HP, virtually ever implementation requires some network refresh. And one size does not fit all, he adds, noting that HP partners with all the leading providers in the UC space, including Alcatel-Lucent, Avaya, Microsoft and Polycom.

Arndt goes on to say that while UC and IP have seen good uptake, few organizations today are

running pure IP PBX solutions, so there's a need for companies like HP to provide phased UC approaches that allow customers to migrate to IP over time.

Phil Moen, president and CEO of Unimax Systems Corp., which sells telecommunications configuration management software and unified voice administration, adds that his company got its start about 20 years ago to help companies manage multiple PBXs simultaneously. More recently the company has introduced solutions to manage various PBXs, voice mail systems and communications databases. Synching all these systems, and in a rules-based way, is a key part of not just preparing networks for UC, but also ensuring that the data that keeps unified communications running is the most current data available. **UC**

UC, Virtualization & Performance Management

Network Instruments recently surveyed nearly 450 CIOs, network engineers, and IT managers worldwide, and explored the economy's impact on virtualization and unified communications as well as the primary challenges in managing these technologies. Below are some of its findings.

Virtualization rollouts are surging.
More than half of applications will run on virtual machines by 2011.

There's been a strong embrace of video.
Companies deploying videoconferencing are expected to double by 2010.

IT was largely unaffected by layoffs.
About 65 percent of network teams haven't or do not expect to experience layoffs.

Many remain virtually in the dark.
More than half lacked appropriate tools or visibility into virtual environments.

What is the largest troubleshooting headache?
About 80 percent indicated their chief troubleshooting challenge as identifying the problem source.

Virtualization and UC are the top emerging technology challenges.
About 45 percent see virtualization as the greatest emerging monitoring challenge, followed by unified communications, cloud computing, and IPv6.

Transforming your communications begins with keeping up to date with the latest communications trends and breaking industry news.

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Demystifying Telephony in Emergency Notification and Response

by Frank Mahdavi

You've probably noticed it too – with the growth of e-mail, smartphones and other technology, the world seems to be shrinking. These days it's just as easy to talk with a colleague across the globe as one across the hall; sometimes it's even easier.
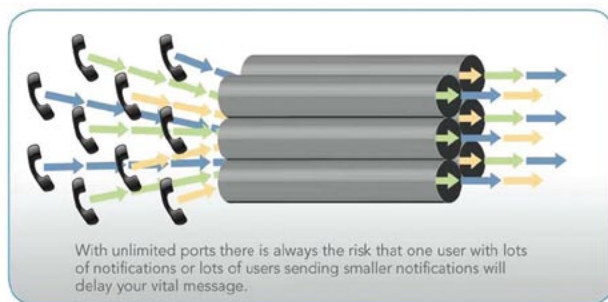
Every day more people are working from remote offices or distant locations. While doing business in remote places is rewarding, there's also a certain amount of risk, which makes reliable communication all the more important.

With some staff at headquarters and others scattered around the globe, can you reach everyone quickly when seconds count? If there's an emergency in one office that impacts the rest, can you reach out and direct business, no matter where you are?

A notification system provides a level of insurance during an emergency. If a natural or man-made disaster occurs, you want full confidence that your notification solution will do the job of communicating with your staff as quickly and efficiently as possible.

To reach all of your employees quickly you need an emergency notification solution that works with the most common business communication methods – mobile phones, landline phones, e-mail and SMS. These ways of communicating all have one thing in common: telephony, the modern communications backbone. Thus, a thorough understanding of telephony options in emergency notification for business continuity and disaster recovery is crucial in finding a solution you can count on.

