TMC

INTERNET TELEPHONY®

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The IP Communications Authority Since 1998™

Rich Tehrani Looks Back on a Decade of Growth
Page 10

100

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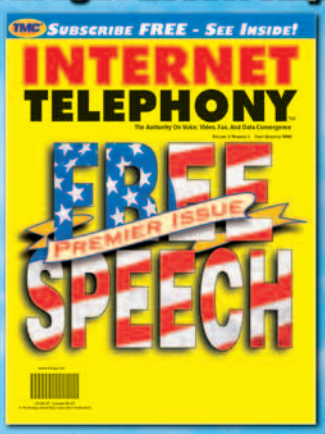
The Top 100 Voices Of IP Communications

A Decade of Thought Leadership



- NETXUSA Opens West Coast Facility (see page 56)

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Internet telephony is revolutionizing telecommunications through the convergence of voice, video, fax, and data, creating unprecedented opportunities for resellers, developers, and service providers alike. *INTERNET* TELEPHONY® focuses on providing readers with the information necessary to learn about and purchase the equipment, software, and services necessary to take advantage of this technology. *INTERNET* TELEPHONY® readers include resellers, developers, MIS/networking departments, telecom departments, datacom departments, telcos/LECs, wireless/PCS providers, ISPs, and cable companies.

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The VoIP Authority

By Greg Galitzine

A Passing Phase, Take 100... Action!

The issue of *Internet Telephony* magazine that you hold in your hands is our 100th issue. And while 100 issues might not seem like much, consider that when we launched our first issue back in February of 1998, people told us we were crazy to start a publication dedicated to this disruptive fad called VoIP. "It'll never last," they told us. "It's just a passing phase."

Well, this passing phase keeps passing milestone after milestone. We set out on this journey with some definite ideas of what we thought the industry needed in a new publication, and I'm proud and happy to say we're still here today, growing, leading, evolving. We survived the massive bloodletting of the early 2000s; we believed in our editorial mission; we stuck to our guns and today, we're seeing the fruits of all our hard work, as we watch each issue of *Internet Telephony* expand — in size, in diversity of content, in advertising revenue, and in circulation.

We're also growing in staff. We recently hired Richard Grigonis as our Executive Editor. "Zippy," as he is affectionately known throughout the industry, joins us as we mark our anniversary and move forward with the next 100 issues. In fact, as we look ahead and continue our journey with #101, Richard will be taking over the day-to-day operations of this publication, a move that will allow me to focus my efforts on building and growing the editorial elements of our already excellent Web site, TMCnet. This is a challenge I am eagerly looking forward to.

Over the course of the last 100 issues, we have seen the rise of so many hot startups, and we watched them become successful companies. We have seen our fair share of companies with great ideas and great technologies get left behind for one reason or another. We've heralded the arrival of new technologies, new trends, new executives, and through it all, we've done so with our readers' best interests at heart.

Who knows what technologies will grace the cover of this magazine over the next decade. One thing I do know is that behind every great idea or new technology, there will be a team of really bright people who have embraced the idea of IP Communications. There's no more denying it: IP is not just the wave of the future, but it's already here. So, to all those people who told us it couldn't be done, we thank you for doing your small part in helping instill the drive that has propelled us — and the industry we cover — to success.

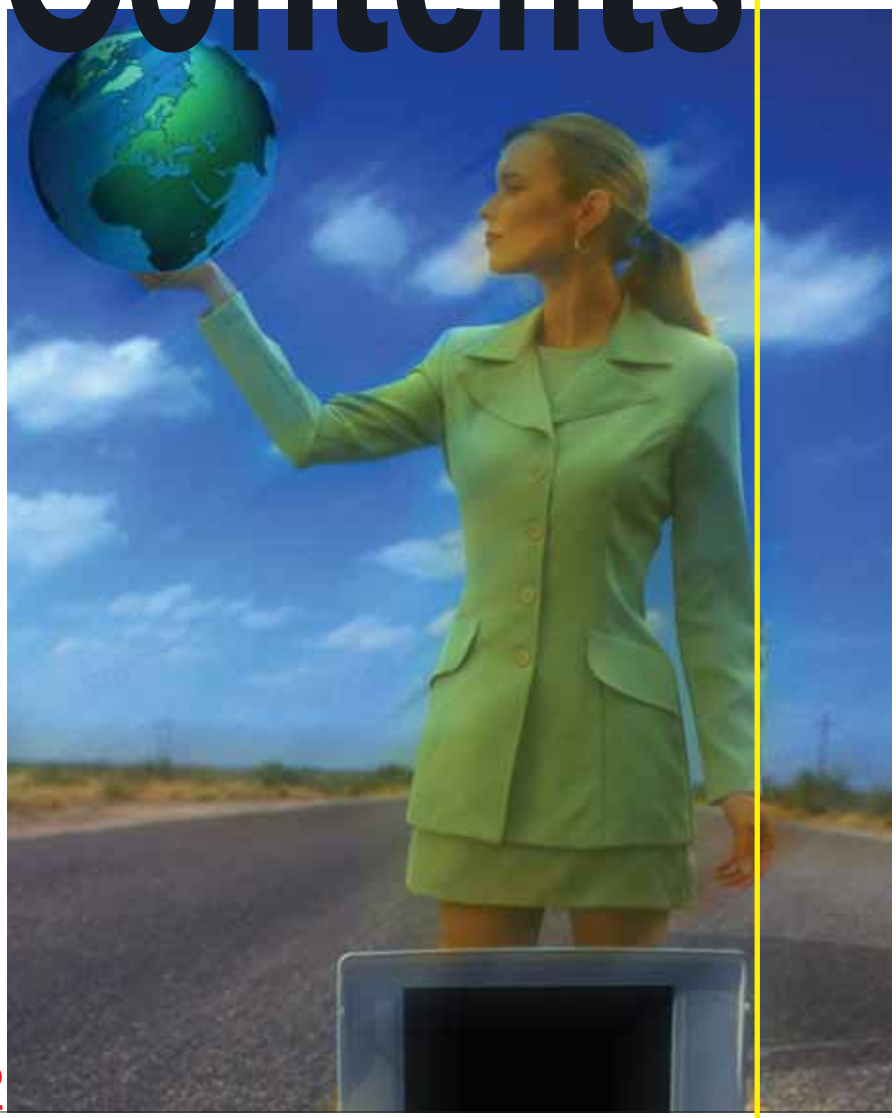
– Greg Galitzine

Go To Table of Contents | Go To Ad Index

INTERNET TELEPHONY®

Volume 9/ Number 10 October 2006

Contents



Go To Table of Contents | Go To Ad Index

convergence, meet the new guy.

With the new OfficeServ™ 7400 platform from Samsung, the converged work environment just got bigger, better and faster. In the tradition of the OfficeServ™ 7200, the new OfficeServ 7400 provides wireless functionality along with wireline, analog voice, VoIP and data capabilities. Unlike its predecessor, however, this new platform offers more ports, a gigabit Ethernet backbone and 64-channel IP cards. It also boasts a more robust infrastructure for more powerful applications for more users. All deployed simply in a standard office environment or data center. And all thanks to the new guy.

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SAMSUNG

Contents

QUOTE OF THE MONTH:

"I think there still is a tremendous opportunity in the PBX space, despite the fact that people will say PBXs aren't going to exist anymore. Whatever you want to call it, that sort of extended IP communications product... if you don't want to call it a PBX, you don't have to call it a PBX. But let's face it, it's basically a PBX with more features and applied to more technologies."

— Mark Spencer, page 91

164

48

FEATURE ARTICLES

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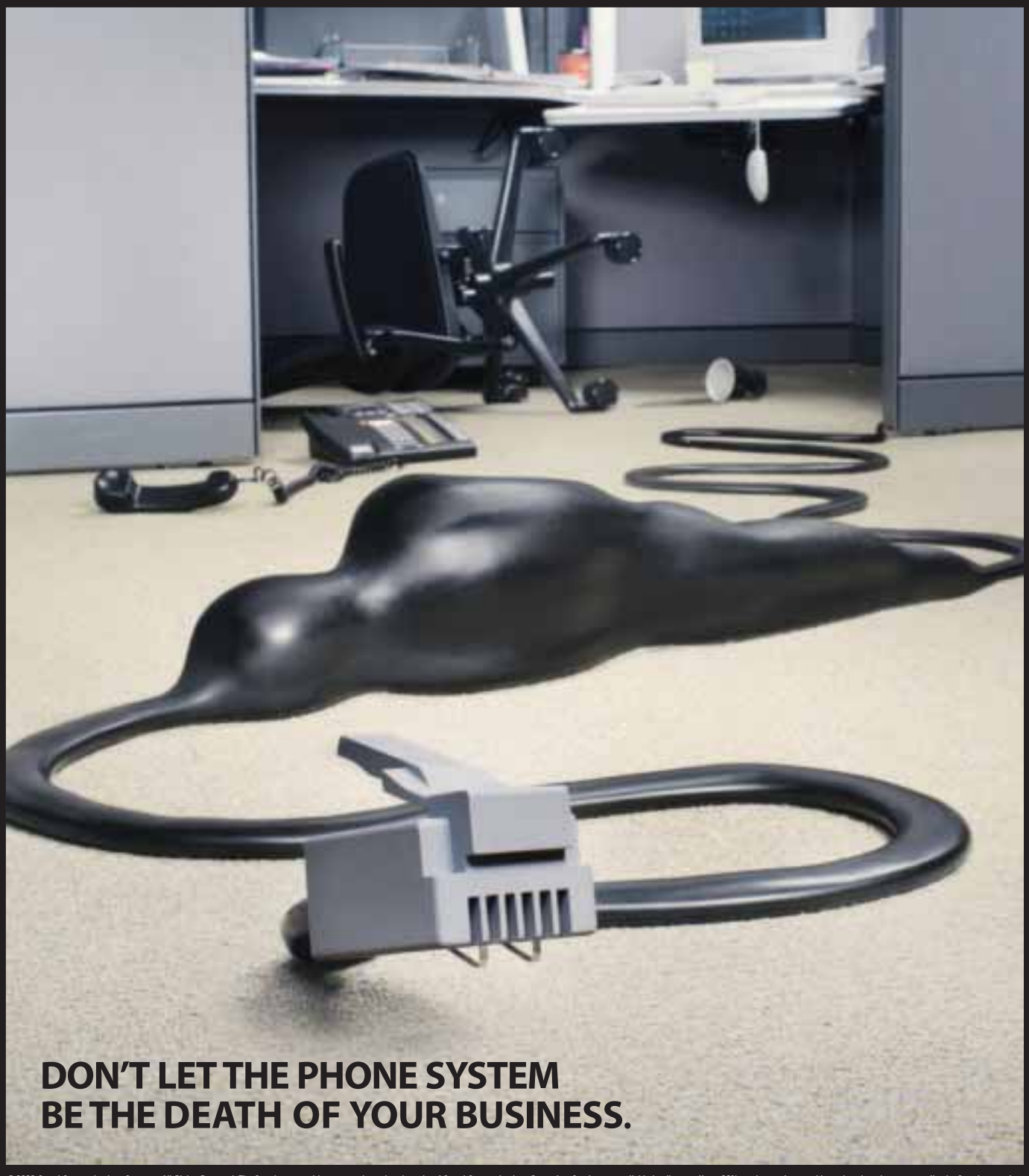

DON'T LET THE PHONE SYSTEM BE THE DEATH OF YOUR BUSINESS.

Contents

Top Cities Visiting TMCnet Blogs

1. Marina Del Rey, CA
2. Herndon, VA
3. Milton, Australia
4. Middletown, NJ
5. New York, NY
6. San Jose, CA
7. Singapore
8. London, UK
9. Mountain View, CA
10. Seattle, WA
11. Boston, MA
12. Calgary, Alberta

WHAT'S ON TMCNET.COM RIGHT NOW

TMC's Small Business VoIP Channel
VoIP can mean a lot more than just savings to a small business. The versatility of VoIP allows businesses to tailor telecommunications packages to individual needs. The Small Business VoIP Channel features the latest news and original bylined articles on VoIP for Small Business. To learn more, visit http://www.tmcnet.com/channels/small-business-voip. It is sponsored by Packet8.

TMC's Open Source PBX Channel
Open source PBXs provide an alternative solution to traditional business communications systems. The Open Source PBX Channel from TMCnet features the latest news and original bylined articles related to the development and deployment of open source solutions. To learn more, visit http://www.tmcnet.com/channels/open-source-pbx. It is sponsored by Sangoma.

WHAT'S ON TMCNET.COM RIGHT NOW

To stay current and to keep up-to-date with all that's happening in the fast-paced world of IP telephony, just point your browser to http://www.tmcnet.com for all the latest news and analysis. With more than 16 million page views per month, translating into more than 1,000,000 visitors, TMCnet.com is where you need to be if you want to know what's happening in the world of VoIP.

Here's a list of several articles currently on our site.

The Flavors of Enterprise Unified Communications
Now that the term "unified communications" (UC) has become officially adopted by both the telecommunications industry and the text messaging/information processing giants (Microsoft, IBM) as the future home of IP telephony, the enterprise market is going to have fun learning what "UC" will really mean in the upcoming months.
http://www.tmcnet.com/353.1

World Wide Web Introduces Corrupt Connections
The World Wide Web not only helped to create the global village, it also produced a paradigm shift in the way people work. However, while the Internet has become an indispensable part of our business and personal lives, the shift from pushing to pulling information has introduced a new dimension for the propagation of malicious content.
http://www.tmcnet.com/354.1

How To Frustrate Web Surfers Right Off Your Web Site, And Other Tips
I have just tried to register to view an article on a Dell call center that recently opened in Alberta. The article apparently shows up in a regional Alberta newspaper...the Google alert said so...but I'm not sure I'll ever find out about the new call center.
http://www.tmcnet.com/355.1

Protoype Educational Facility Opens in Philadelphia
The prototype School of the Future is a West Philadelphia secondary school serving some 750 students. When it opened at 8:00 AM on Septembr 7th for the 2006-2007 school year, it did so as a state-of-the-art facility where technology will permeate the entire educational milieu.
http://www.tmcnet.com/356.1

Phone Companies Get an FCC Spanking
A number of consumer advocacy groups and others have been trying to encourage the FCC and government to put a stop to the consolidation of service providers that is taking place. They argue that the old AT&T is being rebuilt and the telecom industry is heading in the wrong direction.
http://www.tmcnet.com/357.1

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VoIP Blog — Tehrani.com

Pretexting in Context

I had a chance to get the opinions of Joe Sanscrainte on pretexting — this is the topic that seems to be captivating consumers and regulators alike. Joe happens to be an attorney who is also a privacy expert. Here are Joe's comments, which are worth a read:

Remember that what's happening right now with telephone records is really just one skirmish in the overall war over privacy. The fact remains that data brokers only get telephone records from telephone companies because they are able to provide other people's identifying information, including name, address, date of birth, mother's maiden name, and most importantly, social security number (or even just the last four digits). From a privacy perspective, it, therefore, isn't enough to go after just the telephone records; there has to be more focus on protecting all elements that identify us.

Right now, under the Telecommunications Act of 1996 (Section 222 of Title 47, US Code), it is the duty of telephone carriers to maintain the privacy of telephone records. However, this law, in and of itself, has not prevented data brokers from basically creating a business model to obtain this information under false pretenses...

To stay in the loop, visit Rich's blog daily at http://tehrani.com

VoIP Authority Blog

Verizon Finds New Fee to Offset Expiring Fee

Whew! That was close. In danger of having to actually charge customers less due to the expiring Universal Service Fund fee, Verizon (quote - news - alert) has discovered a new fee to charge their DSL customers.

Verizon is imposing a new surcharge on its DSL high-speed Internet service just as the Universal Service Fund fees are expiring.

Coincidence? I think not.

According to an AP report, in a recent notice to customers, the telecommunications company said it would begin imposing the surcharge for all new digital-subscriber line customers, and on current DSL customers with monthly plans...

See more of what Greg Galitzine has to say at: http://voip-blog.tmcnet.com/ blog/greg-galitzine/

VoIP & Gadgets Blog

Raketu new P2P VoIP app takes on Skype

Is Raketu (news - alert) the next Skype killer? Raketu today launched a new VoIP client that also offers information and entertainment services. Raketu's communications features include dialout calling (rakOut) to landline/mobile phones, Instant Messaging (supporting Raketu, Yahoo, MSN, AOL, ICQ, Google and Skype), SMS-text messaging, and file transfers/sharing.

Raketu's information features include news, sports, weather, stock feeds, and an advanced internet and travel searching facility. Raketu's entertainment features include a podcast reader/player, games, and a full featured multi-media player with karaoke. Raketu supports click-to-call, click-to-IM, click-to-SMS, global online presence, and enhanced social networking features. I even noticed the software supports plugins, including games such as the classic Battleship game. I guess this would be Web 2.0 meets VoIP 2.0. Still missing some of my "cool" features for the perfect unified communications client.

In any event, Raketu's peer-to-peer (p2p) technology allows high quality VoIP calling and they claim the highest call-completion...

For more, check out Tom Keating's blog at: http://blog.tmcnet.com/blog/tom-keating/

Whether you're moving toward a global IP solution or a single application like VoIP, the experts at Verizon Business can take you there. Our global IP network delivers a wide range of scalable solutions. And our people can help you design, manage and optimize your transition to IP—on your timeline, and on your terms.

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By Rich Tehrani

Our 100th Issue of IP Communications Thought Leadership

100 issues — wow — it has been an amazing ride. If you can believe it, the magnitude of this issue didn't hit me until I sat down and started to write this column. As many of you know, in 1997, when we decided to launch a magazine titled Internet Telephony, most people thought we were crazy. They told us outright that we were nuts. Certainly this attitude in the market was a bit scary when starting a new magazine, as the vendors who were mocking us were the exact ones we were supposed to be writing about.

In fact, in hindsight we were probably crazier than we realized, because without hundreds of companies to write about, it really is difficult to sustain a business-to-business trade magazine.

There were a few companies that were courageous enough to realize we were onto something and there are also some individuals that stood out in my mind as being instrumental to the success of the IP communications market, as well as the success of this magazine and the associated expo of the same name.

As this is a top 100 Voices of IP communications issue, most of the people in this column will be from this list. Many of the people I write about here are worth sharing with you because they were instrumental in the industry or they impressed me on some level over the years. Unfortunately, I just can't fit all 100 voices into this column, but we are truly indebted to all of the people who have played a crucial role in making IP communications as successful as it is today.

To get the ball rolling I decided to start with someone who isn't on the list. Chris Ward was working in the marketing department of Natural MicroSystems at the time of this magazine's inception and, when we announced our plans to launch, he and his management team were so ecstatic, it really gave us here at TMC a moral boost and reaffirmed our belief that we were doing the right thing. Hats off to Brough Turner and Mike Katz, who also work at NMS, for playing instrumental roles in bringing the world's first VoIP gateways to fruition.

From here it makes sense to go to VocalTec — which really popularized the softphone and IP telephony gateway — and Elon Ganor, the company's leader who, when looking at the first issue of this magazine, lit up like Times Square on New Year's Eve. I know because I personally handed him the first issue at the Computer Telephony Expo in March 1998. In fact, at that time, the company's CTO, Lior Haramaty, knew more about VoIP than just about anyone else, and we were fortunate to have him as a columnist in this magazine for a number of years.

Jeff Pulver was certainly another colorful figure in the world of VoIP. Jeff's VON conference became a gathering of industry insiders trying to figure out what to make of this whole VoIP (define - news - alert) phenomenon. The event became a good partnering venue and, to this day, it's still a good partnering locale for companies in the VoIP space. Jeff has also played a big part in the legal scene, advocating that VoIP should have minimal regulation.

Another unforgettable figure in the world of VoIP is Andy Voss who worked for Nuera (news - alert) when I met him back in the mid-nineties. Andy has a unique sense of humor and knows the communications market inside and out. He tells it like he sees it and I always learn something when I speak with him. After working for Nuera he went off to start the session border controller company Sansay and is still the CEO of this successful endeavor.

The next ten years will see more and more communications innovations from traditional communications companies, but we need to remember that telecom is also now part of the computing world.

Jon Shapiro is larger than life. He runs Alliance Systems and his company was instrumental in building ruggedized PC platforms for the PC PBX, IP PBX, and Internet Telephony gateway markets over the years. Jon has been a good friend and has offered solid advice over the years and the industry is better off for having him in it. I am looking forward to him being back in the public spotlight the way he was in the nineties. He was a great force in the communications market of the last decade and his knowledge and experience is precious and worth sharing.

Another person of note is Gordon Payne, who was the face of Tundo — an early IP PBX player. Gordon did a great job at Tundo, but when the bubble burst and Tundo ran out of

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funding, he decided to take some time off and then joined Net6, (news - alert) where he focused on bringing intelligence to IP phones — allowing them to access applications and content. Net6 later was purchased by Citrix.

Tundo's (news - alert) failure is sad because at a few Internet Telephony Expos after the company folded, I was fielding questions from Fortune 100 companies as to why Tundo was no longer around. If they had held out a bit longer they might have become a major player in the space.

Jeffrey Citron of Vonage (define - news - alert) gets lots of credit for many things in the VoIP market. He was the visionary that decided to make Vonage a consumer VoIP play. He single-handedly scared the living daylights out of the RBOCs and cable companies, forcing them to develop VoIP strategies. This spurred billions of dollars of communications investment. He delivered on the promise of VoIP for the masses. He didn't do anything technically spectacular — Net2Phone did more or less the exact same thing many years before Vonage — he just was able to put together a company that knew how to market to consumers and he backed it up with enough investment to get millions of people to try VoIP. As they say, timing is everything and Citron probably had the critical mass of broadband subscribers needed to get his service to take off rapidly. Also, while branding Vonage, (quote - news - alert) his company's marketing caused the enterprise and SMB VoIP markets to grow more quickly and also made sure virtually everyone in the U.S. knew what Vonage and VoIP were.

It turns out this was a positive thing for VoIP until the Vonage IPO, which tanked, and now all the companies that pointed to Vonage as a role model are trying to explain to their investors how their business model differs from the orange logoed broadband phone company. Still, Citron should be commended in a major way for what he did — he brought widespread understanding to the world of VoIP and educated the entire U.S. population on what was once an esoteric and exclusive technology. Thanks Jeffrey.

It is interesting that Vonage first started out life as a company focusing on selling VoIP service to cable companies. When the telecom bubble burst in 2001, there was a bitter struggle to determine what the company should do. Citron bet on becoming a phone company and made at least one enemy in the industry by taking this course. He obviously made the right bet — but many in the industry believe the company can be even more successful if Vonage focused more on profitability and less on market share.

While Citron battled for control of Vonage, a strategy shift was taking place at 8x8, which made a similar bet that selling to consumers their Packet8 service made the most sense. It would seem that CEO Bryan Martin's decision paid off and, even though the company's stock price has been hammered lately — in sympathy with Vonage, it seems — I am impressed with the company's branding and the fact they were able to hang on in the most difficult telecom environment in history. Unlike Vonage, the company was already public and did not have access to hundreds of millions of dollars of VC funding — they had to make it through the turbulent telecom waters with limited resources.

Another major influence in the market came from Niklas Zennström, who co-founded Skype and has changed the world's appreciation for what IP communications can do. Hundreds of millions of people have downloaded this software and Skype (news - alert) may be one of the most viral software packages ever created. Much credit goes to Zennström for educating the world about VoIP and, more importantly, doing such a great job that Meg Whitman's eBay — another member of this prestigious list — decided to purchase Skype for more than 2 billion dollars. As time goes on, I expect to see tighter integration between Skype and eBay's services and, as the two companies work more closely together, we can expect both to do even better.

Many in the industry think eBay overpaid for Skype — I still believe eBay made a very smart decision to purchase the VoIP software leader and, although the price was high, they will recoup this money more rapidly than people think.

Michael Powell was another major force in the VoIP market, and under his tenure, frequencies were freed up to allow WiFi to become reality. This, in and of itself, is of major importance to wireless VoIP or WiFi telephony, but more importantly Powell was a huge proponent of VoIP and really seemed to care about allowing consumers access to the best service at the lowest prices. In fact, at his keynote at Internet Telephony Conference & EXPO — his first after stepping down as chairman — it become apparent that he would liked to have made more consumer-friendly pro-VoIP changes at the FCC, but just wasn't able to.

From regulation we go to the world's largest Web portal and you should know I am impressed by Yahoo's Jeff Bonforte because he is not only a brilliant entrepreneur launching i-drive.com in the bubble days, he is also amazingly witty. I am sure working with him on Yahoo's VoIP initiatives is a unique experience. I had the pleasure of sitting next to him at Andy Abramson's recent birthday party and he made a fun dinner that much better.