With unlimited ports there is always the risk that one user with lots of notifications or lots of users sending smaller notifications will delay your vital message.
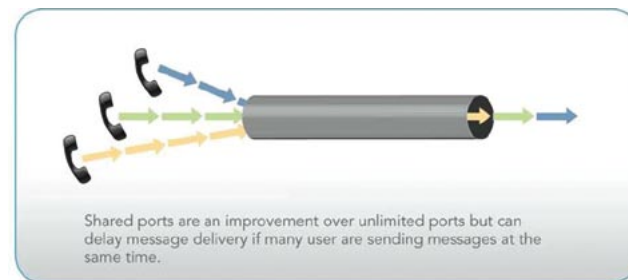
Simply defined, telephony is a term used to describe voice communication over distance, with telephony ports being the conduits or digital pipes into that system. Looking at this a bit more broadly, telephony includes familiar landline phone communications, Internet phone calling, cellular phone calling, faxing, conference calls, videoconferencing, and VoIP communication.

Telephony is at the base of all emergency notification systems. Telephony provides the conduit, and if the conduit is too small, if it is busy, or blocked, important messages will not be sent. If messages are not delivered quickly, then all the other features that come along with an emergency notification solution are essentially worthless.

Of course traditional telephony is based on the PSTN, which establishes a circuit between two callers who then remain steadily connected for the duration of the call. However, since only two users at a time can communicate using PSTN, to contact a large group requires making many calls, one after another, and can be costly and time-consuming.

Shared ports are an improvement over unlimited ports but can delay message delivery if many user are sending messages at the same time.

With the advent of VoIP all this has changed. VoIP uses the long-distance network provided by the PTSN. However, Internet service providers pay long-distance providers for access that allows them to share the circuits among many users at the same time by use of packet switching (breaking digitized information into chunks, and sending those data packets through the Internet). Packet switching makes it possible to send many messages at one time and enables individuals to respond in large numbers without tying up phone lines.

So now one port can send many messages at a time, and by using load shifting, port capacity can be further enhanced. For example, if you initiate a notification and, due to heavy traffic a port is busy, your message can be moved to the next port, and then the next in rapid succession until a port is open and the message is delivered. Because of the dynamic nature of shifting load from port to port, it's easy to assume that with a large number of ports, all messages will shoot through rapidly. Unfortunately, telephony ports and communications infrastructures are expensive to build and maintain, so a balance must be struck between cost, number and type of available ports.

Feature Article

Demystifying Telephony in Emergency Notification and Response

More ports do indeed mean that more information can move through rapidly, but the information may not be prioritized in the way you might expect. The type and size of the communications you intend to send, along with the frequency and importance, must be considered in choosing the right solution. For some businesses, fulfilling a legal requirement is all that's needed. For others, nothing short of the most comprehensive, reliable and fail-safe communication system will do.

There are four basic telephony port configurations offered by communication vendors today: unlimited, shared, reserved, and dedicated.

An unlimited port system is shared across an entire user population, giving every customer equal access to every port in the system. This is sometimes called a port farm. In theory there are enough ports to go around no matter what happens, but in real life all resources are limited and therefore, the results of delivering notifications are not always predictable.

Users with reserved ports will take precedence over other users who may be using a port when it's time to send a notification.

Basing your emergency notification solution decision on the quantity of ports can lead to a false sense of security. Since there is no limit on the number of users that can access a port farm, and each user has equal access to all ports at any time, there is always a chance of port overload. In the event that a large number of users are engaging the same port or ports at one time, say in the case of a large weather situation affecting a broad geographical area, access to these ports will be delayed and notifications will be slowed accordingly. Since flat fees are often charged for this configuration, users may send notifications more frequently than if there is a per-use charge, further clogging the system. Unlimited port systems may be the least costly option and are best suited to those sending non-critical, not particularly time-sensitive communications.

A dedicated port guarantees that a conduit is always available for your use without risk of delay.

A shared port system is used by a limited number of customers on an as-needed basis. A customer will license a specific number of ports that it feels will be sufficient to cover potential need and will share those ports with few other customers (typically in the range of three to six), balancing a lower cost while hoping to ensure availability when a need arises.