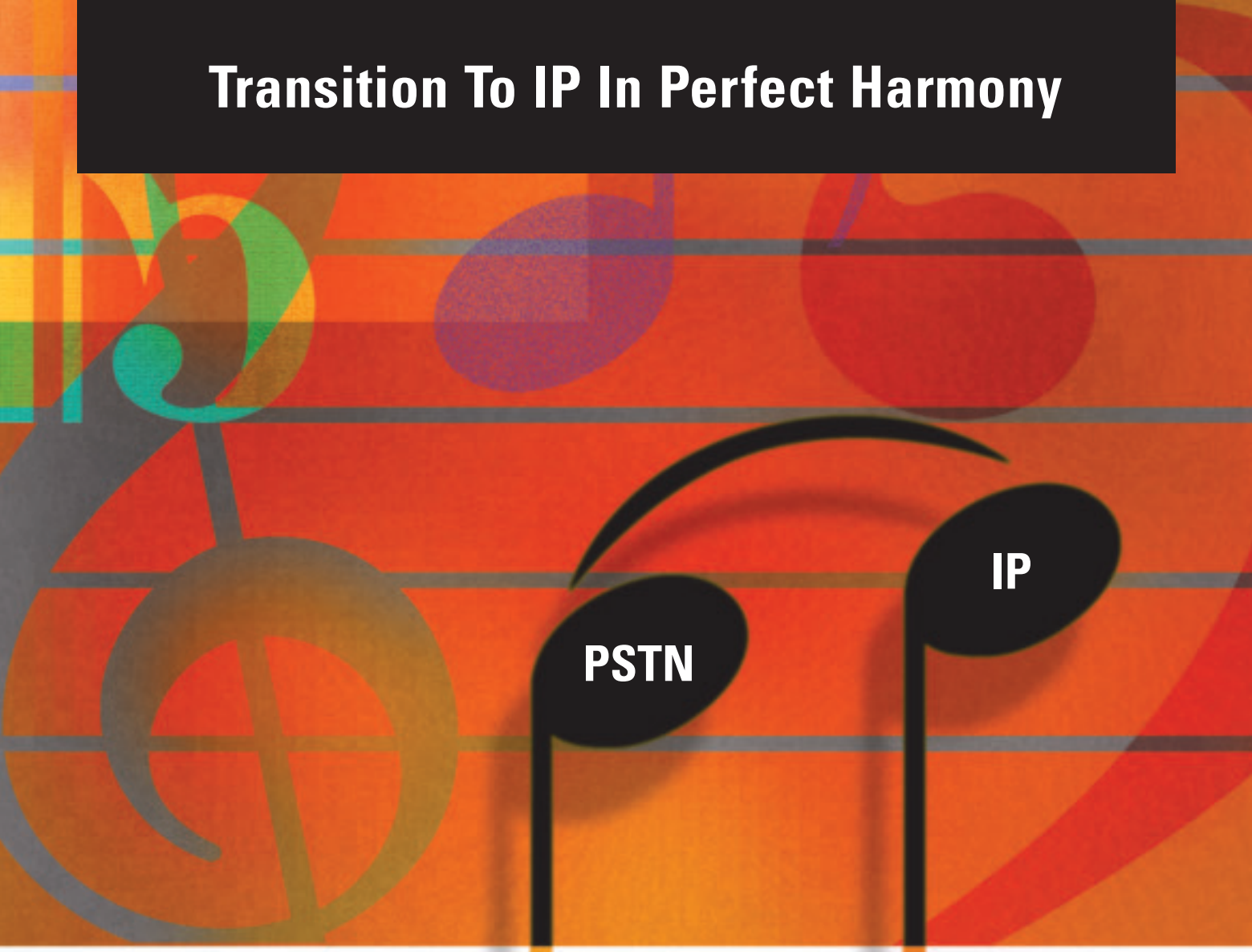
Hats off to Seamus Hourihan, who was a driving force behind Acme Packet's ascent into the session border controller market. The company came on the scene post-telecom bubble — many thought the timing would limit their success — and was able to become a major supplier to equipment manufacturers and service providers in a very short time.

Robert Messer of ABP is another important industry voice who is passionate about building the VoIP reseller channel. Without resellers, the VoIP market would have taken much longer to get off the ground. Perhaps no other person has been as passionate about VoIP resellers as Robert.

Mark Spencer is yet another important name on this list and, without his efforts, the open source communications market may have begun much more slowly. He and Bill Rich of Pingtel have been major players in this market. Similarly David Mandelstam of Sangoma has made it a business to equip Asterisk servers with high-end, high quality boards allowing Asterisk systems to scale very nicely.

Terry Matthews, the communications industry's most successful serial entrepreneur, definitely belongs on this list and the number of companies he has founded is awe-inspiring. He has picked virtually every niche in communications and

Transition To IP In Perfect Harmony



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launched a successful company in it. He should write books on how to launch and run communications businesses.

Two other people that are helping grow the IP communications market are Shrihari Pandit of Stealth Communications and Hunter Newby from Telx. The two have been instrumental in building the Voice Peering Fabric, a widely used fabric with billions of minutes of VoIP traffic flowing across it. VoIP peering is one of the biggest things to happen to the VoIP market and it is worth noting that in the last week XConnect, a peering competitor, has made big news by acquiring a peering company and, in doing so, raising its profile in the voice peering community.

Sphere is the company that invented the IP PBX but, at the time (the mid-nineties), it decided to use ATM instead of IP. They were at least five years ahead of their time and this is part of the reason why Todd Landry was chosen to be on this list.

Manuel Vexler and Michael Khalilian have been two of the major voices in the world of IMS with their exemplary and tireless IMS Forum work; the pair has worked tirelessly along with the rest of the forum to ensure IMS can continue to excel as a framework for next-generation communications.

Ben Guiderian is the most significant voice in the world of WiFi telephony and his company, SpectraLink. has been at the forefront of this technology. Hassan Ahmed is just one of the faces of Sonus, a company that was the premier IP communications company of the pre-meltdown days with a stock that skyrocketed beyond anyone's expectations. The company has made it through the dark times and is doing much better now, as they position their products to be leaders in the IMS market.

Few people in the market are as knowledgeable about enterprise VoIP as Mark Straton who represents Siemens. Expect to see great things from him. Similarly, Harald Braun is one of the best champions of IMS I have met. Harold, by the way, is also as dynamic as they get and is able to speak to you about technology in an animated fashion you wouldn't expect from someone so technical. No offense intended towards technical people, mind you, but I am an engineer so I think I can comment safely on the matter.

Quintum's (news - alert) Chuck Rutledge is soft-spoken as the company spokesperson, but Quintum has launched a raft of new products and continues to do well in the market competing against some true IP communications giants.

I could wax poetic about all the people in the market for pages and pages, but I am out of space and, if I get enough positive feedback, I will focus on the rest of the list in another issue.

What I would like to say, however, is thanks to all of you. I am proud to be in the company of such an important group and, most importantly, I am humbled by your support over the years.

Thank you to the loyal readers who read my columns and give me so much feedback on what you agree with and what you think I am wrong about.

It is because of all of your efforts that this publication is consistently the most successful and thickest magazine in the communications market. Many have told me that *Internet Telephony* is as thick or thicker than just about any technology magazine to which they subscribe. Magazine thickness, by the way, is generally the gauge of a magazine's success level. We could not be where we are without all of the support from the IP communications community. Once again, thank you.

I have always believed that, as communications transitions to the world of IP, new and exciting possibilities await us all. The last 100 issues are just the beginning. We have only achieved a small part of the industry's potential. In the future, communications will become a more and more integral part of business and our lives. We will see IP communications as a more and more strategic part of enterprise and service provider investments. Technologies like WiFi, WiMAX, IPTV, SIP, and IMS will only allow us to have greater impact on the world with the new ideas that continue to come out of some very bright industry minds.

The next ten years will see more and more communications innovations from traditional communications companies, but we need to remember that telecom is also now part of the computing world. What this means is that we will not only see innovation from the likes of such companies as Lucent and Avaya, we will see more Skypes pop up around the world too. This means the pace of innovation in IP communications will likely continue to grow and this will lead to more and more choice for the companies looking to take advantage of all that the IP communications market has to offer.

Personally, I look forward to helping to provide clarity in this new world of IP communications for another 100 issues and more. I look forward to sharing the journey with you. IT

The World's Best Attended IP Communications Event Comes to Florida in January

I know this may seem early to you, but the world's first IP Communications event takes place in a few months in Fort Lauderdale, Florida. Yes, I am talking about Internet Telephony Conference & EXPO and you can expect a colocated IMS Expo and Call Center 2.0 conference. There will be a tremendous focus on open source, cable technology, conferencing and collaboration, VoIP security, OSS/BSS, IPTV, voice peering and wireless technologies. We recently put together the tracks for this show and, without a doubt, this will be the best conference in the world for IP communications. The sheer volume of sessions will ensure that regardless of whether you are a service provider, enterprise or developer there will be enough high-quality, unbiased content to not only educate you but ensure that you become an expert in your topic(s) of interest.

Please mark your calendar now for January 23-27, 2007 and I suggest you book your hotel immediately, as this is peak vacation season and this event continues to quickly sell out every hotel in its area, months in advance.

Go To Table of Contents | Go To Ad Index

VOIP

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Multi-site Credit Union Simplifies with SIP-based IP PBX

Dupaco Community Credit Union was state chartered in 1948 to initially serve the employees of the Dubuque Packing Company. Since then, Dupaco has become a full-service credit union serving a 21-county area. The credit union is headquartered in Dubuque, IA and has six branch offices. Together, Dupaco employs approximately 155 people.

The Challenge

By mid-2001, Dupaco Community Credit Union had outgrown its legacy PBX. While the PBX (define - news - alert) had basic automatic call distribution (ACD) capabilities, the credit union's growing number of branch offices demanded a more feature-rich call routing system — one that could also be modified quickly and easily. In addition, the PBX's desktop management and reporting capabilities were difficult to use, so the credit union wanted a system with an intuitive, graphic-based interface for tasks like administration and supervision.

An even more important objective for finding a replacement PBX was to help bring a unified front to Dupaco's distributed operations by consolidating its multiple phone systems from multiple vendors at branch offices into a single system that could serve all locations.

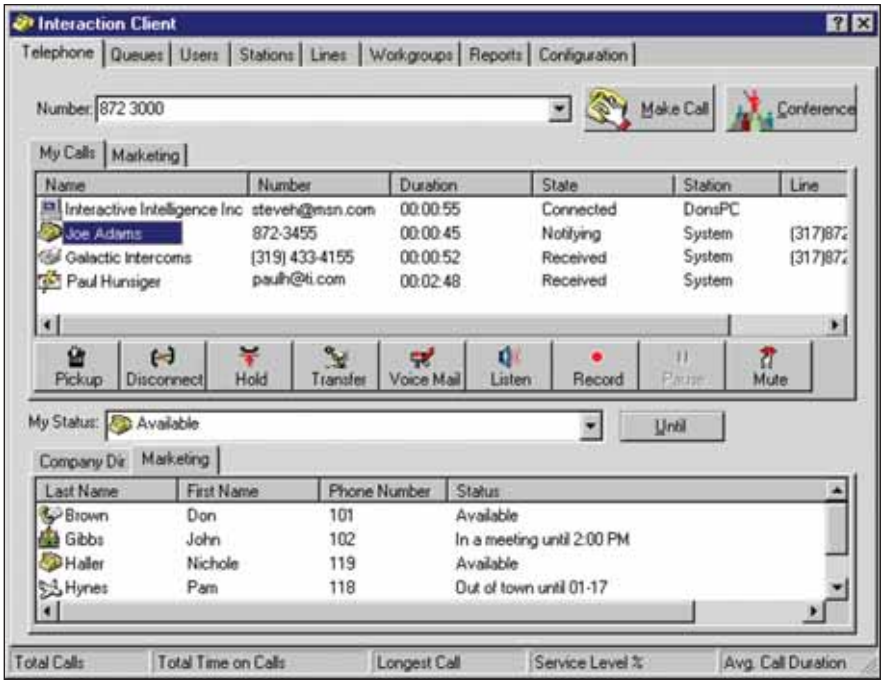
The Solution

Dupaco initially considered upgrading its existing PBX to gain functionality. After careful research, however, the credit union realized that even adding minimal new functionality could lead to an exponential increase in complexity.

"We thought that, perhaps, we could solve our problem by upgrading, but all the additional servers and associated equipment necessary would've led to a maintenance nightmare," said Steve Ervolino, Dupaco's vice president of information services and technical support.

Dupaco also looked at add-on solutions from Cisco and Avaya, but came to the same conclusion. At the advice of computer telephony integrator, Chicago-based Adapt Telephony Services, Dupaco reviewed a Microsoft-based IP communications system from Vonexus (news - alert) called Enterprise Interaction Center (EIC).

Instead of a loosely integrated set of applications requiring multiple servers and interfaces, EIC is built on a Windows server that uses a single interaction engine to process all types of



Go To Table of Contents | Go To Ad Index

communications — from phone calls and faxes to e-mails and Web chats.

"We chose EIC because its single-platform architecture meant fewer devices to support," Ervolino said. "It also meant centralized administration and fewer interfaces overall."

While Dupaco had initially considered using EIC in conjunction with its existing PBX, it quickly scrapped the idea and decided to completely replace the old system in order to further simplify management. It also made this decision to take advantage of EIC's session initiation protocol (SIP) support, the emerging standard for Voice over IP (VoIP).

"One of the major reasons we went with an IP-based system was because we could support our branch offices over an IP LAN-to-WAN connection via a centralized corporate location instead of having a separate phone system at each office," Ervolino said. "We were confident that SIP would take VoIP to the next level, resulting in even simpler setup and maintenance, increased interoperability, and support of enhanced applications, such as instant messaging and video conferencing."

Dupaco completed its EIC installation in July 2003, and today uses the product for SIP-based IP switching, voice mail, fax services, unified messaging, auto attendant, workgroup routing, reporting, and recording.

EIC supports all of the credit union's 150-plus employees, and processes approximately 1,600 incoming calls daily. The product is configured for workgroup routing based on one of four credit union departments composed of about 25 total employees. Adapt helped Dupaco configure EIC for screen pop so the Member Services workgroup could have a data processing application "popped" onto their computer screen simultaneously with an incoming call. Adapt also helped Dupaco configure EIC to include a backup queue for use during periods of heavy call volume. The configuration also allows for callers to be transparently routed from one branch to another.

The Benefits

Prior to EIC, Dupaco employees had to page people constantly due to blind transfers. EIC's presence management has enabled employees to view co-workers' status — it lets them know when colleagues are "In a Meeting" or "Out to Lunch" — before transferring a call. Interestingly, Dupaco found that if a caller was told before transferring the call that an employee wasn't immediately available, they usually agreed to be put into voice mail. If, however, the caller was blindly transferred and got voice mail, they would usually "zero out" and ask, instead, to page the employee.

"EIC's presence management has reduced pages from about 10 an hour, to less than 10 a day," Ervolino said. "This has translated into vastly improved productivity and happier members."

EIC's desktop softphone, Interaction Client, also gives employees full call control with the click of a mouse, including one-number dial capabilities, which has eliminated the need for employees to memorize long numbers, and enabled customers to get routed to the right person more quickly and more accurately.

Dupaco employees have also found productivity benefits by using EIC's unified messaging. Employees, including those who are mobile and remote, can now access and manage all message types — voice mails, faxes, e-mails and Web chats — from a single inbox on their computer, or from a phone, e-mail client, or Web browser.

"As a VP of support, it's a great thing to be able to completely replace a company's communications system with something so much more feature-rich and sophisticated, yet not have to add a single additional IT person to manage it," Ervolino said. "In fact, EIC requires less than a single full-time resource to keep it up and running smoothly."

"As a result of our EIC deployment, we can say that VoIP and SIP are not just the wave of the future, but viable technologies today that can be used to generate real-world business benefits.," he concluded. IT

Go To Table of Contents | Go To Ad Index

News Analysis By Robert Liu
TMCnet Wireless and Technology Columnist

Alcatel-Lucent: And Now the Hard Part

With nearly all of the *i*s dotted and the *t*s crossed on the $11 billion Alcatel-Lucent Technologies merger, the two telecom equipment manufacturing (TEM) giants that set the wheels of consolidation in motion are just now getting to the hard part.

Since April 2, when the deal was announced, Serge Tchuruk of Alcatel and Lucent's (quote - news - alert) Patricia Russo have been on a mission to convince shareholders that the whole is greater than the sum of the parts. On September 7, Alcatel (quote - news - alert) and Lucent finally won shareholders approval and executives still believe they are on track to complete the transaction by the end of this year. *As of press time, the only approval still required was from the U.S. Treasury Department's Committee on Foreign Investments in the United States.*

But despite the Herculean task of selling the deal to investors, officials are still looking at 12 to 18 months of hard work in order to realize the $1.7 billion (€1.4 billion) that has been promised in cost synergies. And that's just to achieve operational efficiencies.

"Product development takes a couple of years. You have a much longer period before you can attain those product efficiencies," said Phil Marshall, vice president, Wireless Mobile Technologies, Yankee Group.

While an integrated product portfolio remains an important driver, especially in light of industry commoditization and the ongoing convergence of fixed and mobile solutions, analysts concur that scale remains the most salient rationale for the Alcatel-Lucent combination.

"Everyone is focusing on market share," explained Peter Jarich, Principal Analyst Wireless Infrastructure at Current Analysis.

In covering the telecom equipment market, I get the feeling that, before long, I'll be writing about only one big company. After all, the Big 8 vendors are already dwindling down to just five in the 3G business. Following Ericsson's acquisition of Marconi last October, the Alcatel-Lucent deal set into motion Nokia's telecom equipment joint venture with Siemens in June and Motorola's partnership with Huawei a month later.

"Analyzing the comments from all the major wireless infrastructure vendors leads us to believe that competition in the industry remains tough with pricing pressures due to aggressive bidding by the likes of Huawei, worsening emerging market mix, and lower-margin services business gaining in importance," wrote Gareth Jenkins, analyst at Deutsche Bank.

But it's exactly that type of scale that will enable these companies to act as an oligopoly to negotiate more favorable terms with customers and suppliers. Indeed, reverberations have already been felt from the TEM consolidation as evidenced by Harris Corporation folding its Microwave Communications Division into Stratex Networks to form the leading provider of mobile cellular solutions.

"Really, this consolidation is certainly about product portfolios and filling geographic regional gaps but it's also about outright scale," Marshall told *INTERNET TELEPHONY*.

On top of the market leverage, Alcatel and Lucent are hoping to capitalize on operational efficiencies realized by combining the sales and marketing, IT, HR, and finance organizations, as well as other corporate activities. But, while operations will likely dominate the bulk of the merger integration, the product pipeline runs the risk of languishing in the wake of neglected R&D spending. Analysts like Marshall don't expect to see the fruits of an integrated product portfolio until the 2009-2010 timeframe. By that time, 4G technologies, like WiMAX (define - news - alert) or other OFDM technologies, are expected to be up and running.

Go To Table of Contents | Go To Ad Index

This consolidation is certainly about product portfolios and filling geographic regional gaps but it's also about outright scale.

"You have to be either on the bleeding edge of mainstream technologies or take advantage of a niche," Marshall explained.

To be sure, Alcatel does have a niche in the form of 2G that serves as a proverbial foot in the door. Although its 3G practice was relatively weak, Alcatel fortified its portfolio considerably when it recently reached an agreement to acquire the UMTS radio access assets of Nortel for $320 million.

"Alcatel isn't a big player in the UMTS business, but they've been doing really well in GSM," Jarich said. "It's been hard for someone to gain HSDPA business that they don't already have. Now there are still a lot of operators that still haven't picked their vendors so there's still a lot of opportunity. But it's been a hard market to break into."

Because pre-existing customer relationships are so critical when it comes to building out an operator's technology roadmap (as Nortel's CEO Mike Zafirovski recently acknowledged), some analysts speculate that Nortel could shed even more wireless assets, like core or CDMA, to a combined Alcatel-Lucent, especially given the strength of Lucent's CDMA practice.

"You didn't have the right channels to be successful in 3G, then how can you have the right channels in 4G?" Jarich pondered.

Still others are also being left out in the cold. With Siemens now tied up with Nokia, NEC may now be hard-pressed to find a replacement. "There are about 100,000 base stations that are NEC-Siemens" still on the market, Marshall added. IT

Robert Liu is Executive Editor at TMCnet. Previously, he was Executive Editor at Jupitermedia and has also written for CNN, A&E, Dow Jones, and Bloomberg. For more articles, please visit his columnist page on TMCnet.

Does your VoIP approach come with a lot of excess baggage?

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Spectrum Partners With ShoreTel for Business VoIP

By Johanne Torres

IP PBX company ShoreTel (news - alert) announced its partnership with Spectrum InTouch to bring VoIP services and products to the enterprise market. The new partnership will enable Spectrum to offer ShoreTel's 6 IP PBX platform, creating business phone systems that bring voice and data together, including voice-and-data conferencing and virtual contact centers.

"ShoreTel's IP voice communication system is user-centric, associating phone numbers with people, not offices," said Spectrum InTouch's president, Trent McCracken. "Your calls find you whether you are at your desk, working at a branch office, or using a PC-based softphone at home, in a hotel room, or some other remote location. You have a single contact number and a single voicemail box, eliminating a lot of redundant phones calls and duplicate messages. And you get to use a consistent voice environment, wherever you want to work."

ShoreTel's 6 IP PBX platform enterprise-class phone system applications feature voicemail, an automated attendant, automatic call distribution, call detail recording and desktop call control. All of these features are accessible and managed through a Windows-based interface.

http://www.shoretel.com

LG-Nortel Launches Communications System for SMBs

By Anuradha Shukla

LG-Nortel (news - alert) is launching its first new product range, the ARIA SOHO digital hybrid PBX, a smart communications system to help small and medium sized businesses. The system will boost employee productivity, streamline business operations, reduce costs and enhance customer service.

The ARIA SOHO will appeal to SMB and home office users since it offers simplicity and ease of use in regard to installation, operation and maintenance. Its fully hybrid architecture and 'plug and play' facility offers high flexibility in selecting types of terminals, whether the user is dealing with single-line analog handsets, digital telephones, or faxes.

At no extra cost, ARIA SOHO offers essential business services, such as Caller ID, SMS and voice/fax tone detection. The product suite has built-in voice mail, auto attendant, conferencing capability, and LAN interface for Ethernet connectivity. Moreover, the call cost control/monitoring capabilities of the solution keep communications costs low, and can be easily and affordably scaled to 48 extensions.

"LG-Nortel will focus on growing SMB market share through ongoing development of new products and marketing activities," said J.R. Lee, chief executive officer, LG-Nortel.

http://www.lg-nortel.com

Go To Table of Contents | Go To Ad Index

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NEC Unified Solutions Intros Managed IP Telephony Service

By Michelle Pasquerello

Looking towards the SMB market, NEC Unified Solutions (news - alert) released its Managed IP Telephony (MIPT) service, a customizable IP system that provides balance between a purchased solution and a hosted IP Telephony solution.

Utilizing NEC's UNIVERGE IP Telephony platform, the MIPT offering includes a complete suite of professional, maintenance and managed services, carrier services, a single point of contact for provisioning and problem resolution, ongoing performance trend analysis, and real-time reports via a secure Web portal.

According to NEC, MIPT is well positioned to deliver end-to-end support for the entire lifecycle of an SMB's IPT experience. With the new service, customers will benefit from improved business productivity, a dedicated, feature-rich IP Telephony platform, total system flexibility and customization, and lower TCO at a predictable monthly rate.

"The development of NEC's Managed IPT Service is a direct result of the fundamental needs of SMBs to gain access to IP telephony," said David King, vice president, Marketing, at NEC Unified Solutions. "This service solution provides a perfect balance of customizability, reliability, security, and flexibility with no capital, reduced risks, and an overall lower total cost of ownership."

http://www.necunified.com

IPcelerate Rolls Out Bundled IP Communication Solution for Government Agencies

Mae Kowalke

IP communications specialist IPcelerate (news - alert) has been busy lately addressing the needs of particular vertical markets such as healthcare and education. Now it has announced the first in a series of pre-configured, bundled communications solutions, for government agencies.

The new solution "encompasses the most commonly utilized features and requests from current government customers and is designed to enable agencies to use IP telephony to meet their most critical needs," according to the firm.

IPcelerate's bundled solution for government agencies addresses a variety of specific needs, such as: safety and security, rapid emergency response, and efficient citizen communication. Those needs, and others, are delivered using the company's IPsession, IPstudio, and IP Video Surveillance products. By combining those offerings into a bundled solution, the company has tied together functions, such as 911 notification, RFID pendant and sensor integration, dial-out, on-demand audio recording, and triggered video surveillance.

IPcelerate plans to continue along the same lines by, in coming weeks, presenting similar bundled solutions for other markets, including finance and legal.

"A solution targeting a specific industry vertical is something that our partner community has often requested," IPcelerate's channel marketing manager, Paul Campetella, said in a statement. "We felt it important to address this need, as well as learn from our current customer base."

http://www.ipcelerate.com

BandTel Solves Early Media Dilemma

BandTel (news - alert) CTO Pete Sandstrom knows a thing or two about placing a call over an SS7-ISUP line — he should, since he was the first engineer to do so. Ever since then, Sandstrom has been testing theories on the migration of the traditional PSTN to packet architectures.

Prior to SS7-ISUP and ISDN, circuit-switched telephone calls used in-band call progress tones to let one side know what was happening on the other side of the call. When a number was dialed, audible tones could be heard as the call cut through to the endpoint.

Transporting of this legacy call progress information in SIP space is called "early media," whereby legacy signaling techniques are preserved, but at a price. Bandwidth is being consumed, resulting in potentially dramatic inefficiencies. A call center may need to provision as much as two or three times the amount of bandwidth to get the desired agent/call dialed ratio needed to optimize the call center agent utilization. Ordering extra, wasted bandwidth is expensive, if it's even available.

Here's where VoIP telephony, and specifically SIP, solve the legacy problem. SIP is similar to SS7 and ISDN in that it also allows the call progress information to be sent upstream to the originating end via data packets, as opposed to audible tones.

BandTel has a solution: Silent Running. For high intensity dial applications, BandTel has engineered a dial plan product that offers A-Z routing with early media "disabled." Silent Running treatment will result in significant bandwidth savings, which go straight to the bottom line. BandTel's Silent Running is available today, allowing any enterprise to take advantage and optimize bandwidth usage, reducing costs at the same time.
http://www.bandtel.com

Covad Intros Cisco-based Voice and Data Bundle for SMBs

By Johanne Torres

Covad Communications (news - alert) introduced an IP-based voice and data offering for small to medium businesses (SMBs) that bundles Covad's ClearEdge Integrated Access and Cisco's (quote - news - alert) Unified CallManager Express.

The customer-managed IP Communications service is based on Cisco's Unified CallManager Express and it features an auto attendant, night service bell, call logging, caller ID, call monitoring, call forwarding, call pickup, dual-line appearances, and hunt groups. The system also provides SMBs with other capabilities, such as video telephony, rich-media conferencing, unified messaging, and softphone integration.

Covad's ClearEdge Integrated Access combines voice and data on a single, integrated connection to deliver VoIP, broadband, e-mail, and Web-based hosting services on one bill. The service also features an optional Web-accessible interface, the Covad Integrated Access Dashboard.

The Cisco Unified CallManager Express is embedded in the Cisco Internet Services Router that provides call processing for Cisco Unified IP phones. According to the agreement between Covad and Cisco, Cisco Unified CallManager Express and integrated services routers for the system will be sold, deployed and maintained by authorized Cisco and Covad partners.

"Covad's customer focus led it to develop this offering specifically for SMBs that require smart, simple and secure communications services," stated Vic Northrup, vice president of service provider operations for Cisco. "This offering gives these businesses exactly what they need in a managed unified communications service… allowing them to get the best of both the hosted and the premise-based communications solution."

http://www.covad.com
http://www.cisco.com

MyFax Simplifies Your Fax

Erik Linask

MyFax (news - alert) unveiled its new Web interface for its Internet-based fax service that allows users to send and receive faxes using registered email accounts and the Web. The system, designed to enhance each customer's experience, also brings improved flexibility, manageability, and efficiency to the multitude of businesses that still rely on fax communication — and those that only use faxes on occasion as well — which is a step towards the ultimate goal, increased productivity.

MyFax customers can access the new MyFax Web interface to experience the variety of new features, including friendly and consistent navigation tools for quick and easy faxing and receiving and user administration. Enhancements include a versatile email Inbox-like structure, with additional archiving options — received faxes can be accessed online for one month with no additional charge.

Other enhanced features include a flexible cover page manager, allowing users to create and customize their own cover page(s), including templates for both formal and informal situations. It also lets users decide which faxes to view or print, which to save, and which to delete — much like email applications.

"Faxing is moving online, says Joseph Nour CEO, Protus IP Solutions. "From large enterprises to individual workers, internet faxing is the future. MyFax makes it easy to move online with great value, unique features and a user-friendly design."

In terms any executive can understand, when compared to traditional fax machines, MyFax is said to save more than 90% on capital expenditures, close to that in recurring monthly fees, and 89% over five years' time.

http://www.myfax.com

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IBM Business Partner

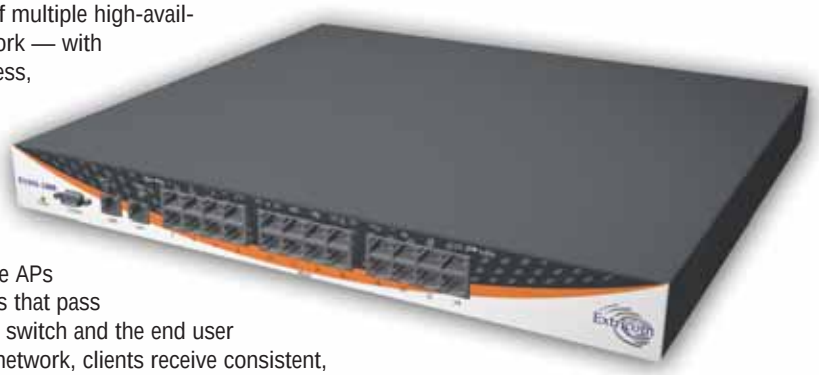
Reliable Mobility from Belden and Extricom

By Erik Linask

Belden, (news - alert) a developer of wired signal transmission products for the enterprise and industrial markets, and Extricom, (news - alert) the designer of the Interference-Free Wireless LAN System, have entered into a multi-million dollar, multi-year global technology partnership, signifying Belden's strategic entry into the wireless arena. The primary focus will be on the development of WiFi solutions based on Extricom's technology that are suitable for enterprise deployment

"Our entry into wireless technology presents another avenue for the fulfillment of our customers' needs with unified wired/wireless solutions they can depend on," said Peter Sheehan, president of Belden Americas. "Extricom provides a highly differentiated technology that will be the basis for Belden's future wireless products."

Extricom's patented Interference-Free WLAN system is easily installed and cost-efficient and supports simultaneous existence of multiple high-availability bandwidth-intensive applications on one network — with no degradation of service, reliability, or mobility, access, or security. The system eliminates interference through refined control of the wireless access points (APs).



To assume this control, the Extricom system uses a centralized architecture, where all the packet delivery decisions are made in the central switch. This is not only beneficial, but necessary, because the APs themselves have no "brain" — they are merely radios that pass along the data and voice packets between the central switch and the end user devices. The benefit is that, with an Extricom-based network, clients receive consistent, complete coverage without latency and without interference, which all adds up to greater efficiency and satisfaction. Indeed, the company says its wireless networks deliver wireline predictability and reliability.

http://www.belden.com
http://www.extricom.com

Cistera Intros QuickConnect

By Johanne Torres

Enterprise VoIP application provider Cistera Networks (news - alert) has introduced QuickConnect as an expansion of the functionality of its event alerting and notification offerings, RapidBroadcast and LandMobileRadioConnect.

The new offering works with the company's OpenTrigger application programming interface (API) and with Cistera's other application engines, including VirtualDirectory and CallCenterRecord Enterprise, to deliver outbound messaging to cellular and analog telephones. OpenTrigger allows a user to set the parameters to launch notification to a select group of communication devices.

QuickConnect is also compatible with Short Message Services (SMS) of wireless carriers including Cingular, Verizon, and Sprint, delivering real-time voice and text messaging to cell phones and voice delivery capability to analog phones.

"Cistera QuickConnect offers the most advanced outbound dialing, SMS, and notification solutions for Cisco and Nortel environments. We are currently beta testing these products with customers in the financial services and healthcare vertical markets," said Cistera's chief technology officer Gregory T. Royal.

"Cistera was early in the Enterprise VoIP Applications market, and now that the market has moved beyond the early adopter phase, our deep experience is allowing us to extend the possibilities of IP Telephony well beyond the phone," stated Cistera's president and acting CEO Derek Downs. "The release of QuickConnect is a major step for us, as it can operate independent of the IP PBX, and opens the door to the possibility of subscription offerings for customers that require notification capabilities and prefer to use a hosted service."

http://www.cistera.com

Nokia to Acquire gate5

By Niladri Sekhar Nath

Nokia (quote -news - alert) has agreed to acquire gate5 AG, (news - alert) a supplier of mapping, routing, and navigation software and services. With the acquisition, Nokia will be able to provide its customers with maps, routing, navigation, and other location based applications on its mobile devices.

"Acquiring gate5 enables Nokia to offer consumers mobile location applications, such as maps, routing, and navigation at an accelerated speed," said Anssi Vanjoki, executive vice president and general manager, multimedia, Nokia.

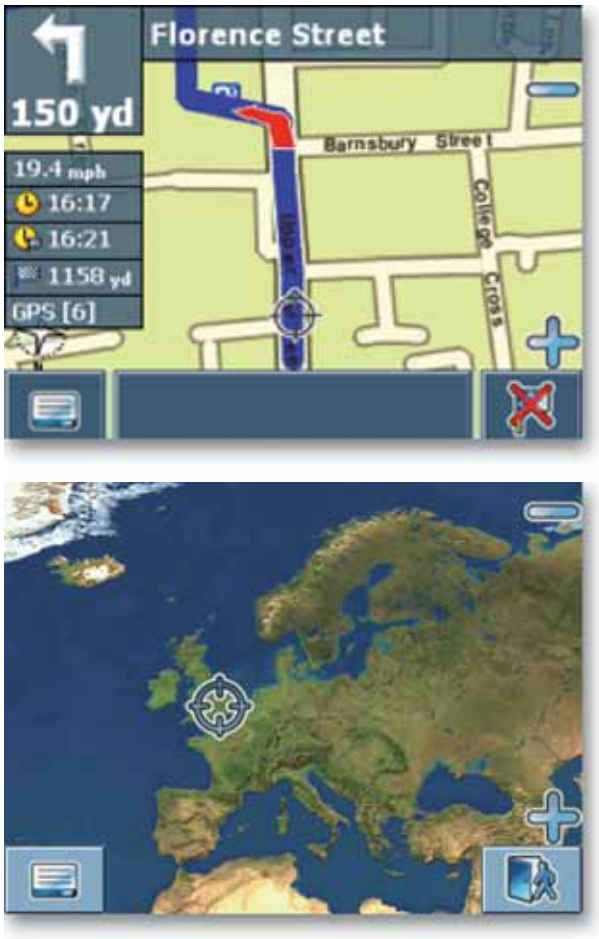
A recent survey reveals that the Personal Navigation Device market is growing rapidly. The global market size is likely to reach 15 million units in 2006 compared with 8 million units in 2005. Vanjoki hopes that the maps and navigation capabilities will help Nokia make real progress.

Berlin-based gate5's provides its mapping, routing, and navigation software to leading personal navigation device manufacturers all over the world. Thanks to gate5's solutions, people can take advantage of highly sophisticated mapping and navigation service.

"Our combined expertise means that mobile device owners will enjoy a wide range of location based services," says Dr. Michael Halbherr, CEO of gate5.

Nokia says it will support gate5's PND customers and its multiplatform strategy for mobile devices, including Symbian, Linux, Windows Mobile, Palm, and Java platforms.

http://www.nokia.com
http://www.gate5.de



VoIP Provider Babble.net Introduces the BabbleStick

By Patrick Barnard

Babble.net, (news - alert) Britain's popular Web-based VoIP provider, has introduced the BabbleStick, a portable USB device that enables Babble users to make calls from any PC or laptop.

The BabbleStick allows users to make free or low cost calls over the Internet without the need for downloading software. The 256MB USB memory stick comes preloaded with Babble's SIP-based VoIP software, which downloads automatically when the stick is installed in a USB port. The portable stick, which comes with a small headset and microphone, can be ordered from the online shop at Babble for £19.99.

"Consumers now have the best cost-effective solution for calling friends and family while away from home," said Allan Howes, CEO of Babble. "The included headset acts as a speaker and microphone, meaning you can make free phone calls from practically any Internet café in the world. The system is so easy to use — you just plug in and go."

The BabbleStick lets users can carry their account information — including their contacts, settings, and preferences — with them everywhere they go. The device does not leave any personal information behind on a computer.

"Our BabbleStick is a convenient, simple communication tool designed for use by anyone — it's an excellent addition to our brand," Howe said. "It will allow us to reach a new audience and we are very excited by its prospects."

Because it is SIP-based, Babble works with any SIP-compliant software package, such as X-Lite or SJPhone. It also works with various hardware devices, including IP phones and ATAs from the likes of Cisco, Linksys, Grandstream, snom, and Zyxel.

http://www.babble.net

Go To Table of Contents | Go To Ad Index

XO Deploys Fixed Broadband Wireless in Nine Cities

By Johanne Torres

XO Communications (news - alert) announced what it calls it's "first significant market deployments of fixed broadband wireless technology that will broaden its ability to deliver business-class broadband solutions directly to businesses and help the company reduce local network costs."

XO joined forces with sister company Nextlink to deploy fixed broadband wireless in Atlanta, Chicago, Dallas, Houston, Los Angeles, Miami, San Diego, Tampa and Washington, DC.

XO will use LMDS fixed broadband wireless for this project as its access method to deliver dedicated Internet access and metropolitan and inter-city Ethernet systems directly to businesses at speeds of 10 Mbps and 100 Mbps. From Nextlink wireless hubs deployed in each market, XO can deliver services to any qualified line-of-site location within an average of five miles to support a range of networking services including Internet access, VoIP, and private business networks at native LAN speeds.

"With fixed broadband wireless technology, we are significantly expanding the reach of our network to serve even more businesses, specifically those businesses that do not have direct fiber connections to support their growing bandwidth needs," said XO's CEO Carl Grivner. "In addition to expanding our network, fixed wireless also gives us a more cost-effective and scalable replacement to leased network elements that connect local switches to our own fiber network."

http://www.xo.com

New Annual Plan and Free Phone from 8x8 Designed to Lure More Consumers to VoIP

By Patrick Barnard

As many service providers have learned in recent years, the key to driving consumer adoption of VoIP is to make the transition as seamless as possible. The bottom line is, consumers don't want to have to radically change their calling habits just to save a few bucks. They don't want to have to sit down at their PC in order to make a call — nor do they wish to have "extra steps" involved when initiating a call from a handset. From the standpoint of the average consumer, using VoIP should be every bit as simple as using traditional telephone service — yet, in many cases, it is not.

Recognizing this, 8x8, provider of the Packet8 VoIP service, is making strides in simplifying the process of switching to VoIP for consumers. The company announced it is offering its Packet8 service for an annual fee of $199. In addition, for a limited time, consumers who sign up for the plan can get a Packet8-enabled plug and play 5.8 GHz expandable cordless phone system from Uniden for free.

Packet8's (news - alert) new Freedom Annual plan is a lower cost alternative to its monthly Freedom Unlimited service plan. The annual plan offers unlimited calling in the U.S. and Canada, plus the usual selection of advanced calling features, including voice mail, caller ID, call waiting, call forwarding, and three-way calling. In addition, Packet8's service lets subscribers choose their own area code.

http://www.packet8.com

GIPS and Skype Extend VoIP Partnership

By Johanne Torres

Voice processing technology provider Global IP Sound (GIPS) (news - alert) announced it has extended its partnership with Skype to enable hardware manufacturers to offer Skype-compatible IP phones. The new hardware systems will use GIPS' Voice Engine Embedded. Skype has licensed GIPS products in the past, including VoiceEngine PC.

"Skype (news - alert) has clearly revolutionized global personal communications with its offering," said GIPS president and CEO Gary Hermansen. "This latest step in our relationship helps to solidify this growing market by expanding the options for Skype-enabled hardware devices and the ability for consumers to have a consistent, high-quality user experience regardless of platform."

http://www.skype.com
http://www.globalipsound.com

BroadVoice Broadens 911 to All VoIP Customers

By Erik Linask

Since the FCC mandated last year that all VoIP subscribers must have access to 911 facilities, broadband voice service providers have scurried to comply. But it is taking time, as there are a number of complexities involved, including hardware, location technology, subscriber mobility, and local jurisdiction.

At last, having overcome the many hurdles it and other VoIP providers have faced, business and consumer broadband service provider BroadVoice (news - alert) has announced that 100% of its customers in the United States now have access to 911 service. That means that when a BroadVoice customer dials 9-1-1, he is quickly connected to either a Public Safety Answering Point (PSAP) or the National Emergency Call Center, either of which are capable of dispatching emergency services.

Based on each subscriber's account, three levels of 911 support are available — Enhanced 911 (E911), Basic 911 (B911), and what BroadVoice calls National Call Center 911 (NCC911). With E911, a callers location can be determined by the operator, as it has previously been identified by the user via phone or Web. With B911 and NCC911, callers must communicate their location to the operator in order for emergency personnel to be dispatched.

"Traditional phone companies have felt competitive pressure from VoIP carriers. In response, they've cited their 911 service as a competitive advantage. Naturally, the old phone companies want to keep that advantage, so they haven't been particularly helpful in providing VoIP carriers with access to their 911 call centers," said Les Berry, BroadVoice president. "Now that we've overcome these roadblocks, we can provide 911 services to every customer. This has been our objective from day one."

http://www.broadvoice.com

Go To Table of Contents | Go To Ad Index

SONUS NETWORKS –
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MySpace Taps Level 3 for High Speed Service

By Michelle Pasquerello

Social networking giant MySpace (news - alert) recently tapped Level 3 (news - alert) to support its services and demand for increased bandwidth. The multi-year agreement provides Level 3's High Speed IP Service, helping to maintain MySpace's many features including blogs, user profiles, groups, photos, video uploading and downloading, and internal e-mail.

"We are excited to be working with MySpace to support their high capacity needs and their delivery of video services," said Brady Rafuse, president of Content Markets for Level 3. "MySpace is a clear leader in delivering content for online social networking, and this agreement underscores the growth we are seeing in demand for our services in this important segment."

"We selected Level 3 because of the proven performance of its network and Level 3's ability to support increasing high bandwidth demand," added Aber Whitcomb, chief technology officer of MySpace.

Level 3 provides a variety of services over its broadband fiber optic network including Internet Protocol (IP) services, broadband transport and infrastructure services, colocation services, voice services, and Voice over IP services.

http://www.myspace.com
http://www.level3.com

Eagle Broadband Chooses Latens CAS Solution for IPTV Services

By Laura Stotler

Eagle Broadband (news - alert) has chosen the Latens IP CAS Conditional Access solution from Latens Systems to secure its advanced IPTV services, which include more than 200 channels of secured video services.

Eagle chose the Latens IP CAS solution after months of assessing all IPTV conditional access technologies available in the market. The Latens solution offers the ability to adapt to robust network architectures, and Latens also offers a proactive approach to security, which was instrumental in Eagle's decision. Eagle also cited the Latens solution's adaptability when integrating with their Linux-based STBs as a factor in their decision.

"Our customers demand the best and latest video content available in the market today," said Brian Morrow, COO of Eagle Broadband. "And our content providers demand a robust CAS solution. We found that Latens' solution offered the best option in the IPTV CAS market today, and that its encryption architecture could adapt easily to our Eagle engineered STBs."

"Eagle challenged us to prove that our solution can adapt and scale to their robust network architecture within certain market-driven cost constraints. We are pleased to have been chosen over our competitors," said Dean Kashlan, GM and VP of Latens. "Eagle Broadband will be able to encrypt all content at their super head-end in Miami. The signal will remain 100 percent encrypted throughout the network, and only be decrypted at their Linux-based STBs wherever they may be in the U.S. The Latens IP CAS is especially well designed to accommodate Eagle's high volume of IPTV subscribers."

http://www.eaglebroadband.com

DIRECTV Parent Company Tests Waters with Consumer VoIP Pilot Program

By Mae Kowalke

The parent company of DirecTV (news - alert) satellite television services apparently sees promise in the VoIP market, announcing a pilot program for the delivery of VoIP services to multiple dwelling unit (MDU) and gated community owners in the United States.

DirecPath, a company formed recently from the combination of Hicks Holdings LLC and The DIRECTV Group, is testing the waters with a bundled offering of television programming, broadband voice, and data and security offerings.

Vistula Communications Services (news - alert) is contributing its V-Cube platform to make delivery of the pilot program possible. V-Cube provides "a secure, simplified, scalable, and highly resilient VoIP infrastructure," according to the company.

DirecPath's CEO, Paul Savoldelli, stressed that his company is "committed to meeting the needs of owners and residents in MDU and gated communities nationwide and providing them with a unique and compelling value proposition."

"DirecPath is positioning itself for leadership in its industry, by developing an innovative suite of bundled services that will drive customer growth, win consumer loyalty, and generate higher average revenue per user," noted Vistula executive chairman and CEO, Rupert Galliers-Pratt.

http://www.directv.com
http://www.vistula.com

Palm Treo 700wx Released, CRM Compatible

By David Sims

Building on the Treo 700 family, Palm (quote - news - alert) has announced the availability of the Palm Treo 700wx smartphone running Windows Mobile 5.0 Pocket PC Phone Edition, adding another Palm EvDO product to Sprint's product offerings.

The announcement marks the availability of Sprint's (quote - news - alert) first Windows Mobile Treo smartphone on the Sprint Power Vision Network, complementing the Treo 700p smartphone running on the Palm OS platform.

The Treo 700wx smartphone supports Good Mobile Defense for security and fleet management, as well as Good Mobile Intranet, giving users access to Web-enabled enterprise systems, including sales force automation (SFA), customer relationship management (CRM) and corporate intranets.

In a pre-release product review, industry observer Lisa Gade noted the 700w offered the same great ergonomics as the OS Treo, enhanced usability over other Windows Mobile Pocket PC Phones and a high speed EV-DO radio for data, but "it fell short in one key area: memory. It had plenty of storage for programs and data but not enough RAM to support several heavy-hitting programs running at once."

Palm and Sprint have since solved the problem by equipping the Treo 700w "with twice the memory, bringing it up to the standard Windows Mobile Pocket PC 64 Megs of RAM," according to Gade.

The product's Windows Mobile Messaging and Security Feature Pack, which includes Direct Push Technology, native S/MIME support, certificate-based authentication to all Exchange data, and remote and local device wipe, is available out-of-the-box for automatic wireless updates of e-mail, calendar items, contacts and tasks.

Tim Roper, vice president, U.S. region, for Palm, Inc. said the product release is part of a strategy to "extend Palm's reach into the enterprise market." Company officials highlight the product's built-in Dial-up Networking capabilities, allowing the Treo 700wx to have "broadband-like EV-DO download speeds on their laptop computers" by using the new smartphone as a wireless modem via USB technology.

http://www.palm.com
http://www.sprint.com

Venturi Chosen by Reliance Infocomm for Mobile Broadband Optimization

By Stefania Viscusi

In a bid to help optimize the performance of its new mobile broadband service, Netconnect with Neobooster, Reliance Infocomm turned to Venturi Wireless' (news - alert) optimization solution.

India's largest CDMA operator, Reliance Infocomm needed a solution that could ensure maximum performance of data networks for its new service that aims to ensure constant connectivity for demanding professionals. Deployment of the Venturi solution includes the Venturi VServer and the VClient software for mobile devices. Together, these solutions provide improvements in service availability in all radio frequencies and up to seven times higher data access speeds.

The optimization provides mobile users a better wireless IP experience and, with the deployment, Reliance is also given an ability to easily transition to an optimized 3G network in the future, since Venturi delivers maximum bandwidth efficiency on CDMA 1xRTT/EV-DO/EV-DO rev A and GPRS/EDGE/UTMA/HSDPA.

Reliance Infocomm chose Venturi's solution for its ability to provide speedier connectivity that is more reliable. A news release also noted its favor of Venturi's Adaptive Airlink Optimization technology, which leverages the patented Venturi Transport Protocol (VTP) for wireless data transport and delivers customers a better experience with IP services including faster speeds and trusted connectivity.

http://www.venturiwireless.com

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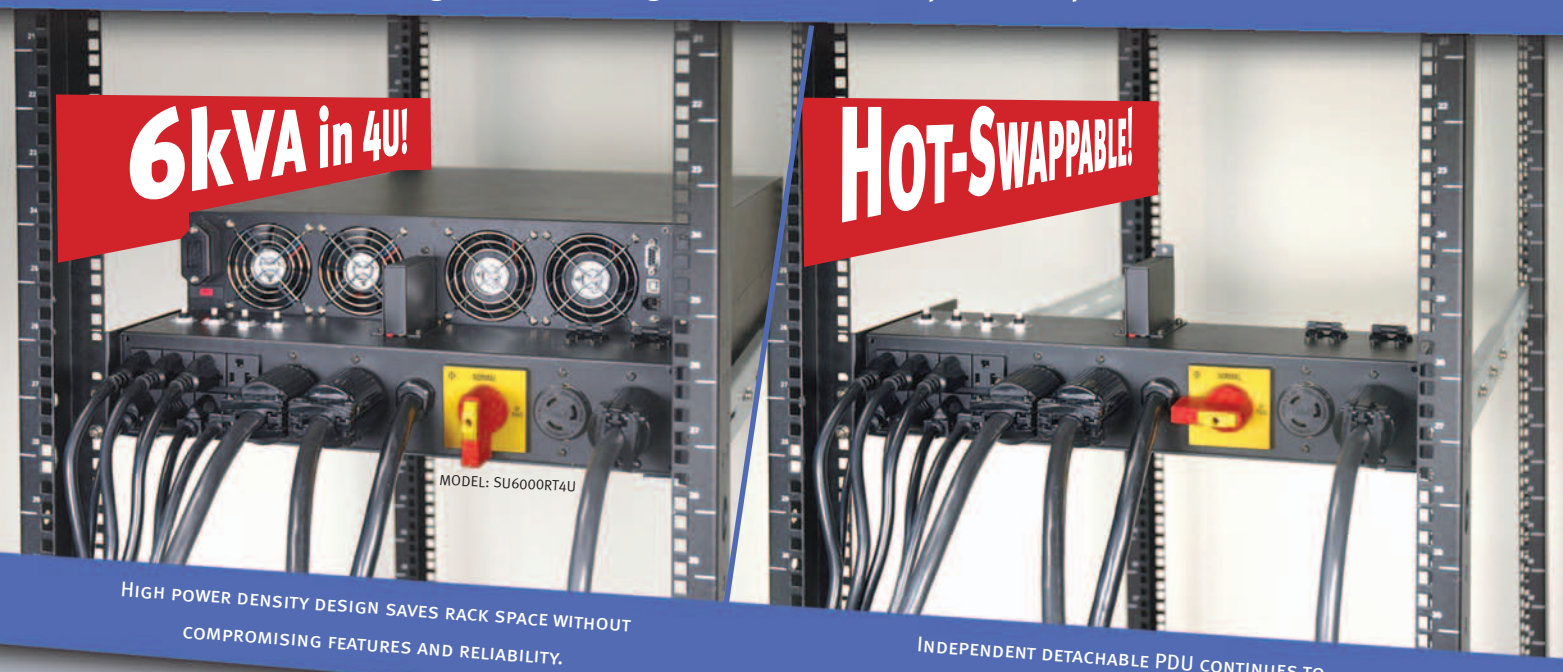

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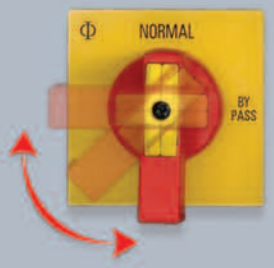

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Samsung and Cingular Intro New HSDPA Wireless Handset

By Niladri Sekhar Nath

Combining Samsung's (quote - news - alert) SGH-zx20 and Cingular's (quote - news - alert) 3G HSDPA network provides consumers with access to mobile applications such as video streaming, high-speed Web browsing and fast software downloads. The SGH-zx20 handset comes with a range of connectivity choices, including access to Cingular Video and various other multimedia and messaging capabilities.

Peter Skarzynski, Samsung's senior vice president, said the new device takes full advantage of Cingular's HSDPA network.

"The SGH-zx20 is a high-quality, sleek, compact device for Cingular customers to access high bandwidth services and downloads that, up until now, have been available only to broadband-enabled computers," he said.

http://www.samsung.com
http://www.cingular.com

WiFi Alliance to Pre-Certify Pre-Standardized 802.11n Gear

By Robert Liu

In an effort to unify a new draft specification (and perhaps clear up some confusion) for faster WiFi, the WiFi Alliance announced that it will certify interoperability of products based on IEEE 802.11n, a developing standard that hasn't yet been fully ratified by the Institute of Electrical and Electronics Engineers.