Let's say three customers share a port, each having equal access – if the port is available when you need to send a notification, your message will be sent immediately. If another customer sends a notification at the same time, the system will alternate sending notifications, doubling the time required to send. If all three are sending a notification, the system will poll across all three before going back to the first. So if all notifications are the same size, the time to send increases by 300 percent. Now imagine that one of the users has a long notification to send while the other two are sending shorter notifications – even a short urgent message will be delayed as it takes its turn moving through the port.

MIR3 Inc.'s Frank Mahdavi

A reserved port system gives you much greater assurance that ports will be available when needed. A reserved port acts as a shared port until a contracted reserved customer needs it. When a reserved customer initiates a notification, the port becomes exclusively theirs until that notification is delivered – that is, once any current notifications have been completed. The advantage here is that reserved users do not bear the fiscal burden of paying for exclusive port use, but instead share the costs with other reserved and shared users, banking that availability will be granted in time of need. The downside is that the reserved user still must wait for a brief period of time while the shared ports in use are freed, but when reserved ports are shared with a small group of users that risk is greatly reduced.

A dedicated port system is reserved at all times for the customer who has procured it. When you want absolute assurance that one or more ports will be available for use at any time, dedicated ports are the best option, providing the highest possible level of availability that critical, time-sensitive notifications will be delivered without delay. This is the best choice for organizations that anticipate sending time-sensitive messages. It may be the most expensive option, but is certainly the most reliable.

Recent events, new social trends and technological leaps have had a profound effect on how the modern world communicates. To be competitive, your business needs an emergency notification system that allows you to communicate quickly and clearly with highly mobile and dispersed groups. Service level agreements provide some level of comfort, but if your notification doesn't go through quickly and efficiently, money is a poor substitute when customers suffer a loss, employees are injured, or worse. Consider your telephony choice wisely, and you will be confident that you can communicate clearly and efficiently with those that matter most. **UC**

Frank Mahdavi is chief strategy officer with MIR3 Inc. (www.mir3.com).

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Subway Coop Sates Call Requirements with Unified Communications Solution

by Paula Bernier

For most of us, fresh-baked bread, BMTs and Jared Fogle may come to mind when Subway enters into the conversation. For franchise owners of the popular sandwich shops, however, delivering food quickly and to order is more complex than your simple mustard vs. mayo decision. These small business owners have to keep abreast of a variety of issues, including various payment options and related customer loyalty programs. And unified communications has become a key ingredient in enabling them to do so.

Independent Purchasing Cooperative, an organization owned by the 24,000 North American Subway franchisees, uses the Interactive Intelligence Customer Interaction Center product for IP PBX, voicemail, presence, unified messaging, and softphone functionality.

IPC started out as an entity focused on distribution, quality management, packaging and other aspects related to supply chain management relative to the food items used by Subway franchisees. But five or six years ago IPC expanded to handle equipment such as toasters and refrigerators; insurance; and IT and telecom gear for Subway store owners in an effort to help these businesses become more profitable, explains James A. Esposito, senior operations and project manager at IPC.

Esposito manages the Value Pay Services division within IPC that handles electronic payments at Subway stores. When a franchisee has a question relative to payments using gift cards, rewards cards, or credit or debit cards they can contact IPC to get an answer. Given the gift card program is mandatory for franchisees, and just last year the acceptance of credit and debit cards became a requirement, there are plenty of such incoming inquiries, says Esposito.

In the past, he says, IPC had a basic key system, which simply routed all calls through the receptionist. But as the business expanded it needed a more robust telephony system, and IPC discovered that the product from Interactive Intelligence fit the bill, he says.

A big selling point of the Interactive Intelligence solution, according to Esposito, is its ability to integrate with Microsoft CRM. Prior to using the new call center, his reps were managing their CRM interactions using Excel – not a scalable solution. With the Interactive Intelligence solution, however, reporting is automated and much "cleaner," he says, noting it automatically records such statistics as when peak calling periods take place and that data flows into the CRM system.

"That totally helped us with staffing," he says.

And the ACD that IPC implemented with the Interactive Intelligence system allows the organization to queue and route calls quickly and efficiently, he says. Prior to the ACD caller wait times averaged 10 to 15 minutes each. Now they're in the two- to three-minute range.

"That was huge," says Esposito.

Additionally, he says, IPC recently implemented Interactive Intelligence's IVR functionality. The new IVR system handles 250,000 minutes per month, and allowed IPC to see its return on investment in just six months. Esposito says the IVR, which was installed in early 2009, had yielded IPC more than $240,000 in savings as of the end of last year.

"The IVR was sort of the icing on the cake," he says.

Time for lunch. **UC**

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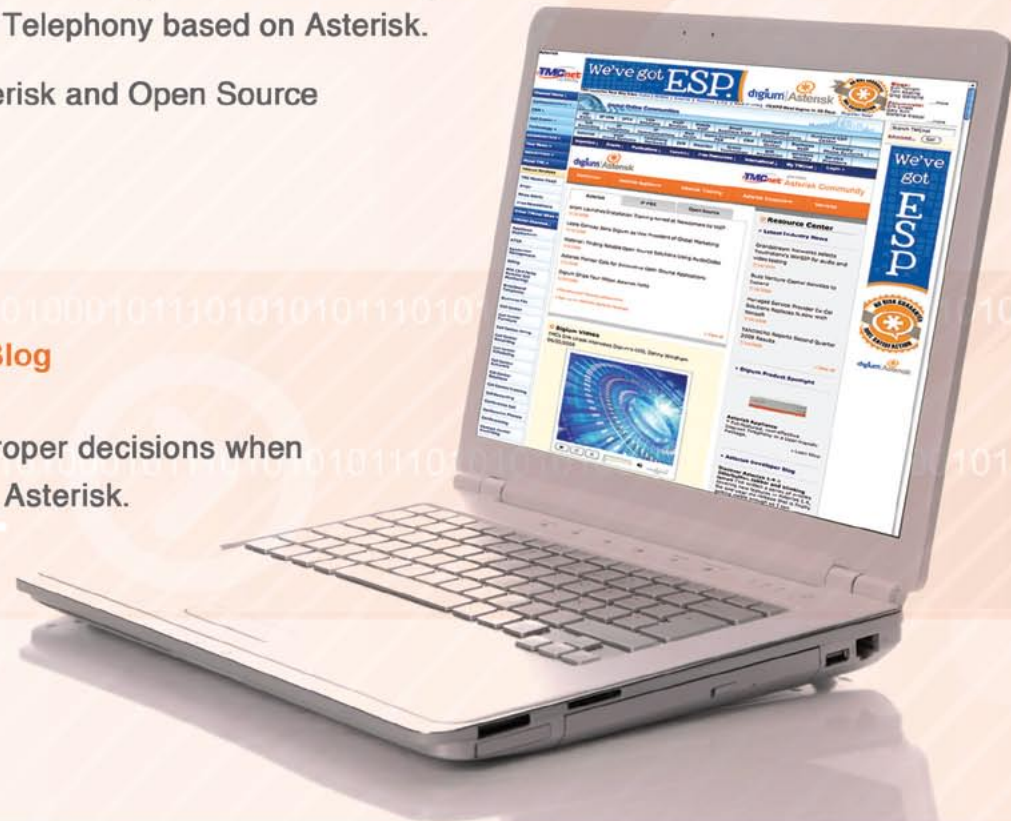
Fax Keeps Marching On

by Andrew Nicholson

Fax, a technology that many may have assumed would have been usurped by e-mail by now, has not been. In fact, some would say it's stronger than ever, thanks to the evolution occurring in the IP world.

Fax technology has found its footing as a secure method to transfer sensitive information in the enterprise space, such as within the medical and financial industries, where information security and privacy are critical. And while there are still large information distribution fax networks that send literally thousands of faxes per day over traditional TDM and IP-based networks, the popularity of another piece of office equipment, the all-in-one printer, is leading to renewed interest in fax at the small and medium enterprise level.