The decision by the WiFi Alliance, which represents more than 275 member companies that promote the growth of wireless Local Area Networks (WLANs), is designed to help stabilize the market. Dozen of member companies of the global, non-profit industry association have already announced or plans to ship 802.11n-based hardware. However, the IEEE doesn't think the 802.11n standard will be fully ratified until the first quarter of 2008.

As such, the WiFi Alliance today unveiled a two-phased approach to certifying the interoperability of Draft N products. After this initial phase in the certification program, a second phase will be introduced at the time of final IEEE 802.11n ratification that will support compatibility between pre-standard products and those certified to the full standard.

"This two-phase approach balances our longstanding commitment to standards-based technology with the current market need for product interoperability certification," said WiFi Alliance Managing Director Frank Hanzlik. "While we are committed to supporting a full 802.11n standard when it is available, pre-standard products are reaching a level of maturity and there is enough market uptake that a certification program makes sense for the industry."

http://www.wi-fi.org

Go To Table of Contents | Go To Ad Index

Vonage and D-Link Launch Wireless-B/G Broadband Router

By Johanne Torres

VoIP-based calling services provider Vonage (quote - news - alert) and networking technology manufacturer D-Link (quote - news - alert) launched the VWR, a Wireless-B/G Broadband Router with two phone ports bundled with Vonage's service.

D-Link VWR is four devices in a single box. It includes a Wireless-B/G Access Point; a built-in 4-port switch to connect wired Ethernet devices; a router function so the entire network can securely share a single cable or DSL Internet connection; and two standard telephone jacks, allowing for multiple phone lines. Bundled with Vonage's Internet telephony service, it offers customers the hardware and all needed to begin talking.

The product incorporates Texas Instruments' TNETV1060 VoIP gateway chipset, which delivers voice processing and data routing functions.

"With the rapid demand for wireless networking devices, this partnership enables us to offer D-Link's consumer-friendly, feature-rich voice terminal and wireless networking technologies, a simple way for consumers to benefit from Vonage's attractively priced, tiered calling plans," said Vonage's senior vice president of engineering Daniel Smires.

http://www.vonage.com
http://www.dlink.com

HP and Cisco to Develop New Apps, Services for Pervasive Indoor Wireless Solution

By Niladri Sekhar Nath

HP (quote - news - alert) and Cisco Systems (quote - news - alert) have decided to join forces to come up with new applications and services based on Cisco's Pervasive Indoor Wireless technology. HP says that the new applications and services include security, guest access, WiFi telephony and location-based services.

The services will also facilitate of a variety of new applications, such as IT asset tracking, presence-based applications, dual mode voice, and integrated intrusion detection and prevention.

HP will offer systems integration services for Cisco's Unified Wireless Network Family, including the Cisco Catalyst 3750G Integrated Wireless LAN Controller and the Cisco Unified Wireless Network Software Release 4.0. HP claims the collaboration will enhance operational efficiencies and decrease costs associated with WLAN services.

Brian Brouillette, vice president of technology services for HP Services, said thanks to the applications and services "customers can quickly and cost-effectively benefit from a range of new, scalable applications."

Cisco's Unified Wireless Network Solution is capable of tackling the WLAN security, deployment, management and control issues facing enterprises. Moreover, HP has plans to produce a comprehensive enterprise network computing solution based on Cisco's Pervasive Indoor Wireless technology.

Brett Galloway, vice president and general manager of Cisco's wireless networking business unit, said the company is committed to deliver a unified wireless network architecture that features hardware, software and services. The applications will "guide enterprise businesses to an intelligent network to accelerate applications, business processes and profitability."

http://www.hp.com
http://www.cisco.com

Alcatel Acquires 3G Assets from Nortel for $320 Million

By Robert Liu

In the midst of its current multi-billion-dollar merger with Lucent Technologies (quote - news - alert) , Alcatel (news - alert) will acquire the UMTS radio access assets of Nortel for $320 million, the telecom equipment giants announced.

Nortel President and CEO Mike Zafirovski was quick to point out that his company remains committed to next-generation mobility through its remaining GSM access and core business, Long Term Evolution (LTE), WiMAX, as well as its CDMA businesses.

But given Nortel's market share in the 3G UMTS business, especially in light of the millions that it has invested in the 70+ patents covering OFDM and MIMO antennae technologies, it simply didn't make sense for Nortel to continue to go it alone.

"We did not see a way for us based on our current scale to be profitable. We didn't see a way for us to have a reasonable return," Zafirovski acknowledged during a conference call.

Zafirovski reaffirmed that Nortel's strategy is to continue to focus on three core elements: next-generation mobility, enterprise transformation, and services and applications. However, when asked by one investor if the company was finished its strategic review or if it would exit any other businesses, the chief executive replied: "That process will never be over."

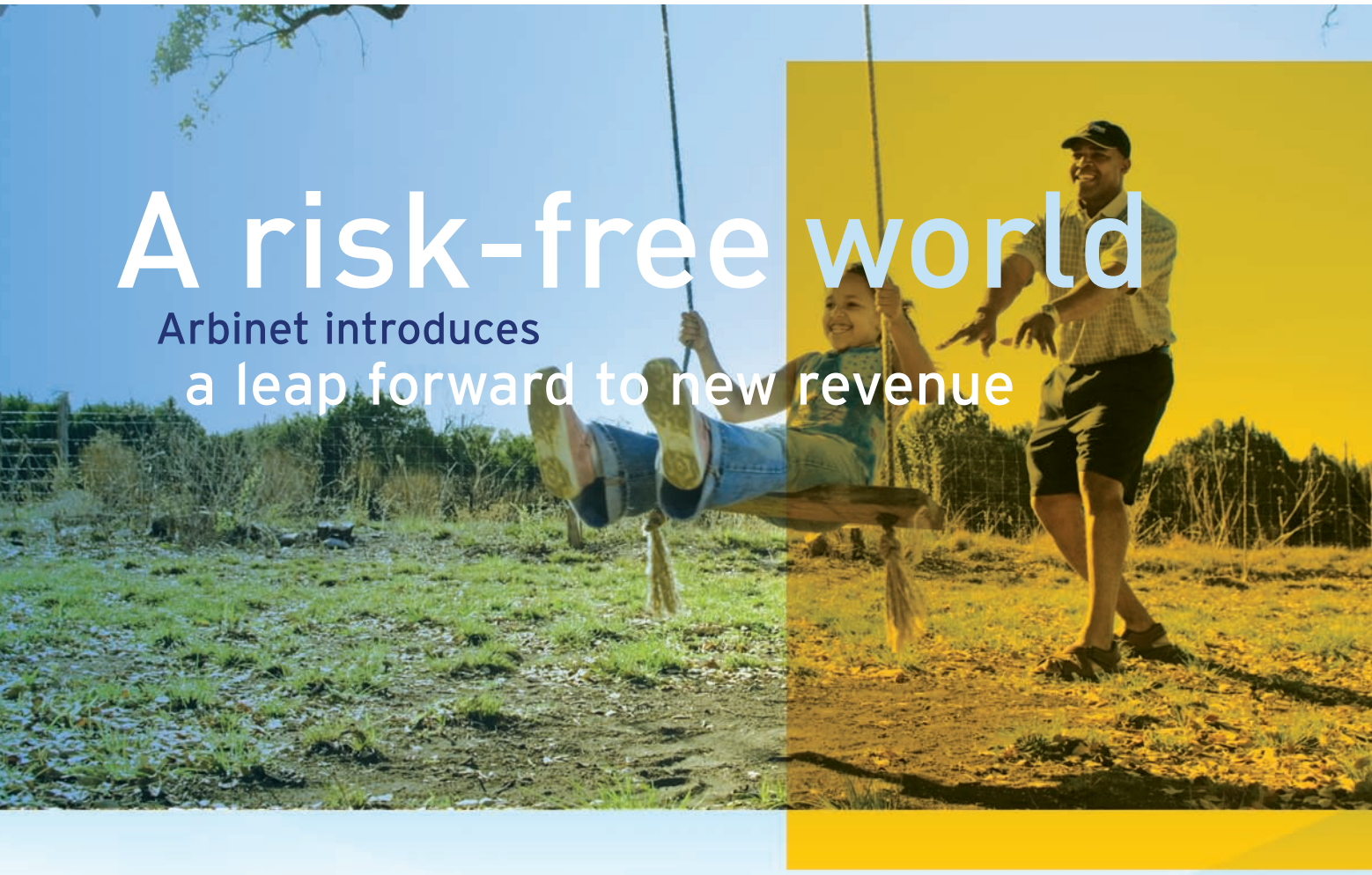
The proposed sale includes Nortel's UMTS access product portfolio made up of the Radio Network Controller and Node B products and OAM solutions, related services and associated assets. It is anticipated that the significant majority of employees of Nortel's UMTS access business will transfer to Alcatel.

For its part, Alcatel said it will continue to involve Lucent in the implementation and integration of the assets "to achieve the most efficient fit within the combined company."

The parties are targeting completion of the transaction in the fourth quarter of 2006.

http://www.alcatel.com
http://www.nortel.com

www.arbinet.com



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Trapeze Rolls Out New Version of WLAN Mobility System

By Laura Stotler

Trapeze Networks (quote - news - alert) has released the latest version of its WLAN Mobility System, the Trapeze Mobility System Software 5.0. The company has worked with core customers and partners to develop and deliver leading mobile applications to satisfy their current and emerging business needs for increased wireless network functionality.

The new solution offers intrusion detection and prevention services by building on core security capabilities and embracing 802.1x standards. The company has also partnered with AirDefense to offer an integrated solution that meets the requirement for comprehensive intrusion protection.

New security capabilities include 360-degree protection against 230 threats and attacks like denial of service, ad hoc networks, and evil twins/rouges. It offers 24/7 monitoring, comprehensive forensic analytics and common hardware to reduce upfront investment and operating costs. Additional features include integrated configuration and management and dynamic threat response, so that access points may be easily converted into sensors for rapid counter-attack, then converted back to access points.

The solution also offers toll quality voice and implements the Unscheduled Automatic Power Save Delivery (U-APSD) protocol, which extends the talk time of battery-powered WiFi phones. It provides real-time location services for tracking and locating high value assets in real time. Trapeze is also partnering with location technology leaders to deliver an integrated location solution that meets enterprise requirements for scalability and deployability.

"No other solution meets the Common Criteria certification requirement for wireless IDS/IPS set down by the Department of Defense," said Doug Laird, vice president of worldwide marketing for Trapeze Networks.

http://www.trapezenetworks.com

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Minacom Tests VoIP Via BlackBerry

By Greg Galitzine

Minacom, (news - alert) a leader in VoIP test systems for telcos and cable MSOs, introduced residential VoIP service quality testing using BlackBerry (quote - news - alert) wireless devices, which now support Minacom's PocketDQ Web-based VoIP testing client.

This comes on the heels of Minacom's most recent product introduction: the Zoey interactive VoIP test agent. Minacom described Zoey as "an automated Interactive Voice Response (IVR) agent customers can call to test their own service quality."

Using Zoey, VoIP subscribers can check the quality of their VoIP by evaluating factors such as noise, echo, and fax transmission, Minacom explained. The new product can be integrated into existing service providers' 1-800 customer service systems, and is capable of objectively reporting service quality in simple language.

Using PocketDQ on their BlackBerrys, technicians can initiate VoIP tests and review results that benchmark the existing phone service under replacement, verify Multimedia Terminal Adapter (MTA) installation, validate VoIP service quality, and identify inside wiring problems. Results are presented in a simple pass/fail on-screen report.

Tests are conducted by Minacom's PowerProbe 6000 Service Level Test Probe. To perform the test requested from the BlackBerry, the PowerProbe 6000 calls the phone number of the subscriber under test. The test call is answered by a PowerProbe 30 VoIP responder connected to any two-wire line jack in the house. In less than a minute, the test system measures Speech Quality (MOS), Call Connectivity, Network Responsiveness, codec performance (Packet Loss, VAD), Echo, Noise, Voice Path Delay, Frequency Response, DTMF (touch-tone) and Fax transmission metrics. Results are immediately available on the technician's BlackBerry.

http://www.minacom.com
http://www.blackberry.com

Intelliden Teams With OPNET to Deliver Enhanced Solutions for Network Optimization

By Patrick Barnard

To help companies prevent problems caused by poor planning, network complexity, and manual processes, Intelliden Inc. — (news - alert) which provides solutions for automating critical network processes, such as configuration and change management, activation, compliance, and security — and OPNET Technologies — (news - alert) which offers solutions for application performance management, network operations, capacity planning and design, and network R&D — have formed a partnership to deliver enhanced solutions for network optimization. By combining their solutions, the two companies hope to give their customers the ability to drive greater operational efficiency, network availability, and cost savings.

The deal will allow the companies' customers to combine their strategic processes, such as network architecture, planning, and operational network management, with automated network configuration and activation.

"Our partnership will deliver enhanced value to our mutual customers by combining critical information on real-time network configuration state from Intelliden with unique network-level analysis from OPNET, including routing, addressing, protocol configuration, and network resiliency," said Susan Cole, OPNET vice president of marketing and business development. "Detailed configuration information from Intelliden could also be leveraged in OPNET for improved network planning, 'what if' analysis, and optimization."

"Today's IT and network organizations face tremendous pressures to support new services and maintain the quality of those services as their networks grow larger and more complex," said Rahul Sachdev, Intelliden's vice president of marketing. "Intelliden and OPNET will combine the complimentary expertise of our two organizations to provide our joint customers with an improved ability to optimize their mission critical next generation networks. This will lead to reduced network configuration errors, greater streamlining of operational processes and more optimal use of existing network resources."

http://www.intelliden.com
http://www.opnet.com

www.communigate.com

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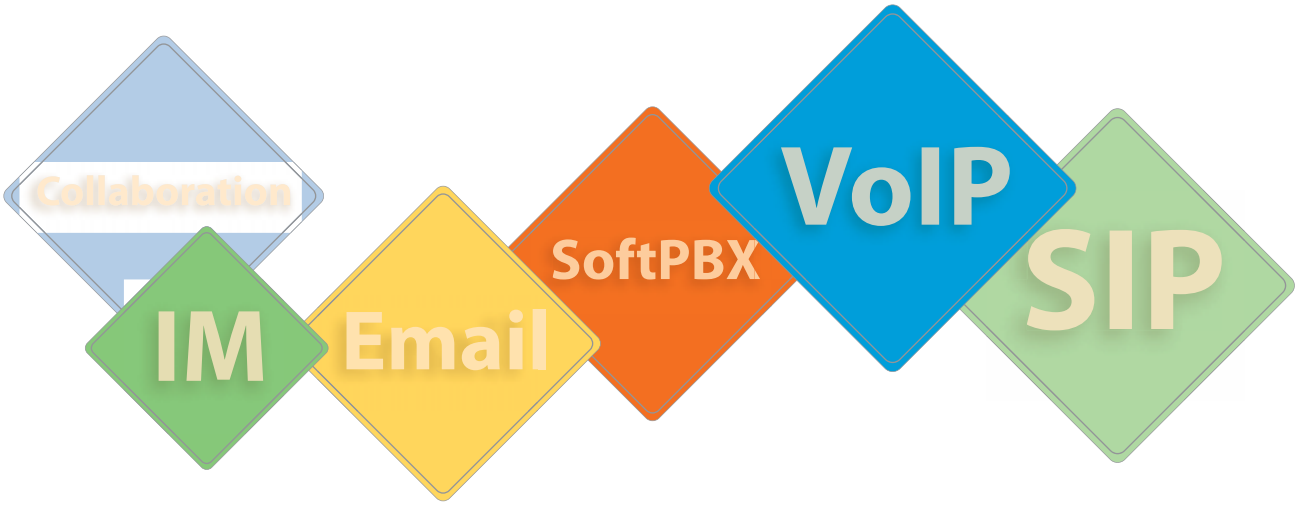

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2005 INTERNET TELEPHONY PRODUCT OF THE YEAR

HP Enhances Server Control, Power Efficiency with Latest Dual-core Technology

By Niladri Sekhar Nath

HP (quote - news - alert) will include models powered by the latest AMD Opteron processors in its portfolio of servers and server blades. Thanks to next generation AMD Opteron processors, the HP ProLiant and HP BladeSystem servers enhance power and cooling efficiency while improving system performance by up to 15 percent. These sophisticated servers will also help protect the IT investments of customers planning to transition to multi-core technologies.

The servers have combined AMD Opteron 2000 and 8000 Series processors, DDR2 memory technology and small form factor disk drives, providing enhancements in vital areas such as management, networking, storage and virtualization.

James Mouton, senior vice president and general manager, Industry Standard Servers, HP said in a statement, "With today's expansion of our x86 portfolio, our customers are well-positioned to reduce their total cost of ownership while supporting their most demanding application environments."

According HP, its goal is to make the most of dual-core processor performance with room for the transition to quad-core in the future. The company has added HP Smart Array RAID controllers, multifunction networking and increased memory capacity as well to increase total system performance.

The new x86 processor-based HP ProLiant and HP BladeSystem servers include the Next-Generation AMD Opteron processors that come with the HP ProLiant DL385 G2 and DL585 G2 rack-optimized servers and the HP ProLiant BL25p G2, BL45p G2, BL465c and BL685c server blades.

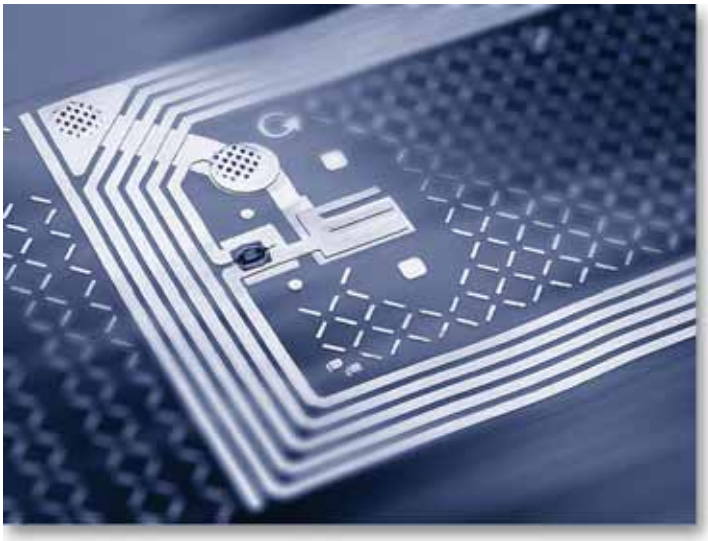
http://www.hp.com

Technology Meets U.S. Borders

By Erik Linask

As an extended security measure, the United States began issuing electronic passports to diplomats and other government workers in late 2005. These electronic passports contain a secure digital chip in the back cover that securely replicates the information printed on the inside of the document, including a digital photograph of the passport carrier.

Now, as a means of facilitating increased international travel through automatic identity verification, faster immigration inspections, and greater border protection and security, the U.S. has signed a multi-million unit deal with Infineon Technologies (news - alert) for the chip manufacturer's highly secure integrated circuit technology to be put into U.S. tourist passports. By the end of this year, the government expects that all new US passports will be issued as electronic passports, with an estimated 15 million electronic passports to be issued during the first full year of the rollout. The electronic passport program in the U.S. is currently the largest of its kind in the world.



Each new passport will contain a chip protected by shielding material on the chip surface. The chips contains an encrypted copy of the printed information on the passport — including the bearer's name, date of birth, validity period, as well as digital photo, which can be used along with facial recognition technology to quickly authenticate the passport holder's identity.

To ensure the privacy of bearers, the new passports are equipped with basic access control, which necessitates running the passport over a scanner that reads the coded data, — over a distance of about four inches — and authorizes access to the data. In addition to shielding and BAC, there are more than 50 individual security mechanisms inside the Infineon chip to encrypt data and guarantee that personal data remains private. Security mechanisms on the Infineon chips also include sensors that help prevent unauthorized people from being able to access and read the data on the chip.

http://www.infineon.com

Go To Table of Contents | Go To Ad Index

Harris to Fold Microwave Unit into Stratex Networks

By Robert Liu

Harris Corporation (news - alert) will fold its Microwave Communications Division into publicly traded Stratex Networks (news - alert) to create the largest independent provider of wireless transmission network solutions, the two companies announced. The combined company will be named Harris Stratex Networks and have combined annual revenue of approximately $600 million and customers in over 150 countries.

The deal comes amid a wave of merger activity in the wireless infrastructure space that has trimmed the big 8 vendors down to 5 (Ericsson, Nokia-Siemens, Alcatel-Lucent-Nortel, Motorola, and NEC).

"After careful consideration, we have determined now is the time to take that next big step," explained Charles Kissner, the current Chairman of Stratex, during a conference call.

"Scale really does matter in this market especially internationally," added Howard Lance, chairman, president and chief executive officer of Harris Corporation.

Guy Campbell, president of Harris' Microwave Communications Division, will be appointed chief executive officer and lead a combined team of executives from both companies. Thomas Waechter, chief executive officer of Stratex Networks, will be appointed chief operating officer, and Sally Dudash, vice president and controller of Harris' Microwave Communications Division, will be appointed chief financial officer.

The legal headquarters of the new company will be at the current headquarters site of the Harris Microwave Communications Division in Research Triangle Park, N.C., with headquarters functions both there and at the current site of Stratex Networks headquarters in San Jose, Calif.

http://www.harris.com
http://www.stratexnet.com

TRENDnet Ships VoIP Speakerphone for Skype

By Johanne Torres

Networking products manufacturer TRENDnet (news - alert) of Torrance, California announced it is shipping the ClearLink VoIP USB Speakerphone for Skype (TVP-SP2). The device will enable Skypers to make hands-free VoIP calls or conduct headset-enabled conversations through the console's built-in stereo headphone port.

The device features a backlit, high resolution LCD screen that displays contact lists, calling history, and caller ID info. Hot key functionality allows callers to make phone calls to other Skypers or regular mobile and landline phones with a simple touch of a button.

ClearLink also features echo cancellation technology for clearer, full duplex communication. The device is bus-powered and can be powered through a laptop or desktop USB connection. This eliminates the need for an external power supply.

The TVP-SP2 ClearLink VoIP USB Speakerphone will be available for approximately $69.99. Once complete, TRENDnet's Skype device line is set to include, in addition to the TVP-SP1BK (Bluetooth adapter) and TVP-SP2 (speakerphone), a VoIP USB Phone, a Bluetooth VoIP Conference Phone Kit, and a VoIP Gateway for Skype.

http://www.trendnet.com

Spirent Communications Opens New Test Automation Lab

Patrick Barnard

Spirent Communications, (news - alert) a provider of integrated performance analysis and service assurance systems, has opened a Test Automation Lab that will enable service providers and network equipment manufacturers to accomplish more testing in less time with fewer resources.

Part of the lab's purpose is to demonstrate the improvements in productivity that can be achieved by employing a comprehensive test automation model developed by Spirent. Using Spirent's test solutions and methodologies, engineering teams can reduce the amount of time and personnel typically needed for testing, thus facilitating the accelerated introduction of service offerings.

"Service providers and equipment manufacturers are facing increasing pressure to quickly and cost effectively bring next generation networks and services to market," said Olga Yashkova, test & measurement analyst, Frost & Sullivan. "Increased test automation and streamlined lab management are critical for reduced test time and to ensure that products and services are delivered right the first time."

By combining lab and test management tools, physical infrastructure remote management, a factory of test cases, and integration expertise, equipment makers and service providers can have at their disposal a complete lab automation solution.

The lab allows for a variety of functions to be addressed, such as test lab inventory control, configuration management, scheduling, test planning, test execution, and reporting. It also makes it possible to simulate user behavior, network conditions, and large Web and application infrastructures, thus eliminating the need for expensive test systems. It supports local, distributed or fully automated remote control and can be configured, via the Internet, to run any time from any location around the world.

http://www.spirentcom.com

Go To Table of Contents | Go To Ad Index

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Can We Talk?

Sangoma has just announced its new FXO/FXS analog telephony solution that brings new levels of Telco grade voice quality, value and serviceability. For Asterisk™ applications they are your best choice in their class for reliability, price, support and ease of installation. Sangoma solutions include support for software-based PBX and IVR voice systems from traditional legacy protocols to the latest IP-based voice and data technologies. The Sangoma/Octasic partnership ensures the best Telco grade echo cancellation performance.

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Sangoma's AA series analog cards have the following benefits:

- They use the same PCI interface, architecture and digital path as Sangoma's T1/E1 cards meaning no motherboard or compatibility issues and ultra-reliable interrupt handling.
- They have full line protection, making them legal to connect to the telephone network – this includes FCC Part 15, FCC Part 68 and CE certification with other certification to follow.
- Sangoma's AA architecture supports up to 24 analog interfaces both FXO and FXS, all operating through one FPGA and one PCI slot using one IRQ. This avoids the problems of multiple asynchronous DMA accesses and interrupts that would occur with multiple PCI cards.

Sangoma's "D" series cards with hardware digital signal processing also have a full range of features:

Powered by octasic semiconductor

- Octasic's internationally deployed carrier-grade echo cancellation solutions deliver unprecedented voice quality. With Octasic's advanced voice enhancement features, you can enjoy the highest standard of quality on all calls. *Because you know quality when you hear it.* Visit www.octasic.com
- Sangoma's Echo Cancellation hardware supports 1024 taps (128ms) of echo tail handling on each channel to take care of the most demanding echo problems
- Noise reduction and voice enhancement technology provides better-than-toll grade voice quality
- On board DTMF decoding and conferencing will be available as a software upgrade to reduce your system load even further
- Sangoma's patented EDAC technology saves you money by allowing you to purchase only the echo cancellation you require.

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ZyXEL Selects TI's VoIP Solutions

By Patrick Barnard

ZyXEL Communications (news - alert) has decided to use TI's (quote - news - alert) VoIP chipsets in its voice-enabled DSL access devices, VoIP gateways and IP phones.