Many all-in-one office printers now include scan to fax capabilities in addition to traditional printing, scanning and copying. With this useful capability at their fingertips, business people are returning to the fax machine for certain applications. Contracts, purchase orders, NDAs, and other legal documents that require a real signature are the right fit for next-generation fax. While a business owner is probably no longer likely to purchase a stand-alone fax machine and a phone line to go with it, all-in-one machines offer the full feature set that makes fax technology easy and cost-effective to utilize.

Traditionally, voice calls and fax machines were connected over TDM-based networks, such as the PSTN. When IP communications came along, companies that eagerly switched over to IP found that they could easily switch the voice calls, but had to keep a PSTN line for their fax machine due to its intolerance of jitter and delay – common traits of an IP network.

However, the telecom industry has spent a good deal of time and effort developing fax over IP standards and protocols – such as T.38 fax relay – to facilitate large fax distribution efforts. Fax servers connect standard T.30 (PSTN fax) to the IP network for transport and distribution to one or many endpoints using the T.38 protocol. The usage model for fax in recent years has leaned toward the industrial distribution approach rather than direct endpoint-to-endpoint fax transmission. The wider adoption of SIP trunking to provide all connectivity from a business site also will limit the fax options for an enterprise.

T.38 was designed to cope with all the foibles of fax transmissions and provides reliable fax transmission over IP networks, even at the highest (V.34) speeds. However, you cannot currently guarantee that all devices between your sending fax and the receiving end support the T.38 protocol, so there is a need for an alternative solution.

Fax, like a data modem, converts the scanned image into audible tones for transmission. As these tones are typically within the bandwidth range of a standard telephone channel (less than 3400Hz), it is possible to make use of some of the VoIP codec technology developed for voice transmission to enable fax in this relatively new model. T.30 fax can be encoded for IP using the G.711 voice codec with relative ease – a technique known as G.711 fax pass-through. G.711 is an uncompressed codec, so the bandwidth usage is relatively high compared to other codecs used for voice, but the resulting fax transmission can be highly reliable in a well-managed network.

In the typical office use of fax, the momentarily high bandwidth usage for the occasional fax will not materially impact other voice or data services, so this simpler method makes sense. This is an easy trade-off of a less efficient transmission method for a more convenient and cost-effective solution – no fax server hardware, no extra telephone line. However, for the office with significant and regular fax traffic, the T.38 fax relay and fax server use model is the correct choice.

We have heard about the demise of fax for years now, but the usage remains steady, and in some new segments is even growing. It may not be the new kid on the block, but thanks to recent advances in IP-based fax technology, fax continues to march forward as a key component in business communications for many companies. **UC**

Andrew Nicholson is a product manager for Aculab (www.aculab.com).

Aculab's Andrew Nicholson

Feature Article

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Automated Software System is Prescription for Efficiency, Savings for Visiting Angels

by Paula Bernier

Many of us have parents or grandparents who are getting up there in age and may need a little extra assistance to remain in their own homes. Visiting Angels is a franchise that specializes in just such care.

Anita Porter, human resource manager at the St. Louis Park, Minn., Visiting Angels says the business provides seniors with a range of assistance, including light cooking and housekeeping, running errands, providing transportation, dispensing medicine, and/or maintaining hygiene.

Porter works in the office with five other staff members, three of which are owners. Additionally, the St. Louis Park-based company has 75 field workers. With so many angels flying around, the office needs a way to track who's visited which seniors, when and to do what.

The company used to track these activities on paper, Porter says, but recently Visiting Angels adopted technology from TouchPointCare that allows its field workers to enter such information over the phone. In the Visiting Angel application, the company provides its field workers with a telephone number through which they answer a list of prerecorded questions. That includes questions about the shift date, staff and client numbers, what type of assistance was provided, whether the client had any visitors during the shift, and whether and what medical or other changes in the client were observed.