The deal means ZyXEL can incorporate TI's programmable digital signal processor (DSP)-based series of access communications processors and field-proven Telogy Software in all its VoIP-related products. The first of these products will be ZyXEL's V501D-T1 and V300 IP phones, which will be available in March 2007. Prior to that, ZyXEL will release a new high-port density VoIP gateway, the P2024, featuring TI's TNETV24xx and TNETV25xx series of VoIP gateway technology.

"TI's VoIP solutions are at the heart of ZyXEL's next-generation voice enabled CPE and IP phone products," said Dr. Albert Ju, assistant vice president, telco/VoIP product line, ZyXEL Communications. "TI's technological skill, system stability and proven track record in VoIP software and silicon for customer premises equipment made them the clear choice for our newest VoIP devices. Together, ZyXEL and TI are partnering to offer customers the highest quality and most advanced VoIP premise products in the market."

The continued relationship with TI will enable ZyXEL to develop added functionality for its IP phones as the demands for new features and applications arise.

http://www.ti.com
http://www.zyxel.com

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Send your **News** and **Product Releases** via e-mail to **itpress@tmcnet.com.** Whenever possible, please include high-resolution (minimum 300 dpi) color graphics (.BMP, .EPS, .TIF, or .JPG).

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Flextronics Software Systems Ranked #1 in SIP Stack Market

According to a recent Venture Development Corporation (VDC) report, communications software provider Flextronics Software Systems (FSS) (news - alert) is the worldwide leader in Session Initiation Protocol (SIP) stack market with a 32% share.

"SIP is a dynamic and rapidly growing software sector where scalability and interoperability are critical," said Robert Johnson, Senior Telecom Analyst of Venture Development Corporation. "Hardware manufacturers, software vendors, and service providers have increasingly high expectations of companies providing SIP protocol stacks and toolkits. FSS' top ranking is a very strong statement from the market," continued Mr. Johnson.

"We will continue to accelerate the development of our customers' products and services through FSS products that include SIP-powered IMS offerings, SIP User Agent Toolkits, our SIP Server Framework, our Back-to-Back User Agent and our SIGCOMP stack," promised Suresh Kabra, Assistant Vice President and Head of Products of Flextronics Software Systems.

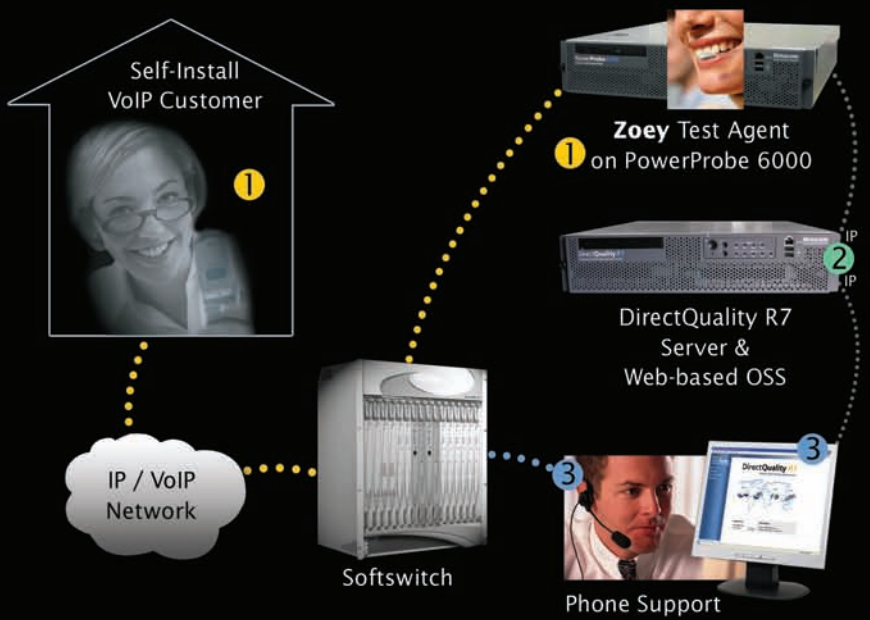
FSS protocol stacks, frameworks, and toolkits have been critical to the delivery of products from over 200 Original Equipment Manufacturers (OEMs) worldwide. Flextronics Software Systems offers innovative software products for:

- Wireless, wireline, broadband and satellite infrastructures;
- Carrier-grade and enterprise class communications equipment; and
- Devices, server-side communications applications, and the network core.

http://www.flextronicssoftware.com

Automated VoIP Self-Testing

Interactive 1st line support for your self-install customers



1 Customer with quality problems calls Zoey. Zoey interactively tests VoIP service.

2 Test Results are centrally stored.

3 If required, customer transferred to support. Test results on Web-Based OSS lead to quick problem resolution.

Offering self-install VoIP? FAQs on your web-site can help subscribers get to a dial tone, but who helps them if their caller ID is blocked, their friends are complaining about echo, or when their voicemail and fax don't work?

Minacom's Zoey is an automated IVR VoIP test agent customers can call to test their own service quality, 24/7. Subscribers interact with Zoey to check caller ID, echo, noise, speech quality (MOS), touch tone and fax transmission to discover if their handset or installation is the problem. If there's really an issue, Zoey transfers the call to your support team - with the test results they need to get your customers talking.

Zoey saves support costs and builds customer loyalty – the missing link in your self-install VoIP service strategy.

Zoey is just a phone call away.

Get her number & test your own line:

Minacom.com/Zoey

2006 Frost & Sullivan Emerging Company Award

Minacom
Service Level Test Automation

MyFonBrand Private Labels Its VoIP Services

By Erik Linask

VoIP provider YFonGlobal (news - alert) has launched its private brand IP services — including VoIP. The company is expressly seeking to market its offering, which it has labeled mYFonBrand, to telephony and IP service providers and resellers. The goal is to enable telecommunications resellers to rapidly deploy and offer their own brand of customized, yet highly reliable carrier class services, which include PC-to-PC and PC-to-phone calling, traditional phone-to-phone calling, calling card telephony services, and a secure IP network for communications and file exchange.

YFonGlobal's Session Initiated Protocol (SIP)-based platform is designed to provide customizable VoIP network services for resellers targeting both business and consumer markets — and both are actively growing their VoIP penetration rates, which makes this an ideal time for YFonGlobal to join the party.

"The industry is moving so fast that investing in switching infrastructure and network facilities instead of marketing and applications development means losing a competitive position," said YFonGlobal's CEO, Marian Sabety. "Our focus is on the convergence of VoIP with IP-based media using a platform that rapidly scales. This convergence is transforming the way work groups and communities communicate over the Internet."

More than merely offering a Voice over IP service, YFonGlobal strives to drive the creation of value-added revenue generating services for its partners via its IP network and media content programming, all of which is customized to suit each individual client's needs and the needs of their subscribers.

"Our technology platform provides scalable, turnkey IP services that include content, as well as data and voice programming," said Lee Hamilton CTO at YFonGlobal. "Our private brand program enables our clients to be up and selling their own branded end-to-end VoIP services in as little as 10 working days."

http://www.yfonglobal.com

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AVST Announces New SIP Integrations to CallXpress

By Anuradha Shukla

Applied Voice & Speech Technologies (news - alert) has added new SIP integrations to its CallXpress unified communications platform, which now supports SIP integration to the Nortel Communication Server 1000 and Avaya Communications Manager PBX products.

AVST is expanding CallXpress' compatibility by focusing on SIP, and plans to provide additional SIP integrations with other communication products, including the Microsoft Live Communications Server.

The company has also unveiled a new server, the V2000, which serves as a platform for IP-based solutions. The new server is a rack-mount platform with a 2U footprint and low power consumption.

V2000 can be used by a variety of small to medium CallXpress installations, including solutions requiring up to three voice cards or systems that support IP integration. Additionally, the server can also be configured as a peripheral server and can run up to 48 ports or sessions of the company's CallXpress unified communications solution.

AVST also offers a CallXpress Turnkey option for all of its servers, which enables customers to purchase the T2000, V2000, I4000, and I6000 models pre-loaded with CallXpress software.

"Using our CallXpress Turnkey option, final onsite installation is reduced to site specific configuration tasks," commented AVST's Vice President of Product Management, Tom Minifie. System integrators save valuable time by avoiding hardware integration, operating system configuration, and basic software installation tasks."

http://www.avst.com

AGN Networks Offers OnDemandSIP Trunking for Avaya one-X Quick Edition

By Susan J. Campbell

AGN Networks (news - alert) has introduced a solution to enable companies to realize the full potential that the Internet has to offer in terms of communications and one that can grow and expand with the company. This new service will provide small businesses and branch offices using Avaya one-X Quick Edition phones a fast and affordable method for routing calls over an Internet connection with business-class security and reliability.

The Avaya (quote - news - alert) one-X Quick Edition offers the cost-effective elimination of the need for a central telephony server by embedding the functionality of an IP PBX into the phones themselves. Through AGN Networks OnDemandSIP Trunking Service for Avaya one-X Quick Edition, customers are able to drastically reduce their telephony services costs by routing calls securely over an Internet connection. This process negates the need for purchasing individual hard-wired phone lines.

AGN reports that a majority of organizations realize a 50 to 70 percent cost savings with the company's service, including the cost of inbound toll-free calls, international dialing and other voice services. As a business-class phone service, OnDemandSIP uses Session Initiation Protocol for call control routing and connects the Avaya phones peer-to-peer. Requiring no special hardware, the service can be set up in real time.

The AGN solution is VoIP Protocol Agnostic in that it supports both H323 and SIP. Avaya Quick Edition deployments can be interconnected to Avaya IP Office deployments to enable free calling between locations. An organization with company headquarters supporting users on an Avaya IP Office may have several branch locations supporting users on Avaya Quick Edition. Even though the locations are using different VoIP protocols, AGN will facilitate free calling and transferring of calls between locations.

http://www.agnnetworks.com
http://www.avaya.com

NETXUSA Announces New Distribution Center

NETXUSA, (news - alert) a distributor of VoIP products, including components required for the SIP-based telephony features that are becoming commonplace in today's converged communications environment, has established a new West Coast Distribution Center in Henderson, Nevada.

The new center will provide dealers on the West Coast a larger window of opportunity for shipping products, while realizing cost savings through lower shipping costs. Like NETXUSA's South Carolina location, the Nevada facility will offer a full complement of VoIP products available for immediate shipment. NETXUSA distributes products from a large variety of well known industry leaders, like Digium, Linksys, Polycom, Sphere, pbxnsip, and many more.

NETXUSA has certified in-house engineers and trained customer service personnel, all of whom are at the dealers' disposal post-sale to ensure both the dealer and the end customer are satisfied.

http://www.netxusa.com

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multimedia communications

Tadiran Telecom

Sprint Nextel to Build Kansas City Call Center

By Tracey E. Schelmetic

In what it intends to be a step toward improving customer service, Sprint Nextel (quote - news - alert) has developed plans for a new Kansas City call center that could eventually employ 800 workers.

The company has leased 150,000 square feet in a building formerly occupied by computer firm Gateway and has applied for a city building permit for a facility that will ultimately hold workstations for as many as 800 agents. The building is located in the West Bottoms area near downtown Kansas City and, until recently, had been part of Gateway's sales and service center.

In addition to workstations, the proposed plan includes space for a cafeteria, a "Sprint University" training center for agents, conference rooms, and an employee recreation area.

The Reston, Virginia-based firm has placed emphasis on improving customer service across the company, which has been struggling to keep pace with its faster-growing wireless competitors.

Sprint CEO Gary Forsee told Wall Street analysts that he was not satisfied with the quality of customer service Sprint had been providing and that he intended to take steps to make improvements. "We had some challenges where we were not staffed appropriately," he said.

Of particular concern to the company is its time-to-answer statistics and first-call resolution numbers. Its goal is to increase the number of customer calls answered within 30 seconds and to improve its first-call resolution — meaning that it would like to see more calls routed to the correct departments so they can be handled without the need to transfer the calls to other departments or callbacks on the part of either customers or agents.

"We have had good progress there," Forsee told analysts. "We're not where we need to be, but we're pretty encouraged by the trends that we're seeing."

http://www.sprint.com

Verizon Intros IP-Based Capabilities for the Contact Center

By Johanne Torres

Verizon Business (quote - news - alert) introduced a set of new IP-based capabilities for its contact center services and VoIP suite to help businesses integrate VoIP features into customer service operations.

The new capabilities include IP Tollfree Service, IP IVR (an interactive voice response system for contact center services), and new IP Trunking options, all featuring interoperability with Avaya enterprise communications software.

"We continue to advance and extend our VoIP offerings to meet customer needs where it matters most, at the heart of their business operations," said Verizon Business' vice president for network voice and data services, Tom Roche.

The new Verizon IP Tollfree feature routes incoming toll-free calls over IP and supports multiple-contact media, such as phone calls, e-mail, or instant messaging (IM) from around the globe. The service also enables contact center agents to transfer calls using SIP-based capabilities.

Verizon IP IVR offers call processing in an all-IP environment over a carrier-grade, global network infrastructure, offering customers voice compression and dynamic bandwidth allocation. The service enables administrators to choose from a selection of call-routing and processing features and terminates incoming calls to both Time Division Multiplexer (TDM) and IP endpoints.

Verizon Business' IP Trunking delivers VoIP access and telephony features to businesses with 200 to 1,000 or more end-users. It seems to be a good choice for those businesses that have already invested in Avaya IP phones wanting to now connect on a single, converged access line for both internal and external traffic.

http://www.verizonbusiness.com

NICE Provides VoIP Recording Solutions for eTelecare

By Stefania Viscusi

When contact center outsourcer eTelecare decided it was ready to utilize VoIP recording for their customer interactions, it chose NICE Systems' solutions and recognized improvements in customer satisfaction levels and increased quality management across its U.S. and Philippines sites.

NICE SystemsVoIP Recording solutions provide eTelecare with the ability to easily distribute information across their locations as well as manage recordings without having to visit specific sites. Due to eTelecare's need to record customer interactions for their clients due to various reasons, a switch to a solution that could support its VoIP needs was essential.

On the workforce optimization end, NICE's solution also provides eTelecare with a coaching tool that allows agents to play back recorded calls or compare calls and captured screen shots as a way to further improve their skills. Improving agents' skills also helped increase customer satisfaction and drive service levels, an important factor with offshore outsourcing.

"NICE (news - alert) was the only provider that could provide a solution that fit our VoIP needs, and was also the best fit for us based on cost/functionality," said Rick Pusag, Vice President, Information Technologies, eTelecare.

http://www.nice.com

Verint ULTRA Provides Actionable Intelligence for Answer Financial

By Stefania Viscusi

Verint Systems (news - alert) announced recently they were selected by online insurance and financial services provider, Answer Financial, to supply its ULTRA solution and Analytics suite to enhance Answer Financial's customer service and sales processes.

Verint has provided Answer Financial (news - alert) with "the insight it required to increase sales conversion rates and enhance the effectiveness of its customer support programs." With Verint's solution, customers receive a better experience and more tailored advice, ensuring that they are matched with the best policy for their needs, instead of being overwhelmed by too many choices.

Answer Financial was also able to utilize Verint's actionable intelligence to find not only areas where improvement was necessary, but also the cause. With this capability, the quality and support of their services are enhanced while also developing and growing their business and sales strategies.

"Our ULTRA solution is designed to help enterprises like Answer Financial maximize the value of every customer contact and enhance the effectiveness of their customer-focused initiatives," commented Dan Bodner, CEO of Verint Systems

http://www.verint.com

http://www.answerfinancial.com

Brekeke, Solegy Offer Combined VoIP Platform

By Arthur C. Cole

Delivering VoIP services once meant lengthy network and back office systems development, but a new trend is emerging, whereby all-in-one VoIP solutions allow outsourcing of operations to fully functional third parties.

A recent agreement between Brekeke Software (news - alert) and Solegy (news - alert) highlights this trend, and expands the reach of both companies by allowing them to provide an integrated system linking Brekeke's SIP-based IP PBX and SIP Server software to Solegy's ServicePDQ management platform.

For service providers and applications developers, the deal offers a simplified means to target business owners for IP and wireless voice services with a single system that handles development, deployment, management and billing of network services, even over heterogeneous network configurations.

"We wanted to move beyond basic features into things like group-ring, park and the like, without forcing the customer to buy a separate feature server and deploy it themselves," said Eric Hernaez, CEO of Solegy. "This allows us to be a one-stop shop for the customer, either by buying a Brekeke license from us or buying it as a hosted service directly from Brekeke."

The Brekeke system also brings a set of open APIs to the Solegy platform, allowing it to incorporate third-party applications much more easily.

"The benefit of our platform is that it allows their customers to choose what they need," said Tomoko Shimicu, chief operating officer at Brekeke. "If you want to work with a third party product, we provide the API to work with the interface."

http://www.solegy.com
http://www.brekeke.com

TiVo to Offer DVR Software to Cox

By Niladri Sekhar Nath

TiVo (news - alert) and Cox Communications (quote - news - alert) have entered into an agreement that will make TiVo's DVR and interactive advertising service available to select Cox subscribers. According to the agreement, TiVo will modify its cable software to become compatible with Cox DVR set top boxes.

The downloadable software from TiVo will deliver TiVo service in Cox subscriber homes and subscribers will not have to replace existing DVR boxes. Cox DVR customers can instead easily combine the benefits of TiVo to their DVR subscription.

Steve Necessary, vice president of video product development, Cox Communications, says that the collaboration will further their commitment to offer customers the best television experience possible. The alliance "will allow us to build on the popularity of the TiVo brand while continuing to provide our customers with the simplicity of our products," noted Necessary.

With the agreement, Cox Digital Cable customers will be able to enjoy the TiVo user interface in addition to TiVo features such as Season Pass recordings, WishList searches and TiVo KidZone. KidZone helps parents protect their kids from video content as well as discover and pick great educational and age-appropriate shows.

The agreement also enables Cox to distribute TiVo's interactive advertising platform. The relationship will enhance Cox Media's control in the advertising sphere as well as TiVo's power in national advertising, experts commented.

http://www.cox.com
http://www.tivo.com

Go To Table of Contents | Go To Ad Index

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Aastra Introduces Hosted Contact Center Alliance

By David Sims

Aastra Intecom — (news - alert) which makes and sells contact center technology for large enterprises and service providers/carriers managing multiple divisions, departments or other tenants on a single system — has introduced a strategic alliance program for value-added resellers and strategic partners to offer its Hosted Contact Center product, Centergy Virtual Contact Center (CVCC), to customers with no capital investment required, according to company officials.

Hosted contact centers are, in fact, among the fastest growing telecommunications market segments, growing at 38 percent Compound Annual Growth Rate (CAGR), according to a 2005 Frost & Sullivan study. Usually, however, you find them only in large service providers who can afford the hardware and software infrastructure and experienced human resources required to deploy a hosting center.

Aastra Intecom claims that it "removes barriers to entry for resellers by taking on the operational and support responsibilities of managing a hosted contact center, allowing partners to focus on the customer relationship."

Hence, the CVCC Strategic Alliance Program provides access to the hosted contact center market for resellers, sales training from industry experts, co-branded reseller collateral, client contract signing incentive, recurring commission, commission for cpgrades and expansions and opportunities for cross sales of other products and services.

"The CVCC Strategic Partner Program levels the playing field, giving resellers of all sizes the ability to provide a unique, value-added service to their target market," said Hugh Scholaert, President of Aastra Intecom. "Aastra makes it easy for partners to make money with CVCC because this program requires no capital investment and provides paid commissions for the life of the contract."

http://www.aastraintecom.com.com

Circuit City Stores Now Offering EarthLink trueVoice VoIP Solution

By Laura Stotler

Earthlink (news - alert) and Circuit City (quote - news - alert) have teamed up to provide the EarthLink trueVoice plug-and-play Internet voice solution in Circuit City stores. The trueVoice solution is compatible with any home broadband connection, and works with any touch-tone phone. Consumers with high-speed connections may now purchase the VoIP service in Circuit City locations throughout the U.S.

The trueVoice solution comes in a kit that includes the EarthLink Internet phone service and either a Linksys Phone Adapter or a Wireless-G Router with two phone ports. Customer may also sign up for the service at Circuit City's Web site.

The start-up kits are available with an ATA box that works with a standard router, and in another configuration with a Wireless G Broadband router offering a built-in ATA for home networking. The ATA converts analog to digital signals and once a phone is plugged into the box, it receives a dial tone and high-quality voice connection.

"Circuit City is in the business of providing technologies and solutions that make our customers' lives easier," said Robert Eckard, Circuit City digital services buyer. "Our growing partnership with EarthLink allows us to offer our customers a simple solution to the issue of soaring phone bill costs."

http://www.earthlink.net
http://www.circuitcity.com

Unified Communications for the SMB: It's Finally Here

By Greg Galitzine

In our last column in this space, we discussed the latest offering from Covad® targeted at the truly small business market — those with fewer than 20 employees. The premise was that these small businesses were a ripe market for hosted VoIP services. But that's not to say that Covad is turning their backs on those small to medium sized businesses (SMB) who might be looking to scale their operations.

Among the applications that SMBs are eager to embrace is Unified Communications, a solution that enables users to see integrated messages in a single inbox, be they voice messages, faxes, e-mail, video mail, etc... Sometimes it seems that unified communications has been the next "big thing" for many years. In fact one of my first assignments when I started in this industry was to cover an announcement regarding unified messaging. The gist of the news was that this groundbreaking technology would change the way we conduct business. That story — the potential of unified communications — has been told time and again for the last decade. But it might just be that unified communications is finally making the move from promise to reality.

While the average infrastructure deployed in an SMB environment may not have been robust enough to support a companywide unified messaging solution back in 1998, today's networks are much more capable of allowing SMBs to take advantage of the benefits of unified communications.

If the release I worked on all those years ago was a bit premature, it was certainly not for a lack of a compelling business case. The advantages of unified communications are many. IP-based unified communications can go a long way to making a user more efficient. These days, businesses of all sizes are receiving more and more messages, in many forms: voice, fax, e-mail, video mail. Business owners realize that they need a better way to manage all of these message types, so that the company might be more time and cost efficient. Well, imagine a complete presentation of all your messages in a single window, sortable and customizable as you see fit. Now imagine these messages are intimately tied to your business processes, and you begin to see the real benefits of implementing such a solution.

To that end, Covad (news - alert) recently introduced a bundled voice and data service offering for SMBs that combines the Covad ClearEdge Integrated

Access solution with Cisco®'s Unified CallManager Express. According to Covad's announcement, "...the customer managed IP Communications service is based on Cisco Unified CallManager Express and is built to scale as a SMB evolves."

Covad's ClearEdge Integrated Access service combines voice and data over a high-speed broadband connection. The offering from Covad (formerly known as PBXi) merges separate phone and Internet access services into a single solution that includes local and long-distance calling plus high-speed Internet access, e-mail, and Web hosting. Perhaps most important for many small business owners is the fact that these services are presented on a single bill, simplifying accounting and making it easier for them to keep a handle on their telecom expenses. The solution is being targeted to the broader SMB market, which comprises companies employing from 20–249 employees.

With regard to call quality, Covad's voice optimized access solution features dynamic bandwidth allocation, which means that voice calls are always prioritized over data traffic, so call quality does not diminish when other resources such as downloads or e-mail requests contend for the available bandwidth.

Cisco's (quote - news - alert) CallManager Express is an element of that company's Unified Communications portfolio of products and applications designed to help businesses communicate more effectively.

Covad described several of the main features of the combined offering. Among the key benefits outlined by Covad was the potential for businesses to improve operational efficiency, enhance customer relationships, and control costs by integrating applications such as auto attendant, call logging, caller ID, call monitoring, call forwarding, call pickup, dual-line appearances, hunt groups, and more. Of course the solution enables SMBs to embrace advanced communications capabilities such as video telephony, rich-media conferencing, unified communications, and softphone integration.

The service also allows for the addition of Covad's Integrated Access Dashboard, a Web-accessible interface that end users can utilize to manage a wide variety of productivity tools, including unified communications. The Dashboard offers a "window on productivity" to customers who wish to see all their messages in a single location. It's easier than ever for users to view, prioritize, and act upon their messages in an efficient and timely manner. The Dashboard also provides an environment through which users can even treat their voice and fax messages in a manner similar to e-mail, further improving their productivity. Other applications that can be readily launched from within the Dashboard include ad hoc conferencing and instant messaging.

Another key element of the joint Covad/Cisco announcement revolves around the distribution of the solution. Existing VARs and resellers stand to benefit from the arrangement. The agreement will enable Covad dealers (Cisco VARs) to deliver the solution through the Cisco Integrated Services Router program. Covad will maintain and manage the Covad ClearEdge Integrated Access Service, and Covad Dealers (a.k.a. Cisco Specialized VARs) will maintain and manage the Cisco solution.

According to Eric Weiss, chief marketing officer for Covad, the joint solution "...offers Covad and Cisco channel partners the opportunity to earn both up-front margins on Cisco equipment and ongoing commissions from Covad."

On that front, Covad recently announced a strategic partnership with VGE (Venture Group Enterprises), a full-service sales and marketing agent support organization specializing in telecommunications. The deal allows VGE's multi-tiered network of distribution partners to sell Covad's Voice over IP and broadband solutions — including the Covad ClearEdge/Cisco CallManager Express bundle — to installed CallManager customers.

Pursuant to the agreement, Covad will work with VGE as a strategic partner to help phone vendors, VARs, and integrators utilize VGE's resources to sell Covad services. Such agents may choose to sell to end customers directly or refer potential customers to VGE's direct sales personnel. In addition, VGE offers master agents, Web marketing agents, and other companies marketing telecommunications services an easy to use automated Web-based platform to quote, provision, review order status, and reconcile commissions.

At the end of the day, the Covad/Cisco agreement is all about bringing value to the SMB. The joint offering will allow SMBs to gain access to a series of applications that cannot be achieved through a pure hosted solution. Those businesses with multiple sites will also see benefits from Covad's "On-Net" calling without the need to build out a dedicated voice infrastructure. As mentioned before, the benefits of deploying unified communications, especially via a Dashboard environment, will increase worker productivity.

Covad has always been very good at serving the small and medium businesses through their numerous IP communications solutions targeted at this market. Now, through this partnership with Cisco, they have further enhanced their offering, and yet they have not forgotten their distribution partners. It appears to me that the promise of unified communications is no longer the "next" big thing; through the efforts of solutions providers such as Covad and Cisco, it looks like unified communications has finally arrived. IT

Greg Galitzine is Group Editorial Director for TMC's IP Communications group, which includes Internet Telephony® magazine, SIP Magazine®, and IMS Magazine®

For More Information on Covad's solutions
Contact John Grady, Director of Product Management, Covad Communications:
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By Tony Rybczynski & Brad Black

A Security Threats Who's Who

Security is often described in an Internet and technology-centric fashion. But how do these threats get into enterprise networks, and what techniques are available to implement an enterprise security policy? How do people, advertently or inadvertently, create entry points for these threats, and what are counter measures can you take?

The Internet Hacker and the Traditional Perimeter

The most visible perpetrators of security attacks are Internet hackers. The threats take many forms including Denial of Service (DoS) attacks, worms, viruses, phishing carried in e-mail, etc... The list goes on. Experts tell us that the motives vary: fame, a socio-political agenda, a technical challenge, notoriety, and monetary gain. The counter measures include firewalls at the perimeter of the Internet; robust endpoint security; threat protection and intrusion prevention translating industry knowledge into network action; and anti-virus software.

The Office Worker and the Hazards of the Job

Employees who work predominantly in the office represent a much less obvious entry point for attacks. However, in the course of doing their daily jobs, these users send and receive e-mail and IMs, and surf the Net. As a result, they may inadvertently bring in viruses, worms, and spyware, and be set up as agents for external hackers, ready to infest other internal users or participate in a distributed Denial of Service attack. For example, 80 percent of users, when presented with a certificate authenticating the source of a file to be downloaded, have no idea what constitutes a valid certificate authority and what does not, and thus expose themselves and the enterprise to potential attacks. A number of counter measures are available including establishing corporate policies about personal use or user training to increase security awareness and to discourage risky behavior, such as opening attachments from unknown senders or downloading applications from the Internet. PCs should run antivirus and personal firewall software, and endpoint security should be deployed to ensure PC applications and security software are up to date before any user is allowed to connect to the network.

The Mobile Worker and the New Perimeter

The proliferation of mobile devices has redefined the very notion of perimeter, given that these devices can one minute be connected to a home network, a wireless hot spot or hotel Ethernet service, and the next be connected to the enterprise network, carrying with them whatever worms, Trojans, viruses, and spyware that they have picked up. In addition to employee training and endpoint security, remote users should use SSL or IPSec VPNs to secure voice and data traffic. The success of Blackberry is a testament to the value of a holistic end-to-end approach to secure mobility. While wireless LAN (WLAN) standards such as 802.11i can protect user traffic, many enterprises opt to use VPN technology to provide a consistent user experience.

The Disgruntled Employee Accounting for 60% of Losses

FBI studies indicate that the majority of financial loss is the result of employee action. Counter measures include bringing together endpoint security and policy management to control who has access to which applications and data and from where such access is allowed, and to allow these to be updated in real time. Furthermore, eavesdropping by these individuals to obtain usernames, passwords, and critical data can be minimized through the application of VLANs (Virtual LANs), techniques such as ARP (Address Resolution Protocol) spoofing prevention, WLAN rogue Access Point detection, and end-to-end encryption.

The IT Specialist Hacking From the Inside

IT staff represent a class of potentially disgruntled employees who may have physical and logical access to network devices and application and database servers. Role-based administration, effective audit logs (who did what and when), and configuration control/tracking are all important counter-measures. Encryption of critical stored and transmitted data (e.g., credit card numbers, passwords) is likewise critical and must be aligned with enterprise policies and privacy regulations.

The Victim of Social Engineering

People can inadvertently create vulnerabilities, by disclosing security-related information, such as passwords, or by letting non-employees or non-authorized employees into restricted areas, perhaps while assisting someone in apparent need. A lot can be done with employee training and ongoing awareness programs, but technology can help as well. Common identity management techniques and single or multi-factor sign-on can simplify an employee's life and deter him or her from having to write down a plethora of user names and passwords.

People are either the explicit causes of security attacks or are, at least, unwilling accomplices. While a layered defense approach to security (using different approaches at different parts of the network) can help minimize the impacts of attacks and protect critical assets, employee training and enhanced awareness are equally critical elements of a unified security framework that meets enterprise security policy requirements. IT

Tony Rybczynski is Director of Strategic Enterprise Technologies at Nortel. He has over 30 years experience in the application of packet network technology. Brad Black is a Senior Security Specialist at Nortel (quote - news - alert) and has 13 years experience in network security and engineering and IT management. For more information, please visit the company online at http://www.nortel.com.

Go To Table of Contents | Go To Ad Index

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Billing Relationships.

By Hunter Newby

(Internet Protocol + Ethernet Transport) x QoS - (The Public Internet / Net Neutrality) = Enterprise Peering

Although mathematical equations may seem to be complex, they can be better understood if their fundamentals are isolated. Enterprise Peering is an evolution and inevitable given the lessons of the past. All that is possible will be, particularly if time is combined with the formula above, because with time comes the repetition of history. In order to better understand the evolutionary network path we're all on, let's break down the equation.

Internet Protocol — not the Internet, but rather the protocol itself — is widely used and acknowledged as THE common language for machines and devices of all types to intercommunicate. Enterprise networks have been using IP successfully for many years. It has been so successful that enterprise network managers actually connected their remote offices using IP to support applications of all sorts, including e-mail and even Voice over Internet Protocol (VoIP). In the past, the transport links that were used for the wide area connections were clear channel TDM (define - news - alert), ATM and frame relay, but more about that in a moment.

Ethernet transport has been on the networking scene in a meaningful way for about the past three years. Today, it is widely available in the metro, long haul, and even international long haul network segments. The legacy transport protocols of ATM and frame relay have given way to the King of the Enterprise Road, Ethernet. This is due in large part to the fact that Ethernet has successfully been in the local-area network (LAN) for 15+ years.

In the early days, frame relay succeeded X.25 due to its increased capacity and, since it was digital and packet-based, it could carry the data protocols of the LAN with relative ease. Frame relay was also squarely focused on layers 1 and 2 and did not route packets as X.25 did. This was a clear advantage for frame relay, as it lowered the overhead and increased performance dramatically. Ethernet focuses in layers 1 and 2 as well, but has a key element that frame relay lacks, and that is the ability to create Virtual Local Area Networks — VLANs.

Within the last few years, transport carriers have finally started to come around to the possibilities of Ethernet. These services have been met with great acclaim from the IT and MIS directors looking to expand their Ethernet capability to the wide area and move away from legacy frame relay and ATM. Today, almost every transport carrier has an Ethernet service offering.

QoS is certainly one of the top reasons why have enterprises been building private (frame relay) networks for over 15 years. It is not just Quality of Service though, but also control. When the IT department established a frame relay connection, THEY set the parameters of throughput and availability, or in other words, the quality of the circuit. Those metrics are Committed Information Rate (CIR) and Extended Information Rate (EIR).

The CIR was the minimum guaranteed throughput from the carrier that the enterprise could count on. With that there was a Service Level Agreement and certain penalties for non-performance. The EIR was the size of the full port that the user could occupy if no one else was using that capacity across the carriers' network at the time. The delta was the "shared" portion of the network. There are many possible combinations of CIR and EIR, but one example from a bits perspective it looks like this (768k EIR - 64k CIR), or for a half a T1 (768 kilobits) there was one channel (64 kilobits) guaranteed. The difference is what came to be known as a "best efforts" class of service.

Within the last few years, transport carriers have finally started to come around to the possibilities of Ethernet.

No single carrier network goes everywhere, but enterprises have offices in many places. So, how did a carrier sell a complete circuit to a customer? In the carrier world, that is known as a Type II, or off-net circuit. Type I is on-net for the carrier the whole way. Type II encompassed all types of circuits, but frame relay has its own special type of interconnection within that distinction. It is known as the NNI, or Network to Network Interface. This is how one carrier running frame relay over its network could directly interface its network with that of another carrier frame relay network. The NNI is based on

Go To Table of Contents | Go To Ad Index

standards, it happens in a real physical place (usually a carrier hotel like 60 Hudson St.) and once it was complete it was seamless.

Certain carriers, such as WorldCom (UUNet), had very large frame relay networks with several large NNI's to other carriers such as Intermedia (Digex) and GTE/Genuity (BBN). These carriers' NNI's enabled their enterprise sales groups to sell end to end frame relay circuits with guaranteed QoS to the buyer since the carriers had established the NNI's at layer 2 all the way through their networks. This is exactly what is happening now with carriers establishing Ethernet connections end to end. I call them ENI's — Ethernet Network Interfaces; maybe that is a standard already, but I have not seen the term used.

The Internet, as we know, is a huge, shared network, based on routers running Internet Protocol that can be accessed in a variety of ways, frame relay being one of them. Does anyone remember the Burstable T1 Internet circuit? If not, it was the hottest selling "data" circuit of the late 90's. The Burstable circuit got its name from the delta between the CIR and EIR, the area in which the user could "burst" their traffic in a "best efforts" environment, of the transport carriers that supported it. (BBN's entire IP backbone was actually based on WorldCom frame relay circuits before it was sold to GTE.) That is the hierarchy of things.

Needless to say, the Internet created a new, non-enterprise class of buyer for the carriers, the Internet Service Provider, or ISP. They became the middlemen and facilitators for the enterprise to "get to" the Internet. The fact is that the Internet as a public network is decidedly different from frame relay, ATM, and other private, packet-based enterprise data networks carrying IP. The enterprise-managed, private Ethernet network phase we are all now entering is akin to enterprise private frame relay networks and is not new, unproven, or risky at all. It is actually a reversion back to what has already made sense.

The Net Neutrality debate actually throws fuel on the fire of the Internet versus private IP networks. The concept of a virtual private network, or VPN, has been around for a while. In the frame relay world it is what the carriers called enterprise networks that used "their" frame relay networks. Since the enterprise did not build the network, but rather leased ports, it was not really the user's network, but rather the carrier's. Also, it was not dedicated, as in point to point DS1/3 level circuits, but part of the carrier's frame relay "cloud." It is here, in this mentality and also that of POTS line, DSL, and even cable modem access to the Internet, where the carriers believe that ASPs, such as Google, are riding on THEIR pipes for FREE, the pipes that access the "public cloud," or Internet, that is, and not the cloud itself.

If your Access Provider (transport) is also your Internet Service Provider, then they have the ability to make this claim, but if you lease a data circuit (i.e., Ethernet), and connect that directly to another network (ENI), whether it be another carriers' transport network, or directly to an ASP or another enterprise, there is no ISP router in the middle and therefore no ability to apply a higher or lower standard of quality to the packets. The basis of QoS and the root of the Net Neutrality debate is the ability, or possibility of the access provider to dictate to the buyer what they can effectively use.

The truth is that the Access Provider-ISPs, like the RBOCs, cannot threaten to apply a higher or lower quality standard to any packets if they themselves lack the core NNI/ENIs and SLAs between each other. This is why the large last-mile access carriers are beginning to establish those very types of connections and agreements at the Ethernet level. No network goes everywhere all of the time and therefore no carrier can guarantee anything in a dynamic off-net scenario, especially over the "best efforts" Internet.

This equation, (Internet Protocol + Ethernet transport) x QoS - (The Public Internet / Net Neutrality) = Enterprise Peering, simply means that there is a better way for enterprise network operators to interconnect between their own sites, other enterprises, service providers, and ASP's directly, thus avoiding the Internet, but still using IP. This improves quality and reliability. In addition, this formula can equate to significant savings when avoidance of the PSTN and its associated costs are factored in, changing the equation to:

(VoIP + Ethernet transport) x QoS – (PSTN) + (The Public Internet / Net Neutrality) = Enterprise VoIP Peering. IT

Hunter Newby is chief strategy officer for telx. (news - alert) For more information, please visit the company online at http://www.telx.com.

By Jacob Farber

FCC's Order Requires VoIP Providers to Contribute to the Universal Service Funds

In an order released June 27, 2006, the Federal Communications Commission required providers of certain VoIP services to contribute for the first time to the universal service funds (USF). As of August 1, 2006, "interconnected VoIP providers" (IVPs) must pay a USF contribution based on a percentage (currently 10.5%) of their revenue from interstate and international telecommunications.

While the FCC's decision has been widely reported, there are some aspects of the ruling that have not received the attention they deserve.

The contribution requirement applies only to "interconnected VoIP" providers.

Not all VoIP (define - news - alert) providers are affected by the FCC's decision. The FCC's imposition of USF contributions only on IVPs excludes some significant categories of VoIP. The FCC defines interconnected VoIP as a service that (1) enables real-time, two-way voice communications, (2) over a broadband connection, (3) requires a terminal adapter or other IP-compatible user hardware, and (4) allows users to both make and receive calls to and from the public switched telephone network (PSTN).

That last element of the definition is critical. It excludes "computer-to-computer" VoIP services that do not allow calls to the PSTN. In a Q&A session at the FCC meeting adopting the order, a senior FCC official offered Skype as an example of services that fall outside the definition of interconnected VoIP. While FCC staff opinions are not binding on the agency, that interpretation seems to be correct.

It is important to distinguish, however, plain vanilla Skype with offerings such as SkypeOut and SkypeIn. Those types of services arguably fall within the definition of interconnected VoIP, as they offer the capability to make calls to and from the PSTN. This, however, is something of a murky area. Since interconnected VoIP must also be "two-way," some observers have interpreted the definition to require two-way communication with the PSTN. If that is the case, then services that permit only calls to or from the PSTN, but not both, might fall outside of the definition of interconnected VoIP. Presumably, the FCC will, at some point, have to clarify this aspect of its definition.

What is clear is the sweeping nature of the contribution obligation imposed by the FCC. As the FCC emphasized, a service need only "offer the *capability* for users to receive calls from and terminate calls to the PSTN" in order to be considered an interconnected VoIP service. The FCC went on to say that once a subject is classified as interconnected VoIP, the contribution requirement applies to *all* VoIP communications made using the service, "even those that do not involve the PSTN." This could have important implications for how VoIP providers structure their offerings.

Providers that contribute based on actual revenues risk becoming subject to state regulation.

The FCC recognized that, because of the nature of VoIP traffic, it may be difficult for IVPs to determine whether a particular call is an interstate or international call subject to USF contribution. Accordingly, the FCC created a so-called "safe harbor," whereby providers can assume that 64.9% of their traffic is interstate/international and pay on that basis.

As an alternative to the safe harbor, providers that *are* able to determine the nature of their traffic may contribute based on their actual revenue from interstate/international traffic. IVPs can also opt to base their contributions on traffic studies that look at a sampling of their actual traffic, although any provider wishing to do so must have its methodology pre-approved by the FCC.

The FCC made clear that a provider will have to be prepared to defend its allocation in the face of an FCC audit.

The option to pay based on actual revenues or traffic studies, however, has a huge downside. The FCC said that providers that choose to report actual revenue "would no longer qualify for the preemptive effects of our *Vonage Order* and would be subject to state regulation." You may recall that the supposed inability of VoIP providers to determine the nature of their traffic was one of the major reasons that the FCC held that VoIP was an interstate service in its 2004

Go To Table of Contents | Go To Ad Index

Vonage Order. As a result of that determination, IVPs are subject to the FCC's exclusive jurisdiction and, thus, are exempt from state regulation. Now, however, it appears that an IVP that reports actual revenue to the FCC will lose the benefit of that ruling. This major development, mentioned almost in passing by the FCC, is very controversial and is likely to be challenged in court.

Not all interstate/international VoIP revenue is subject to contribution.

In some cases, not all of a provider's interstate/international revenue is subject to contribution. The contribution requirement only applies to interstate/international "telecommunications" revenue, which means basically revenue from the transmission of calls. For providers that bundle their calling service with hardware or additional enhanced features such as unified messaging, contribution is only required on the "telecommunications" portion of their offerings. While there is a lot of ambiguity in the order, and there is still a lot to be sorted out, it appears that a provider utilizing the safe harbor could potentially pay USF on something less than 64.9% of its revenue by allocating some of it to the non-telecommunications component of its offering. IVPs should, however, proceed cautiously. The FCC made clear that a provider that pursues such a strategy will have to be prepared to defend its allocation in the face of an FCC audit. It may well be that the savings associated with such an allocation do not justify the risk. IT

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By William B. Wilhelm, Jr., Esq. & Jeffrey R. Strenkowski, Esq.

A Plan of Action for VoIP USF Contributions

In June, the FCC expanded the Universal Service Fund (USF) contribution system to include "interconnected" VoIP providers. As a result, customers of these services will undoubtedly find that the federal surcharge will make its way on to monthly bills. Additionally, providers will face new costs associated with the collection and remittance of these surcharges. There are several ways for impacted VoIP providers to minimize these administrative costs, and thereby ensure they are not disproportionately disadvantaged in comparison with their wireline and wireless competitors.

By way of background, the USF system was designed to promote the availability of quality services at just, reasonable, and affordable rates; increased access to advanced telecommunications services; and advance the availability of these services to all consumers, including those in low income, rural, insular, and high-cost areas. Although the fund has many critics, USF contributions are intended to fund projects and services that meet these goals.

USF contributions have been required of traditional telecommunications carriers for some time. The recent VoIP USF order now mandates that Internet communications services directly contribute to the fund as well. The decision was predicated, in part, on the FCC's deregulation of broadband DSL and cable modem services. As a result of those decisions, DSL and cable modem services will be exempt from contributions. Rather than face a shortfall as a result of these new exemptions — the FCC decided to impose contributions on interconnected VoIP customers.

While most VoIP (define - news - alert) providers define themselves as "information service providers" outside the purview of traditional telecommunications regulation, the fact that VoIP providers must contribute to USF is actually not a particularly controversial concept. Indeed, most interconnected VoIP providers have contributed to USF for years, albeit indirectly through their purchase of "telecommunications services" from underlying carriers. These carriers have assessed a USF surcharge on the services purchased by VoIP providers and assumed the obligation of collecting and remitting the fees based upon their interstate telecommunications revenues.

The fact that VoIP providers must contribute to USF is actually not a particularly controversial concept.

Under the new framework, covered VoIP providers must now directly submit quarterly reports to the USF administrator detailing certain revenues, which the administrator uses to compile quarterly USF invoices. To reduce administrative burdens the Commission created "safe harbors" that allow VoIP providers to use a Commission-created ratio as a proxy for the actual percentage of interstate revenues. As an alternative to using the safe-harbor, VoIP providers can use "traffic studies." Both of these reporting methods serve as a proxy for reporting actual interstate revenue. While each of these reporting methods has drawbacks, they may be useful where actual traffic data is difficult or impossible to obtain — such as the case with nomadic VoIP services.

A number of providers and industry groups have voiced concern regarding the use of the safe harbor, since it requires that VoIP providers assume that 64.9 percent of their revenue is derived from interstate traffic. Many providers believe the 64.9 percent figure over-estimates their level of interstate traffic, especially given that many VoIP services are marketed as substitutes for local telephony. By way of comparison — wireless services that offer similar local and long-distance capabilities have a safe harbor of 37.1 percent.

To address this concern, the FCC has established a system to allow VoIP providers, like wireless carriers, to instead use traffic studies to estimate the interstate percentage of their traffic. Traffic studies use underlying carrier data to provide an overall estimate of traffic patterns for purposes of USF contributions. Unlike wireless carriers, however, VoIP providers may have a difficult time using this alternative since a provider must first submit the study to the FCC for prior approval. No other providers are subject to this prior approval requirement, moreover, as of yet, the FCC has not approved any studies. In addition, fixed cable VoIP has expressed concern regarding language in the order that suggests they may, in certain circumstances, not be subject to the preemptive effects of the FCC's 2004 *Vonage Order*. The Missouri Public Service Commission recently used this language to take steps to regulate Time Warner Cable's fixed VoIP service as a service subject to state jurisdiction.

Because VoIP providers will now be contributing directly to USF, they will no longer be considered "end users" for

USF purposes. Typically direct contributors are exempt from paying their underlying carriers, for to do so would result in "double taxation" and a double contribution to the fund. The VoIP USF order dispenses with this traditional methodology and, for the first time, now requires that customers that want to use VoIP must contribute twice, one time on the basis of the cost of the VoIP service, and a second based upon the cost of the underlying interstate telecommunications inputs used to provide the VoIP service. The FCC has indicated that this "double contribution" will last for two reporting quarters — perhaps longer. At least one provider has appealed the USF order in court due, in part, to this double tax on customers.

While the USF order raises many immediate questions for VoIP providers, it is no secret that the current Chairman of the FCC would prefer to adopt a numbers-based contribution mechanism. Others have proposed alternative frameworks. Urging the FCC and Congress to consider these frameworks may be the best path forward. While the courts may ultimately find the FCC order invalid, it could be years before such a determination is reached. In the near term, it may be more reasonable be consider being proactive and helping the Chairman in his efforts to implement new reforms. IT

Urging the FCC and Congress to consider these frameworks may be the best path forward.

William B. Wilhelm is a partner and Jeffrey R. Strenkowski is an associate at the global law firm of Bingham McCutchen LLP. (news - alert) For more information, please visit the firm online at http://www.bingham.com. The preceding represents the views of the authors only and does not necessarily represent the views of Bingham McCutchen LLP or its clients.

By Mike Katz

Video Content Delivery to a Device Near You!

After all it's about the content, right? Your video content will be coming to you, deliverable on all of your favorite devices, when you want it, in the format and in the state that you'd expected it to be. Imagine the following simple scenario; I start a movie on my mobile phone or WiFi device on a train ride home from New York. When I arrive at the station I pause the movie, get into my car, drive home and then pick up the movie from where I left off on my 50" plasma TV!

Yes, it is a cool idea but it also makes perfect business sense. (I know a few carriers will be interested in this when it really arrives.) Long form content, movies in particular, are great time fillers for travelers. Mobile devices like PDAs, mobile phones, mobile Internet devices (Sony's new WiFi-connected Mylo for example), and some mobile feature phones are all targets for MobileTV and long form content such as movies. Content providers and operators alike are very interested in offering this type of premium content to subscribers.

Problem statement

The main problem with long form content is that it is long form. Would you pay $7 to see only 75 percent of an exciting new release movie? Of course not. We also all know that today's content delivered to mobile video applications are siloed, or vertically integrated, with the application. Worse, the content provider is not in anyway connected to your home cable provider. This is a real opportunity. But how do you address the application and infrastructure silos that surround the content? How do you bridge them in real time to enable the delivery of premium content without the subscriber having to do a triple somersault?

Enter IMS

The IP Multimedia Subsystem, if used and programmed correctly by the application developer, will enable just this type of multimedia delivery. It will also enable the general statement made above about delivery of content to any device in any format. An operator that provides both mobile video and has thorough content agreements with, say, a cable operator, might be able to pull this off. The recent announcement in August by Sprint and Time Warner regarding expansion of previous voice agreements comes to mind as an example. However, this article is more about content and content delivery and its importance than about how IMS works to perform the magic mentioned above. I'm very careful here to state that IMS enables the delivery to the IP device.

How do you address the application and infrastructure silos that surround the content?

Content Technology Required

The technology that is not yet clearly standardized is the part surrounding the actual content storage, management, ingestion, indexing, formatting, DRM insertion, and physical delivery. These technologies exist today and are different from vendor to vendor (for example, NMS has its own Content Subscriber Management, transcoders, etc.). There is also a market need, based on the cost of content stored in various formats, to be able to store it in one format (its digital representation defined by a codec type) and, in real time, deliver that content to subscribers in whatever format they desire. Sticking to video, the most likely scenario is storing or receiving the live video feed in MPEG-2 (the current codec standard for a D1 TV channel, but this is a moving target going toward MPEG-4 and H.264) then transcoding or transrating it (either converting to another codec type or not changing the codec but reducing the screen format size and bit rate) in real-time to MPEG-4, H.263, H.264, proprietary formats like Windows Media and RealVideo. In addition you'll need to add in some form of DRM to support license requirements. If it sounds complicated now, these are just the parts required to take video content and deliver it to a target device, not the ones that track the device and figure out where you are in the movie.

It's early, especially where the market is in its evolutionary cycle for delivery of combinational video services, the type where my movie is deliverable by both my mobile operator and my cable guy and they both have a way to get paid. A common and interoperable IMS infrastructure between the mobile and cable operators is required, and video solutions that can interoperate across it is what's needed to deliver on the promise of video content delivery to a device near you! IT

Mike Katz is director of product marketing for NMS Communications. (news - alert) For more information, please visit the company online at http://www.nmscommunications.com.

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By Joel A. Pogar

Are the Cost Benefits of VoIP Fading Away?

How will the FCC, the USF, and CALEA affect the future of VoIP? The question sounds more like alphabet soup than a business concern, but if you're using VoIP, or considering a new VoIP deployment, these are acronyms you should know about. They are the regulatory agency and laws that will have the biggest impact on VoIP in 2006.

By now, we're all familiar with the benefits of VoIP. (define - news - alert) One of the most significant advantages is the potential cost savings. By combing voice and data infrastructures, bypassing long-distance charges and avoiding associated taxes, companies can save 20–40 percent on their current telecommunications costs. However, that's all changing.

In June of this year, the Federal Communications Commission (FCC) passed legislation subjecting VoIP calls to the same taxation as traditional analog phone calls. The new ruling will require VoIP providers to collect additional taxes and fees for the Universal Service Fund. The Universal Service Fund (USF) is a 70-year-old program sponsored by the federal government to subsidize telephone services in rural and low-income areas. Because the changes to the law are fairly new, exactly how much this will cost any given company or the average consumer is a little unclear. Industry analysts have projected the changes will cost VoIP users an extra 6 to 10 percent per month on their phone bills.