The new solution helps staff who are visiting clients spend more time with clients and less time filling out paperwork while they're on the job, says Porter, who adds that paper charting takes between 10 and 15 minutes on average whereas the automated system is a three- to four-minute process.

"TouchPoint has modified questions more to our needs too," says Porter. "It's a very efficient, streamlined system, and we have saved so much time. And it's accurate."

She adds that when a caregiver answers the last question on the automated system but wants to provide additional information, that triggers an e-mail to the office that there's a caregiver that has more to say, so the office can follow up with a phone call.

Visiting Angels clients and their families also benefit because the new system can identify patterns in a client over time that may not otherwise be immediately obvious. For example, it can note a change in the client's eating patterns, Porter says. And client families

that are authorized to do so can access information about the client to make sure that individual is getting the expected services.

The automated system also delivers data to the office in real time, and in a format that is faster and easier to use, adds Porter. That enables the office, which is mandated by the state to do this charting, to know immediately when a chart is missing. And it provides Visiting Angels with a record for insurance purposes.

Dave Anderson, CEO of TouchPointCare of Libertyville, Ill., says the remote patient monitoring software company's catchphrase is "moving data instead of people."

While Visiting Angels uses the telephone as an interface to the TouchPoint system, Anderson says customers can elect to access the solution via wireline or wireless phone, or computer, using voice commands, or touchpads or keyboards.

The TouchPoint system is in use by hundreds of businesses, primarily in the health care vertical, he says. The company sells the solution, which includes an upfront fee and per-usage charges, via a collection of resellers, including telehealth consulting firms.

In addition to the senior home health care example exemplified by Visiting Angels, the solution can enable health care organizations to monitor or send reminders to new mothers, heart patients or others who have recently been released from the hospital or other on-site care, Anderson notes.

In fact, TouchPointCare recently enhanced its solution to enable it to trigger an action that can take place immediately or at a later date, he says. For example, if the system asked a patient whether she took her medication and she says "no", she could receive an outbound IVR the next day to remind her to take that medication. Anderson says the company is working with GlaxoSmithKline on a trial along those lines.

"That kind of complexity is the kind of stuff we continue to work on," says Anderson. **UC**

SoundBite Helps Sprint, Others Do Multichannel Proactive Customer Communications

by Paula Bernier

Communications services is a dynamic business that requires telecom service providers to be in regular contact with their customers to offer promotions, provide bills and related reminders, and take other steps that can help them retain customers, build user loyalty and drive new revenues. SoundBite Communications Inc. helps companies like Sprint do this kind of proactive customer communications.

The area of proactive customer communications, in fact, is a $1.3 billion annual market, according to Forrester Research.

Mark Friedman, chief marketing and business development officer at 10-year-old SoundBite, says the company addresses not only collections and customer care, but also marketing and risk management. And while many of the top telecom providers are among its customers, SoundBite has more than 200 clients, about 50 of which are in the Fortune 500, including seven of the top 10 issuing banks, five of the top 20 retailers, and eight of the top 20 utilities.

SoundBite outfits such businesses with SaaS-based services based on its Engage platform, which allows for multichannel communications with customers. It supports business-to-customer communications via e-mail, voice and text.

> **SoundBite can look at the past behaviors of end users so its customers can understand what types of communications when have yielded the best results.**

For Sprint, SoundBite does a lot of work on the prepaid side related to communications with customers about replenishment of their prepaid minutes, for example, as well as welcome and alert calls to high-value customers, Friedman says. SoundBite also helps Sprint with payment reminders and activation, he adds.