Proponents of the new legislation say it levels the playing field between VoIP providers and traditional phone companies. They also assert that the additional funds will help to make VoIP a more reliable and mainstream technology to end users. Critics have questioned the benefit of the USF and are concerned about its potential impact on small businesses. Politics aside, the FCC and USF are chipping away at the cost savings of VoIP.

Another significant development for VoIP is the Communications Assistance for Law Enforcement Act of 1994 (CALEA). This 12-year-old law requires telecommunications providers to "...assist in the electronic surveillance...and design or modify their systems to ensure that lawfully authorized electronic surveillance can be performed." In layman's terms, CALEA allows law enforcement agencies to "wire tap" phone lines and requires telecom providers to have the systems necessary to conduct the surveillance. Until recently, VoIP providers thought they were exempt from CALEA compliance. However, in May the FCC ruled that VoIP providers must be CALEA-compliant within 90 days.

There are many issues surrounding CALEA compliance, most of them around privacy concerns. What most people don't consider is the added expense VoIP providers will incur to become compliant; the additional personnel, systems, and processes required will increase costs for VoIP carriers, and most carriers will pass these costs onto their customers. It's difficult to estimate yet what the actual costs will be for CALEA compliance to providers or consumers, but many well-known service providers have publicly described their estimates as "burdensome." And they will chip away at more of the VoIP cost savings.

What does all this mean for a consumer, a VoIP provider, or an enterprise? As a consumer, it means you'll soon be paying a higher bill for VoIP services and Uncle Sam will have the ability to "lawfully intercept" your calls. In the future, you might not save much using VoIP over traditional phone service. If you are a VoIP provider, you'll feel the most significant impact in terms of cost to provide service and the need for systems and processes to be compliant with the new regulations. Providers will not only have to implement CALEA measures, but will also have to maintain the personnel, accounting systems, and processes to collect USF fees and any additional taxes. Many analysts are now questioning the long-term impact this will have on the VoIP industry, as consumers or business may be less likely to make the jump to VoIP.

These regulations also come at a time when many VoIP providers are already struggling to make a profit and the low-cost competitive advantage is disappearing. If your company has outsourced its VoIP services and is using a provider, now is a good time to re-evaluate your strategy, as you could see higher rates in the very near future. While you won't have the direct burden of collecting USF fees or becoming CALEA compliant, providers will most likely pass these costs on to you as the end user.

In a corporate environment, this may be the best time of all to deploy an internally managed VoIP system. By being your own provider and owning the system, you can avoid the additional fees and taxation on commercial providers. While CALEA requirements do not currently apply to the corporate environment, it wouldn't be a bad idea to account for them in any new VoIP design. With today's security conscious world, it's better to plan for, or implement such capabilities now, rather than having to scramble to comply in the future.

Bottom line, VoIP is still a great and viable technology. These new regulations may dampen the near term outlook for providers and consumers, but the benefits to the enterprise remain strong. IT

Joel Pogar is a director in Forsythe's network solutions (news - alert) and security practice. For more information, please visit the company online at http://www.forsythe.com.

Go To Table of Contents | Go To Ad Index

Which Move Will You Make?

There are two different approaches to Voice over IP. One approach preserves a company's infrastructure investment; the other builds the VOIP network from scratch. Multi-Tech offers a solution that supports either move.

IP Telephony Migration

For the company looking for IP migration, the Multi-Tech MultiVOIP™ Voice/Fax over IP gateway is an ideal fit. The MultiVOIP gateway connects directly to a company's existing PBX, key telephone system, fax machine, or analog phones and extends voice and PBX functionality out to remote locations over a WAN. It can seamlessly tie together dissimilar proprietary PBX systems and provide networking capabilities to key telephone systems that previously weren't available.

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This Call's For You

Packet8's Virtual Office Business VoIP Service Makes Expensive PBX Phone Systems Obsolete

The message from Packet8 Director of Product Marketing Dave Immethun is clear: Ax your traditional PBX system and go with VoIP.

With traditional business phone systems, companies must typically purchase expensive equipment including a PBX system, phones and applications and then pay for installation, monthly maintenance and trunk lines. For small businesses, these prohibitive costs often reduce their telecom choices to a basic phone service, which requires that all users be in the same physical location and make use of a limited feature set.

VoIP-hosted business phone services, such as Packet8 Virtual Office, nearly eliminate the up-front investment and take the headache of ownership away while providing corporate-class PBX functionality over a high speed internet connection.

MULTIPLE LOCATIONS? NO PROBLEM...

Virtual Office eliminates the need for companies to centralize their operations in a single brick and mortar office since all phone extensions receive the same internet-delivered features and options regardless of location. Designed to replace traditional PBXs, which can cost tens of thousands of dollars and require a significant amount of time to maintain, Packet8's Virtual Office Hosted PBX costs only a few hundred dollars and can be up and running in almost no time. Better still, the system can be easily tailored to fit even the most decentralized business. Employees can communicate seamlessly with each other and with the outside world under a primary company phone number without a central office location or a traditional PBX system. Business with offices in multiple locations or home-based employees can especially benefit from the Virtual Office, since all interoffice calls are free. Virtual office can reduce start up costs by as much as 80 to 90 percent, when compared to traditional telecom systems, while cutting monthly phone bills in half for most businesses.

NO RECEPTIONIST? NO PROBLEM...

Another important advantage of Virtual Office is that it eliminates the need for a receptionist (and the cost of a full time employee) while maintaining a professional image for your company through its included automated attendant,which can route incoming calls to the appropriate department or person. The automated attendant also permits callers to reach employees by extension or name, or access the company phone directory.

VIPS NEED SPECIAL TREATMENT? NO PROBLEM...

With Virtual Office, a company can add a Virtual Number for select clients within their own area code, enabling them to call you without incurring long distance charges regardless of your location. Packet8 can also supply you with toll free numbers to give callers across the country convenient, toll free access to your company.

THE SMART OPTION: PACKET8 VIRTUAL OFFICE

Since the Packet8 Virtual Office VoIP-hosted PBX business service is delivered over the internet, geographically dispersed workforces can be united under a single phone system, giving small companies the telecommunication tools they need to compete on a grand scale. Simple set-up, ease of use and a low subscription price make Virtual Office an outstanding value for SMBs.

Virtual Office features unlimited local and long distance calling to the US, Canada and other Packet8 subscribers worldwide and such conveniences as the ability to keep your existing phone number, business-class voicemail, three-way calling, forwarding, do not disturb, voicemail, distinctive ringing, call waiting/caller-ID, and transfer.

Monthly Packet8 service for Virtual Office costs $39.99 per extension and includes a host of advanced PBX functions such as auto attendant, business class voicemail, extension dialing and ring groups. The monthly service charge also includes all configuration and counseling, administration, changes and, for those who are comfortable, complete web-based administration system controls.

Each Virtual Office extension requires a hands-free business class telephone and broadband phone adapter priced at $99.99. A minimum of three Virtual Office extensions is required for the system to function. For initial set up, subscribers pay a one-time activation fee of $39.99 per extension (free for TMCnet customers).

For additional information: www.packet8.net

Call 866.895.0445 for free activation & mention offer code: TMCnet

Which PBX is Right for Your Small Business?

Traditional PBX
Complex, limited, expensive to buy and maintain

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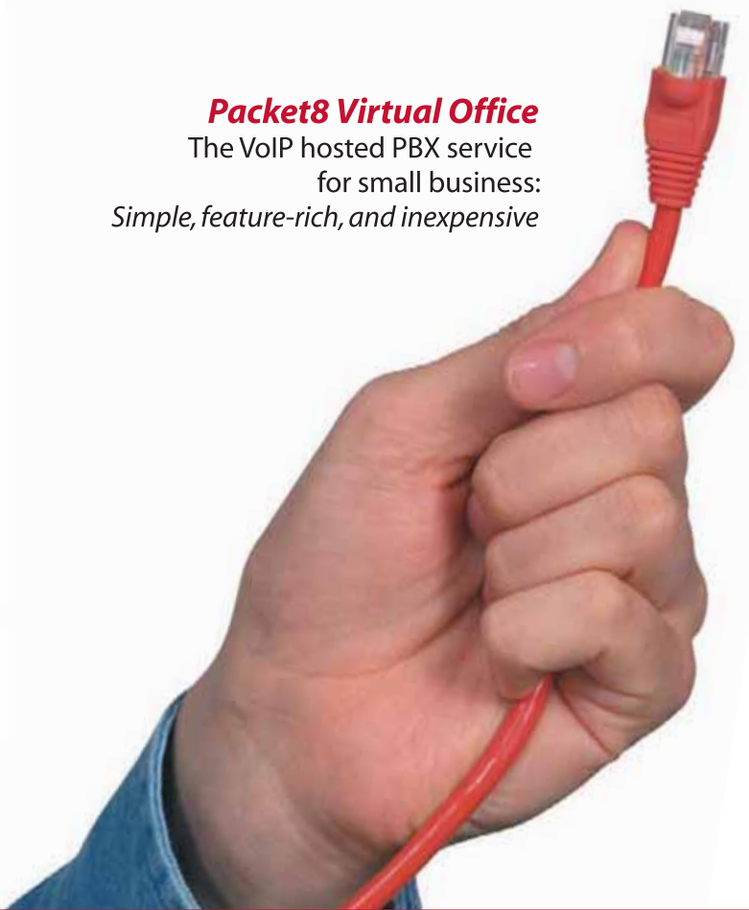

The Choice is Clear.

Making a decision on a phone system just got easier. Traditional PBX systems are complex, limited, and expensive to buy and maintain. Packet8's Virtual Office VoIP hosted PBX service is simple to use, feature-rich, and affordable—many businesses cut their start up costs by over 80%. Virtual Office can also lower your monthly phone bills by 50% or more. The choice is clear.

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By Rich Tehrani & Max Schroeder

Continuity Planning 10
A Continuing Educational Series

How the DPCF Extends the Reach of the Disaster/ Business Continuity Planning Community

The DPCF was launched one year ago at IT Expo West 2005. During the past year, the DPCF has evolved into a much larger group and continues to provide educational information on the need and value of business continuity planning. Recently, the question of how the DPCF fits into the overall disaster planning community has arisen and needs to be addressed.

The disaster planning industry has been in existence for decades and is very mature. There is even an industry conference dedicated solely to the disaster planning and recovery industry. In researching this area, you will find everything from hot meals that can be stored for months or years to entire mobile recovery teams. You can contract for and position mobile office and workspace trailers plus facilities for storing a replacement inventory. The industry players can handle the requirements of the largest enterprises in the world from planning to full deployment in the event of a major disaster. So what's missing and how does the DPCF fill the gap?

One key observation is that most small enterprises and SMBs are under the false impression that it will be an expensive project that may never be needed. Another myth is that "our offices are in Casper Wyoming and it is highly unlikely that a hurricane like Katrina will hit us." Statistically, most business interruptions last less than 72 hours and are the result of more common occurrences like local floods and ice storms. Lastly, most enterprises, of any size, do not fully understand the impact that IP telephony has had on business continuity planning and implementation. For example, many enterprises already have a substantial number of employees working from home offices due to the tremendous advantages presented by internet telephony solutions and broadband access. These employees are already deployed members of the "business continuity team." They are already online and may be deployed over a wide geographic area. Therefore, the number one goal today remains the same as when the DPCF was launched. The goal is to educate businesses on how Internet telephony and converged technologies have totally changed the way businesses can implement a continuity plan. And what better entities to lead this challenge than TMC, publisher of *Internet Telephony* magazine, the IP communications authority since 1998, and the Enterprise Communications Association, a national trade association addressing the communications requirements of both enterprises and SMBs nationwide.

SMBs are under the false impression that it will be an expensive project that may never be needed.

We have all seen the TV ads from auto repair companies using the line "pay me now or pay me later" (lose/lose scenario). Deploying VoIP (define - news - alert) presents the opposite scenario of "save now plus get free insurance coverage" (win/win scenario). IP Communications drives short-term benefits by improving an organization's day to day business processes and operations. Companies also get the added bonus of reducing ongoing operating costs as compared to maintaining a traditional TDM phone system. Another inherent advantage is that an IPC infrastructure is designed to be implemented as a geographically dispersed architecture, thus eliminating single points of failure. This should be a major consideration of TDM-based

Go To Table of Contents | Go To Ad Index

call centers. Migrating to an IP contact/call center solution both enhances the customer experience today and reaps tremendous benefits if misfortune strikes.

Hopefully the point has been made that the DPCF is not attempting to create any conflict or competition within the established disaster planning community. In fact, our position is 180 degrees in the opposite direction. Many of our members have been part of this community for an extensive period of time and contribute substantial knowledge and experience to the DPCF project. Our goal is simply to expand the knowledge base by including new partners that have a depth of experience and knowledge in the Internet telephony and converged solutions industries. By combining our strengths, we can provide even better guidance to companies looking for solutions to their disaster planning programs.

The goal is to educate businesses on how Internet telephony and converged technologies have totally changed the way businesses can implement a continuity plan.

Many *Internet Telephony* subscribers will be reading this issue in San Diego in, or in close proximity to, the San Diego Convention Center while attending the IT Expo West 2006. I strongly encourage you to take part in the Disaster Planning Seminar and Workshop scheduled for 1:00 – 4:00 on Thursday, October 12. Please bring your questions or, if possible, a brief description of your company's disaster planning concerns. Experts from our member companies will be participating in the workshop and will address your concerns in a live discussion. If you cannot be in attendance or would like to send us your list in advance, please forward your information to maxschroeder@tmcnet.com and one or more of our member companies will respond to your concerns.

A reminder to please visit http://www.tmcnet.com/339.1 to view additional information provided by DPCF members, TMC, and the ECA. IT

Max Schroeder is a board member of the ECA, media relations committee chairman, and liaison to TMC. He is also the Sr. Vice President of FaxCore, Inc. (news - alert)

Rich Tehrani is the President and Group Editor-in-Chief at TMC and is Conference Chairman of Internet Telephony Conference & EXPO.

If your organization has an interest in participating in the TMC/ECA Disaster Preparedness Communications Forum, please contact maxschroeder@tmcnet.com or rtehrani@tmcnet.com.

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By Betty Cockrell

IPTV Services Drive New Billing Models

IPDR.org recently released the newest installment of its IPDR document set — "Resource Data Collection, Analysis & Control (RDC) for IP-Based Services — IP Television (IPTV)." This document will be a valuable contribution for the development of IPTV standards because it covers specific industry requirements, business cases, and XML schema. Industry comment on the document will enhance the efficacy of IPDR's latest work.

In order to execute a successful IPTV program, carriers must be prepared to make several key adjustments. As subscribers move from the regimented timeslots of broadcast TV services to the "on-demand" world of IPTV, they should anticipate the emergence of new vendor/merchant relationships and billing models. Additionally, subscribers will want to create their own content bundles and expect a broader variety of "on-demand" services.

For example, customers who have been exposed to the functionality of a DVR (Digital Video Recorder) watch much less "live TV." Customers begin to watch what they want when they want because they are not held to predefined schedules or time slots. Further, the ability to store content and view it at a later date is commonplace for DVR users. With IPTV technology, not only can subscribers access a "record now, watch later" feature for their favorite shows, they can also go back and download a missed show or view the remaining episodes of a show, movie, or other event.

IPTV subscribers will also have access to new content (such as video on demand, pay-per-view content, interactive TV, music downloads, music multicasts, and a variety of gaming services) from a variety of providers and will be able to create multiple individual purchasing profiles within one household, further complicating billing. To meet these demands, the underlying IPTV billing systems must be able to manage these new usage paradigms as they intimately impact each other, which in turn affect both end user billing and wholesale supply chain settlements.

The settlement models of the recent past will not meet the needs of the new IPTV audiences. Settlement for IP services will occur outside the previously simple confines of the telecom industry. New partners are emerging from areas where traditional telephone companies have never ventured, including movie studios and record labels. New IPTV providers must find a way to adapt the existing rigid procedures to a more fluid and dynamic business model without abandoning their current BSS/OSS system. One solution is to turn to a clearinghouse, which can assist with the settlement and billing of these services by enabling the flow of information between IPTV suppliers and partners. Clearinghouses help manage the flow of usage information for billing and settlement and can integrate with existing BSS/OSS systems.

The vast potential of IPTV places demands on BSS/OSS systems and forces providers to quickly deploy new service offerings. These providers must be prepared to:

1) Enable billing and settlement; and
2) Interface new services with their existing systems.

Clearinghouses can help quickly implement these services.

Accurate and timely delivery of billing information is critical for all involved parties — end user customers, suppliers, and partners. In order to meet these challenges, flexible guidelines are needed to support the business requirements of all partners in the IPTV ecosystem. IPDR.org has taken the first step by adding IPTV services into its usage-based accounting framework and we look forward to your feedback. IT

The settlement models of the recent past will not meet the needs of the new IPTV audiences.

Betty Cockrell is the Chair of the IPDR.org Business Requirements Working Group and the Director of Industry Relations for BSG Clearing Solutions. For more information, please visit the consortium online at http://www.ipdr.org.

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PC-based Telephony Systems: Does size count?

By David Mandelstam

A fundamental issue when building a PC-based telephony system is the question of sizing: What type of host server do I need to handle X number of users on VoIP and PSTN?

Very often, you end up by using a server that you know is oversized, and once up and running, you quickly confirm this by executing vstat and noting that the system never runs at over 20% of capacity. And what is wrong with that? After all, PC computing power is cheap, and for little more than $1,000, you can buy a powerful, multiprocessor machine.

It is true that the server cost is overshadowed by other costs, such as the cost of installation and configuration, so for those who are installing single, complex systems, the answer is pretty universal: Bigger is Better!

But if you are in the business of replicating products, for instance as a producer of standard Asterisk™-based PBX systems, then it does make a good deal of difference if you can save a few hundred dollars per system by right-sizing the server.

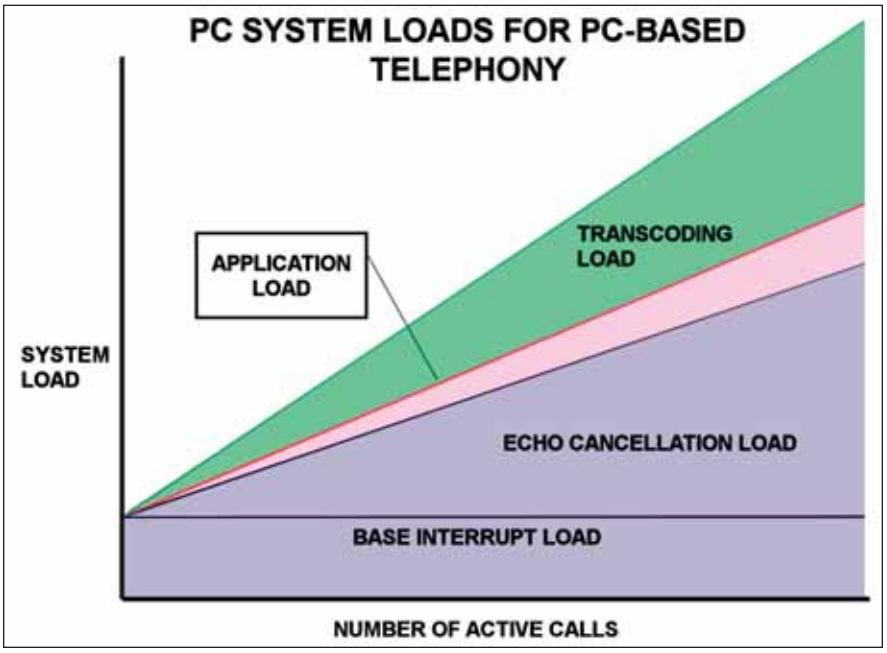
So, what is the nature of the load on, say, an Asterisk PBX or call center system, particularly as far as the PSTN (define - news - alert) access is concerned?

One of the characteristics of telephony, in general, is the huge amount of data that flows continuously through the system. For example, an 8-port E1 carries 240 calls when fully loaded. This amounts to about 32Mbps of changing data, in a continuous, never-ending stream. All of this is flowing through the system cache, which, in any case, is full of look-up tables and other fixed structures. So the cache hit rate is rather low, and the evidence is that the size of the cache has little bearing. So a Xeon and a Celeron may have very similar performance.

The result is that to a significant extent, the very fast processor that you purchased is throttled by the process of accessing the RAM on cache misses. And RAM access is rather slow. It is slow for a 500MHz PIII. It is almost as slow for a 3.5GHz Xeon.

So if your 1 GHz machine has a certain average system load when running a PBX application, do not expect that a 2GHz machine will have half the load. It will likely have a load that is significantly higher than half.

The figure below shows the main loads that you will find on a PC-based telephony project.



Assuming that there is a PSTN component to the system, there exists a base idling interrupt load that depends on the system size (see the figure accompanying this article). This base load occurs in the interrupt handler for the PSTN board and consists of the overhead of handling several hundred to several thousand interrupts per second, and moving the PSTN data on and off the board, plus some PSTN housekeeping functions.

The base load is proportional to the number of channels being handled, so that the base load for an Octal E1 card will be about 8 times that for a single E1. The base load is highly dependent on the way that the PSTN drivers are organized. Older drivers such as Zaptel were optimized to run perhaps a single T1 span, so it is not surprising that newer drivers have far lower base loads.

If the telephony system is making use of software-based echo cancellation, such as the routines provided in the Zaptel drivers used by Asterisk, then there is a very significant extra load inside the PSTN interrupt handler that is proportional to the number of active calls with echo cancellation. Of course, not all systems require echo cancellation. If there is no VoIP component, then usually echo cancellation of any kind is unnecessary. If the PSTN card itself has on-board echo cancellation, then the echo cancellation load on the server vanishes.

The vital point about the base load and the echo cancellation load is that they occur inside the PSTN interrupt

handler. In most soft telephony applications under Linux, the interrupt service routine is written as a single, very long hardware and traffic handler. This type of interrupt handling is frowned upon, and, in fact, is illegal in the Windows world. One is supposed to do the absolute minimum in the interrupt handler and set a flag so that the bulk of the data handling is done in a deferred procedure by the operating system. The architecture of the current Linux drivers means that even if you have multiple processors, you get no help at all with the interrupt handler: One processor handles the interrupt all by itself.

The combination of poor cache performance and single processor interrupt handling can really limit performance. For instance, the system load with an Octal E1 is simply too large for a single processor, unless there is no software echo cancellation required, and thus, no matter how many processors you have or how fast they are, this arrangement is impractical. The result is that almost all 8-port T1/E1 cards are supplied complete with onboard echo cancellation.

In contrast, the application load of switching, controlling, repackaging as VoIP and mixing of voice streams (pink area on the figure) is a "normal" program that multiprocessor systems can deal with very well. Typically it will be handled by a separate processor, if available.

The transcoding load (green area on the figure) is also one that can be distributed amongst processors by the operating system. This is a good thing, because software compression/decompression between G.711 and G.729, G.723, GSM, etc. can absorb enormous system resources, often comprising the major load on a system.

In short, the problem of sizing is not straightforward, and many of the results of testing are non-intuitive. In the future we expect to be able to do quite a bit more with less, simply by writing better device drivers and getting a little help from the hardware. IT

David Mandelstam is President and CEO of Sangoma Technologies. (news - alert)

The Shaman of Open Source

By Richard "Zippy" Grigonis

In southern Africa, a Sangoma is a shaman, a diviner of mysteries and wielder of powerful rituals. It's an apt name for Sangoma Technologies, a company that has guided users of open source telephony technology to a new feature-rich plane of existence. (Indeed, Sangoma provides various connectivity hardware and software products for VoIP, TDM voice, WANs, and the Internet infrastructure, including the A200/REMORA FXO/FXS Analog Telephony Support System that won a 2006 Innovation Award from TMC Labs.)

But whereas a real shaman relies on ancestors from the spirit world to give his clients instruction and advice, Sangoma Technologies' President and CEO David Mandelstam relies on the more reliable methods of market data, feedback from customers, ongoing R&D, and a general industry savvy gained from years of experience.

So what are Mandelstam's pronouncements on the current state of open source?

"Open source telephony is reaching a sort of tipping point," he says. "A year ago, people were using it to develop small, handcrafted installations built to meet certain criteria, and each installation was somewhat unique. Now, however, you're starting to see a lot of production-type environments, where people are turning out basically the same thing again and again, hundreds of times a month. At the moment, Sangoma is somewhere between these two situations."

"It's reflected in the pricing," continues Mandelstam. "For example, many vendors will offer a $995 entry level system that handles up to 30 to 50 callers, which generally doesn't have a PSTN interface — it's purely VoIP, so it's really a VoIP switch. Then you'll see vendors producing a 'next level up' $3,000 system that's quite sophisticated; it may have T1 interfaces and so on. The systems fall into natural production categories. I think it's the future of the business."

As such open source telephony systems find homes in the mainstream business world, enterprises will soon realize that 'open' technology doesn't imply that it lacks security.

"Algorithms in open source form means that the world can criticize them, fix them, and generally get things improved," says Mandelstam. "On the other hand, closed source is just closed. Deficiencies aren't revealed until some security breach actually occurs. But in an open source environment, anybody can take a look and say, 'Hey, I see a security 'hole' here.' It's the old cathedral and bazaar story: the closed commercial 'cathedral' model versus the open 'bazaar' model of the Linux world."

"That's why all flaws in open source code that are important to people get fixed, including security flaws" says Mandelstam. "There's a team of unpaid developers and quality analysis people worldwide who, for one reason or another, are prepared to do this work. But security is less of an issue when it comes to open source voice offerings. For us, security is a non-issue because the part of the network in which we are heavily involved is the traditional telephony part, which is considerably secure, since it's a switched network that maintains a dedicated path between endpoints during a phone call."

Recently, Sangoma teamed up with the Null Team Company (http://www.null.ro) to release a native Windows-based version of the GPL-licensed Yate telephony project (http://yate.null.ro). Yate is a next-gen telephony engine encompassing both VoIP and the PSTN. However, Yate's real strength involves its ability to be easily extended so that voice, video, data and instant messaging can all be unified under its flexible routing engine, thus maximizing communications efficiency and minimizing business infrastructure costs. IT

Richard "Zippy" Grigonis is the executive editor of Internet Telephony.