Sprint recently called on SoundBite to help it do activation reminders and gather missing information from customer applications for the telco's Assurance Wireless brand. And just last month the companies worked together to launch Sprint's Common Cents effort, which lets customers pay via credit or debit card.
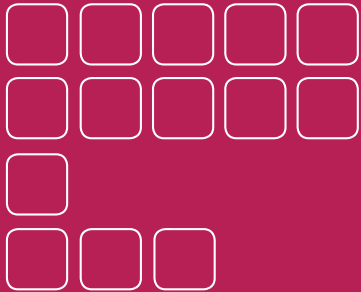
What makes SoundBite a unique partner for companies like Sprint, Friedman says, is its ability to deliver an integrated multichannel solution that also supports interactive messaging. For example, a SoundBite customer could send a text message to a subscriber, and that subscriber could respond with another messaging saying "balance" to request his or her current account balance.

Friedman adds that SoundBite also has "deep mobile capabilities," which he says is key to interact with younger consumers.

A third differentiator for SoundBite, he says, is preference management. By that he means that the company can help its clients understand how their customers want to be communicated with. Not only that, but SoundBite can look at the past behaviors of end users so its customers can understand what types of communications when have yielded the best results. **UC**

SoundBite's Mark Friedman

by Paula Bernier

60 Seconds with Avaya

Avaya is among the leaders in the unified communications space. Unified Communications magazine recently interviewed Steve Hardy, director of product and solutions marketing at Avaya to talk about what's new and what's next in the area of UC.

What does Avaya offer in the way of unified communications?

Hardy: We offer a complete suite of unified communications and collaboration applications. That spans all the way from the tools and applications that an end user would use, such as audio Web conferencing applications under our Avaya Aura conferencing product through applications that would reside on mobile phones, on PC desktops or on phones themselves. They all roll up into our one-X portfolio. [Avaya also offers] the infrastructure and the more architectural elements that an IP organization would manage. Broadly they fall under our Avaya Aura portfolio. That's our core telephony, presence, video and services elements that really orchestrate all the things that the end user would see.

What are the predominant trends in UC at this point?

Hardy: One of the biggest trends that we're seeing is the rapid adoption of SIP and the increasing focus on what SIP or session management can afford the enterprise. SIP has been around as a standard for many years now, but it's really starting to take hold in the enterprise – initially just from a trunking perspective as a way to reduce costs, but increasingly it's becoming more broadly used to orchestrate those applications within the enterprise. One of the unique things about SIP, or session management within the enterprise, is the ability for any interaction, any collaborative experience to be multimodal, multimedia and originate on any device.

To what extent are businesses using UC today?

Hardy: Up to 75 percent of enterprises are in some way deploying or implementing unified communications capabilities. And I think what we're finding is that the majority of enterprises are playing with some element of unified communications. They're deploying instant messaging capabilities and extending it out to their telephony platforms. They're deploying unified Web and audio conferencing capabilities. There are many different flavors that enterprises are experimenting with.

How has the arrival of the smartphone and the mobile data boom impacted UC?

Hardy: It's only had positive effects on unified communications. The reality is that workers today are more mobile than ever and work on much longer. Nine to five no longer exists; we're working early mornings, evenings, weekends – and a unified communications-enabled smartphone is a way to keep in touch with the enterprise whilst doing so in a secure fashion, in a cost-effective manner wherever you are, whatever time of day it is.

Can you give us an inkling of what Avaya has in the pipeline related to UC?

Hardy: One of the areas that we're really focusing on will be around extending the breadth of our collaboration experiences. I talked a little about that unified conferencing, for example, bringing in all your Web conferencing and making it really easy for people to set up and communicate via conferencing capabilities.

We're also really driving hard the idea of context-based [communications]. The idea is that any collaboration experience is really enriched when context-relevant information is brought along with it. A collaboration experience starts with a person, starts with the people, vs. starting with a document or an applet request. All of the history, the past interactions, the relevant context comes with them [in a context-based communications environment].

What's next for UC in general?

Hardy: Session management generally will continue to be a critical component of unified communications, [and] certainly that idea of context will take hold. We're seeing technologies like cloud-based solutions or UC and collaboration of services taking hold and being able to deploy open standards-based systems that interact with cloud services. **UC**

Avaya's Steve Hardy

Bigfoot Aims to Make Its Mark in Latency Control

by Paula Bernier

Q & A

It sounds more reality show than reality, but Bigfoot Networks Inc. got its start by winning a competition. Today, about 30,000 of the company's NIC cards, list priced at $129, are in use to help address latency, mostly for game-related applications. INTERNET TELEPHONY recently spoke to Wayne Dunlap, vice president of engineering at the Austin, Texas-based outfit, about the company's beginnings as well as its future, which includes bringing latency control to VoIP and video.

Give us a history lesson on Bigfoot. What was the impetus?

Dunlap: The company got started in 2005. The founders participated in a Moot Corp Competition at University of Texas at Austin where people pitched different business ideas. The Bigfoot founders won, and they got a $100,000 check, and with that they started Bigfoot Networks.

What was their winning entry in the competition?

Dunlap: Their idea there was basically an intelligent card with a processor on it to accelerate various applications. The first application they went after was a gaming application.

What exactly does Bigfoot sell and to whom?

Dunlap: Right now we have two products. We have the Killer Zeno and Killer 2100, and both of those are network cards that go in your PC and dramatically lower your latency. We sell mostly to gamers.

Who are your partners?

Dunlap: VisionTek and EVGA are probably our two biggest partners; they sell mostly graphics cards today. We also sell through OEMs, so we have the Alienware brand of Dell. If you go buy an Alienware system you can upgrade your NIC card to a Killer 2100.

So many companies – including service providers, network equipment

outfits and businesses like yours – talk about the need to provide guarantees around delay/latency, bandwidth and the like. How does Bigfoot do it, and why do it at the desktop level?

Dunlap: What people don't realize is how often packets get held up from being sent out on your machine because your machine is busy doing something else. For instance, we see latency of up to 30 milliseconds before a packet actually leaves a machine. If you're doing voice or video that's crucial – that'll kill you. If you're doing nothing, the standard delay is about 150 microseconds, .15 milliseconds. But what we see is 10 percent of packets on most machines; if you're doing anything at all – if you're having a videoconference, if you're running PowerPoint while you're talking on the phone, if you're surfing the Web, or anything like that – 10 percent of your packets will take more than 10 milliseconds to leave your machine.

So how does Bigfoot address that?

Dunlap: What we do is the minute an application sends a packet, we put it on our card so it doesn't run through the Windows. It does what we call Windows stack bypass. Our card, all it does is look at packets and send them out and prioritize packets. It gets packets out of your machine very consistently, no matter what your machine is doing. So what you'll see is you'll see jitter on a normal network card; you'll see jitter of 10 to 15 milliseconds. With us you'll see our jitter will be on the order of 200 microseconds, .2 milliseconds.

Does the Bigfoot solution only work on Windows platforms?

Dunlap: Currently our solution is only offered on Windows boxes, yes. We are in the process of expanding our offer in the future.

Which turnkey consumer electronics devices use Bigfoot cards today?

Dunlap: It's mostly PCs.

Bigfoot's Wayne Dunlap

What about connected gaming systems like the Xbox?

Dunlap: Currently we don't have an offer for them, although we are always looking at that. You can image that would make sense for us. Where we're more likely to go is toward VoIP and video because that also is a place where latency is a huge problem.

Can you give us a sense of what VoIP- and video-related gear in which we might see the Bigfoot cards in the future?

Dunlap: Most likely it would sit in a multimedia-type PC.

Any last words?

Dunlap: You mentioned earlier: How much can you do about latency in the endpoint? Latency in the endpoint is a common problem that everybody underestimates.... What we're looking at is how can you make it so that when you're in a Skype call or when you're using WebEx or Polycom or Tandberg/Cisco software on your PC or on whatever your handheld is, how can you make it so that the latency there is under the 150-milliseconds barrier. That is a focus of ours moving forward. **UC**

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