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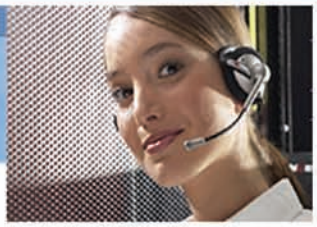

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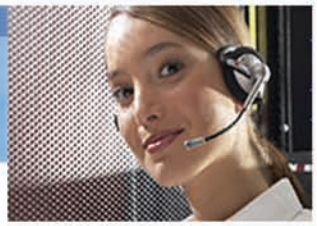

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Digium's Mark Spencer

Rich Tehrani's Executive Suite is a monthly feature in which leading executives in the VoIP and IP Communications industry discuss their company's latest developments with TMC president Rich Tehrani, as well as providing analysis on industry news and trends.

While there are, clearly some firms that are unwilling to part with their proprietary secrets, much of the telecom industry has accepted that the open source model is, at the very least, a viable alternative. Indeed, open source makes it considerably simpler and more cost effective to meet the needs of individual customers, which subsequently raises customer satisfaction and all that goes with it.

The initial code for Asterisk, the original open source telephony platform designed as a flexible and more cost effective alternative to traditional solutions, was originally written by Digium president Mark Spencer when faced with the exorbitant costs of purchasing a PBX. Since then, Asterisk has been contributed to from open source software engineers around the world and now supports an expansive range of protocols for the handling and transmission of voice communication over various interfaces. In fact, just recently, Digium released version 1.4 of Asterisk, including more than 20 new added functionalities, including Jabber/Jingle/GoogleTalk compatibility and greater scalability and interoperability features.

I had the chance to talk to Mark about the direction Digium (news - alert) is taking, as well as about the benefits of an open source architecture.

RT: You've recently received a good amount of funding and have announced that somewhere between half a million and a million people have downloaded and/or are using Asterisk. Can you tell me a little bit about the growing user base as well as the funding?

MS: Our experience was probably different than most companies in that we've been profitable since 2002, and we didn't really have any kind of immediate need for the money. But we really want to be sure that we do everything we can to best execute and best deliver on the expectations of our customers and users as it relates to Asterisk. After looking at lots of options, including consultants and other venture capital firms and so on, we really settled on Matrix as the best partner for where we are right now.

RT: Regarding the need for the money, what kinds of things do you expect to be doing?

MS: We don't really have any immediate plans, but the cash will be available if we need it. In the meantime, we're just going to do what it takes to really try to grow the business.

RT: Tell me about your growth rates. How have they been growing and are there any things you're going to do to help increase the growth rate?

MS: Historically, we've grown about 100% a year for the last several years and we have definitely some ideas about what we're going to try to do to step it up a notch, although there's nothing yet that we have formally announced.

RT: Tell me a little bit about this growth. When you say growth, is it growth in downloads, growth in use, growth in revenue?

MS: While I would say the growth in downloads is the first that you see, the coverage and the expansion are also in terms of the number of companies that are involved in Asterisk. So it's a mix really.

It's kind of exciting, from a technologist's point of view, to see that everything you say about your open source promotes new kinds of applications; it's nice to see that actually taking place. Not that there's anything wrong with the traditional Voice over IP stuff — building gateways, building cost switches, building calling card platforms — but it's especially exciting to

Go To Table of Contents | Go To Ad Index

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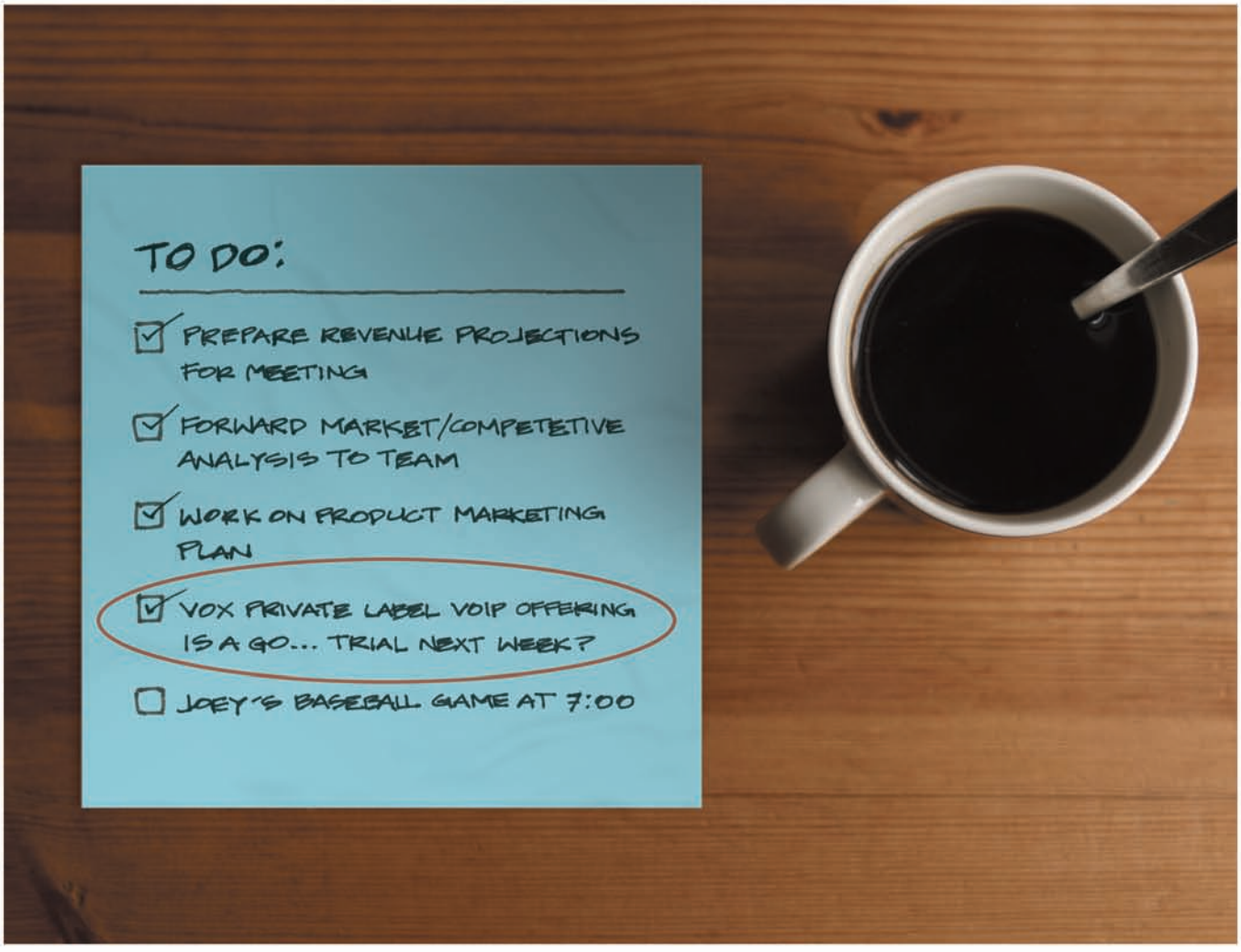

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start to see next generation applications. It's almost like Web 2.0 is turning into Telephony 2.0.

RT: So, what are some of the things you've seen in Telephony, some of these applications that are worth knowing about?

MS: I think they range everywhere. There's the creative idea that you can use your phone to pay for your parking spaces by calling a phone number and entering in the parking space phone number and your credit card, and then when you drive away, a sensor detects when you leave and texts a message, "Here's your receipt."

Then you've got the people at NYU that have the sort of geo-tagging sort of thing — geo-tagging means blogging where they put a sticker at a given location and it has a phone number and a blog entry and you dial that number and enter that blog entry and you get to hear a blog about the particular location where that sticker is.

These are probably not million dollar businesses that are being built, but they are the first sort of sprouts, in terms of new applications. There's also Unwired Buyer, which allows people to bid on eBay items by telephone and to be called when, for example, they are outbid.

RT: Do you see any other applications, such as that one, that are paradigm changing?

MS: We're seeing some cool stuff in terms of integration with other applications, like some of the stuff Zimbra demonstrated. They've got some demos where they've shown not only click-to-dial for Asterisk, but where you can have a conference scheduled and then Zimbra will call all the participants in the conference automatically for you with just a click.

RT: So, there are a lot of new applications, and that's also an open source product, right?

MS: That's correct, and that, for me, is the most exciting part — the stuff that's coming out of open source.

RT: Are there any other open source things we should be familiar with?

MS: Those are the ones that would probably jump out. We've seen a lot of people studying to integrate SugarCRM with Asterisk, which is kind of neat too. So we're seeing some overlap there. It's an interesting area, and they make sense when you start pulling these open source projects together.

RT: Do you see some sort of common framework for these open source companies to work together in a more seamless fashion or in things like service oriented architecture or XML?

MS: I don't think it's totally defined yet, but I think that we will see it, yes. Especially in the next year, we're going to see much more integration, especially as we move into our schools, just because customers are going to demand it and what it can enable.

I think the first generation was sort of the creation of Red Hat, right? The idea that you can have a real operating system that is open source and commercially supported, but what's going to be next is the whole idea that your entire back office, from CRM to PBX to accounting, is going to be able to be acquired in open source.

RT: Is a company like Oracle going to lose share to solutions like what you just described?

MS: I would not necessarily underestimate the big guys, either in the telecom space or in other spaces. I think they can kind of see the lesson, the writing on the wall, as it relates to the way Linux has solid performance in a lot of areas. They've kind of watched them through how Microsoft has reacted, and learned from what's been effective for Microsoft and what hasn't. I don't think they're going to fall asleep at the wheel. I think they're not going to do things exactly the same way that Microsoft did, by any means.

RT: What about the patent challenges with open source? The word on the street is that some of the open source technologies are infringing on patents that are held by some of the private companies.

MS: I think software patents, generally, are kind of a problem for the whole industry. It's not something that's specific to open source, but we're certainly aware of it. Of course, part of the beauty of what we do is that we're developing core technologies and, to a great degree, frankly, the technology that goes in the software itself is not always leading edge. More often, it's how you actually apply the technology and the software that creates these advance services.

I think it's a question more for the industry at large and it's not going to depend so much on whether you're using Asterisk or some other platform. Rather, it will be more the patent question as it relates more to business processes and algorithms and so on. Our license model allows us the flexibility that a lot of other open source projects don't necessarily have, allowing us to take patented technologies, like U729, and make them available. So, we actually have the ability to bring patented technologies to open source as paid-for add-ons

RT: You mentioned the patent situation. What would you say are the the top threats to open source telecom, or just open source in general?

MS: I think a lot of the challenge of open source is you've got to keep the right balance in terms of being able to deliver products that customers want, being able to respect and work through developer community, and to balance the speed of your development with the requirements that customers are going to have for having a stable product. They're all pretty standard challenges that the community has been facing for quite some time. So far, I think we've done a pretty decent job at it.

RT: Can you describe briefly the differences between Digium and Asterisk?

MS: Digium is a company behind Asterisk. We are the original creator of Asterisk, of course, but, unlike a lot of other companies, Asterisk really has a very, very significant community of peo-

Go To Table of Contents | Go To Ad Index

ple behind it even as a product that extends even beyond Digium. So we are the primary company, but there are a lot of other companies that are involved in Asterisk in one way or another.

There are also a lot of people who are trying to make their money in different ways. Some people are trying to make it in ways that are good for their community, and they're doing very creative integrations and they're participating in the open source process. And some people are sort of trying to use Asterisk basically as a tool to extend the old school business models. It will be interesting to see how it all pans out.

RT: A common question that people ask is, "How do open source companies plan to make any money?" What is your solution?

MS: Anytime you have value that you bring to the customer, there are two kinds of customers right. One kind is going to take your open source and they're never going to want to pay you, no matter what. They're always going to want find a way not to pay you anything right? Or at least they'll try to limit their costs. Basically, you can't select those customers.

The big opportunity is that, when it comes to other customers, especially bigger companies, that understand there is no such thing as a free lunch, that they need to pay someone to be able to have that sort of security blanket and to have the expertise, the knowledge, and the sort of whole product around it to make sure that they've got everything they need for their business.

RT: There are a few different groups that are looking to use Asterisk. How can your potential customers in each of those categories benefit from working with Asterisk or using Asterisk or reselling Asterisk?

MS: The value, to some degree, depends on your end customer, as far as whether they can directly use the fact that they've got access to source code. But then, even if it doesn't directly fit, if an end customer doesn't directly have the ability to modify source code, there's still the value that he or his reseller may be able to acquire that capability or to purchase it from someone else.

In other words, the value for the end customer is really choice. To a great degree the value for the reseller and the service provider is sort of the same choice, in that they've gained a greater capability to differentiate their products going to the end customer.

RT: Do you want to go into a little more detail based on constituency?

MS: The plus for a reseller is that they have the ability to better differentiate their product and when they put a whole solution together for a customer. They don't have to worry about that customer going to the very next reseller down the road and getting exactly the same thing, because, while all those components are potentially available, the reseller can put a lot more thought into what kind of service selection he's providing.

There's a lot more opportunity for the reseller to really define and take ownership in the product that he sells to the customer when it comes to open source. That's their benefit.

For us, we get a lot of attention and we have the ability to compete with a series of competitors, like Cisco and Avaya, that we would never be able to compete with as a traditional proprietary company. If we're competing with Cisco, we don't want to have to try to play catch-up, in terms of features or anything like that. We want to totally change the rules of which features are important, and open source not only lets us win the features game, it also means that we can provide value, like open source and the ability to extend code and the ability to have your features all included for the same low price, that Cisco simply would have a tremendous amount of trouble trying to provide.

RT: How do you see the companies that own the major market share in the PBX space competing against you?

MS: We haven't seen a whole lot yet. The good news for them is that, if you look at companies like Avaya, a lot of their revenue is really services driven, and that's something that does not go away just because you become open source. So, I think there still is a tremendous opportunity in the PBX space, despite the fact that people will say PBXs aren't going to exist anymore. Whatever you want to call it, that sort of extended IP communications product... if you don't want to call it a PBX, you don't have to call it a PBX. But let's face it, it's basically a PBX with more features and applied to more technologies.

RT: Where do you see the communications market going in the next five to ten years?

MS: I don't even know if I would try to guess for the next year. It's something that's highly in flux, and I think you have to be very willing to adapt to what the situation is. So I'm not going to claim to know what's going to happen, I just want to do the best that I can to adapt to whatever is happening as quickly as possible. One thing that open source does for us is that, when you start looking at the open source tree, you start seeing where contributions are coming from.

Sometimes, that's kind of an early sign of what people are going to be doing, where the new technologies are going to be going, because you'll start seeing people developing. There are several reasons that people run Asterisk, but one of them is that the technology that you want simply doesn't exist and Asterisk the only game in town when it comes to being able to incrementally develop that technology in an easy way.

RT: Where do you want Asterisk and Digium to be in the next five to ten years?

MS: I want it to be fun, and that's an extremely important part of this whole thing for me. At a personal level, I want to continue to build a company that people like to work at, where we can come to work and feel excited about the work we're doing, knowing that we're really making a difference in the world. It's really amazing to think that these technologies that we're putting together are not just making a lot of people in the industry richer — they're actually making people's lives richer in really significant ways. IT

Rich Tehrani's Executive Suite™

Tadiran's Ron Bregman

Rich Tehrani's Executive Suite is a monthly feature in which leading executives in the VoIP and IP Communications industry discuss their company's latest developments with TMC president Rich Tehrani, as well as providing analysis on industry news and trends.

Technology in general and, more specifically, the telecom space, is about change. In order to succeed, developers, service providers, VARs, and customers all have one thing in common: they all must determine how they can best cope with the changing communications landscape without overspending or without risking their profitability.

Part of the equation, of course, is figuring out how to future-proof new products so that they can be easily upgraded instead of having to be replaced. This is especially important now, when technology is evolving so rapidly and companies are being bought and sold sol quickly it can prove difficult to keep up with name changes. In its efforts to retain existing and win new customers, Tadiran is one telecommunications systems provider that focuses heavily on meeting the specific needs of its customers.

I recently had the chance to speak to Ron Bregman, President and CEO, Tadiran Telecom, (news - alert) who explained how Tadiran supports the needs of its customers with an eye on growing its business.

RT: It sounds like a lot of things have been happening lately at Tadiran, right?

RB: A lot of things are happening. I'll start by telling you that, for the beginning of 2007, coupled with our new release of the Coral Sea softswitch, we're going to be actively marketing this through our existing channels and actively looking to add either partnerships or acquisition of distribution channels to grow the distribution for the product. This is really the highlight for real growth of the company. We're really on our way and we're really going to take some steps to grow.

RT: What is the most exciting product this year for Tadiran?

RB: I think the most exciting product is the new Coral Sea Softswitch that we have developed with many, many, different, unique capabilities that are based on our prior experience and the actual core technology that Tadiran has had for many, many years. The Coral product has evolved and has really become a product that can compete with the Avayas and the Nortels.

That experience is really going to be shining through when compared to market leaders, but I think our take will be more of the functionality and redelivering the solutions that the customers really need, more of the applications on top and how you tie them all together, and that comes from the core design; it's all based on prior experience.

So, I think it will shine when people will go and see the functionality of it as compared to bigger names than Tadiran — granted, there are much bigger names — and they will see the difference in the product.

RT: For the last year, Tadiran has been marketing without the aid of a large distribution partnership. What has that change meant for your company and your business?

RB: It has only been for the better and we are doing much better financially in the U.S. then we did before. We have also been distributing through partnerships around the world, which were not before. We have really been able to brand and market our product. We have been able to show the product for its capabilities. In that respect, we like our independence. We feel that we can definitely make the changes that are needed to grow our footprint, specifically in the U.S.

Internationally, we added a partner in India, and that market is growing very nicely. We had growth in China, and we had growth in Russia. These are independent channels that we are growing based on our activities and based on our product, and that speaks volumes.

Really, on an ongoing basis, it's about creating market demand, and I think we have not been doing anything other than creating the right programs that will allow our partners to succeed together with us. And what are we doing? We are growing market share, step by step, creating the program, making sure that people see it, being in front of them, sending them marketing notes, sending them the notices. It's little by little, but the results are in the numbers.

RT: You have a government division; how do recent government purchases differ from the private sector?

RB: The government is a different business. In fact, it's really not a business at all. The government is driven by

Go To Table of Contents | Go To Ad Index

demand, and you don't know if the seeds that you're sowing today will bear fruit three months from now — which is wishful thinking — or three years from now.

At the government level, you have to be at it every day, three hundred days a year. You have to promote. You have to push. You have to fill out many, many forms. But if you are willing to invest the time and the money and the effort, it comes back to you, and that's what we've been doing the last few years, and our government division has been growing because of it.

Government business is not something you can succeed at simply through a marketing scheme. It's not like selling cars, where you can drive business by offering zero percent financing. It can't be driven by a $299 sticker for the month on a car. Rather, it has to be done by matching their requirements. They have very strict protocol. You have to make sure that you comply, and when you do that, they have their standards, which are regular standards, but they adhere to them and they don't buy anything other than standards-based technology. If you're willing to go in and base your technology around that and put the manpower behind it and provide the support, which is most important, then you will see results. We are seeing it and we have been very fortunate in that.

RT: How about the international sales? Are they following the same needs as U.S. customers?

RB: We have been growing our international business every year since I joined in 2001. I think the international market holds great potential for Tadiran. The real market drivers are Eastern Europe, including Russia. There are places that we have new partners, in countries where we didn't have a presence a year ago, like Romania and some others. People are joining and buying technology today that they didn't have exposure a year ago.

In China, we've gone to market with a subsidiary. We are in the Indian market, which is very competitive, we grew ourselves very nicely there with the addition of a nice distribution channel.

While I know, many of our competitors are pretty much stagnant internationally, we are growing, and I think it's because we have local, what I would call, catering. We cater to the specific needs of customers in these countries and try to accommodate them as best we can. We try to do whatever we can to make sure that our partners are happy and they can resell our product, and we stand behind it.

That is really the added advantage of doing business with Tadiran. We try to be very accommodating and flexible when it comes down to it. We don't do everything, but we really try to develop, and at least put on our road map, things that they require. Most times, if something makes sense, it can also be used elsewhere and is added to the next release. Later on, these enhancement help us elsewhere in the world.

SMS, for instance, was an entry that was requested from the European market, to do SMS messaging to our DKT telephone. It's available today, and now it's sold not only in Europe. So, if it makes sense, then it's inserted usually by the next release. We listen to our customers, and if their requests make business sense, we act on them.

RT: Are you relying on partners as well?

RB: We have partners in most places. They're individually owned and sometimes they resell to dealers locally. Most of them are a single shop, but they sell through others, representing us, if you will. We've been successful with that arrangement. It certainly has be easier to support a master dealer, a master distributor, a master partner, instead of supporting all of them from where we are. It's easier end customers to get the local support from whoever sold it to them — of course, if necessary, we will get involved.

We have a few offices in China in independent offices that are owned by us. We also have a rep office in Russia, which is ours and services the dealers there. And, needless to say, we have our U.S. exposure right here from Port Washington. We have the government office in Washington, D.C. We have our marketing and support office in Florida. We have places around the world, and then that's where we support our product from, support for sales, not just tech support.

RT: Are you still looking for resellers around the world?

RB: Tadiran is always looking for resellers, but it is really resellers that make sense, resellers that represent peak business opportunities for Tadiran — one of the assets that we have is loyalty. Very few companies Tadiran has done business with have left and, if they did, they've left because of corporate acquisition, where the acquiring company had a previous arrangement with someone else. Still, most of them are still doing business with us, even if they have been bought. They have an installed base and an interest in continued business with Tadiran.

We hold an annual meeting for our partners, where we show them what's new and exciting. It's a great session for networking and hearing success stories from one side of the globe to the other. It's a great tool to generate excitement and create focus on a particular product.

RT: What will be your biggest challenges for the next 12 to 24 months?

RB: We want to make sure that our reputation subsists and that the quality of our product and our users' satisfaction level remains high with the Coral Softswitch. To me, number one is customer service and really making sure that people are happy with this release. It is the most exciting product for Tadiran for the near future and, perhaps, even long term.

I do believe that the upgrade path that we provide will allow our customers to use most of their existing hardware and add provisions to move forward, but the challenge will be to make sure

that they are happy with the new solution, as happy as they were — which is probably the reason that they decided to migrate and go forward with us.

But I do envision growth. We're preparing a new mainframe and new exposure with e-business — all for our partners to be able to get more of us 24/7/365. It's a challenge to make sure that, while we're preparing and gearing ourselves for new heights and different levels, that we still are functioning on a day to day basis, without hurting our business. You want to make sure that you deliver at all times.

So, it's very exciting to me. The challenges are there. There are day-to-day challenges; there are long term challenges, as with any different business; there are different cultures to manage, especially if there's a different distribution channel. I've seen cultures that don't match, and we have to make sure that the cultures match. There's a lot of work ahead of us, so it's not going to be boring. It hasn't been boring, but it's going to definitely get busier.

RT: Tadiran is known for providing upgrade paths for customers rather than recycling with something completely new. Is this still the practice?

RB: That is the practice. While we can't guarantee that any different product that was sold at any given time is migratable, most of them are. You may have to change some common card to make an old TDM digital switch become a new gateway to the future with IP connectivity, but it should be relatively easy.

RT: I would imagine you didn't have IP connectivity 15 years ago, right?

RB: No. But the ability to use the technology was originally designed 15 years ago, and to use it as a gateway is, in my book, pretty creative. We don't believe in going back to our users through our partners and saying, do you remember that product? Let's move on. Let's go forward, and here it is, new and exciting.

One of the nation's largest retailers has been a user for many, many years of the Coral product, I think starting as early as 1989. They had, at one point, about 900 systems nationwide, and about five years ago, with the changes in the industry, someone said to them, "You're a Fortune 500 company. You need to use a Fortune 500 supplier." They hired a consulting firm to understand what they needed to so, and they chose another system. However, a year ago, they were told the switch was no longer available to expand systems, nor was it upgradeable. So, being rather upset, they called us in to see what we could offer.

We have recently completed a presentation to their communications department that seemed to raise eyebrows, because, while we may need to take out a system that is only two years old, but we'll be able to control everything with the Coral Sea SoftSwitch. To me, that's proof positive. If they say, "Wow! It's very interesting," it says something about our company and it says something about the product. And while we didn't win this yet, at least we've opened their eyes and we're in the running.

Why? Because they have a good business case, and they want some special attention — and they will get it from Tadiran. Tadiran will accommodate them a year later, even when it doesn't have a new release. If it makes sense, if it will be re-used elsewhere, because most of the time, when people tell you, "I wish I had this," more than one customer needs it. People don't need unique applications — what one company needs, many others are also likely to need, and, ultimately, the market needs it. That's the best way to develop.

Tadiran is built of people, not computers — people who give answers, people who are obligated to really support their customers, and I think that's really what sets us apart. I mean, we are a company based on relationships, and the longer the relationships, the deeper the relationships go, the more committed both parties are, and that's the important ingredient. If people feel they are being supported, if they feel they're being heard, they come back.

RT: What mistakes do you see companies making when they are rolling out VoIP applications?

RB: I think the biggest mistake people do is they don't analyze their network before they go into VoIP. They think because they have connection to their PC, they can just use it. They don't analyze their network usage. They don't analyze their potential quality of service, the busy times, the traffic times.

I think people are not as educated as they need to be. You have to educate both the channel partners and the end users in order to get the right solution. You have to prerequisite or pretest and design the system to be able to support all your applications.

Soon, video is going to be flooding the market. What are they going to do with this? You can do all you want, but at the end, if you have a bottleneck, you're going to die with that bottleneck, and then the finger pointing begins. People point at each other, and then, by the time you find the pollution, there is a very irate end user on and a frustrated partner, and sometimes, it's lack of knowledge on both sides. So, education is, by far, the most important thing. It's a matter of design. If you design it right, there's no problem.

RT: Any final comments you want to leave us with?

RB: Honestly, I think it is a great era for Tadiran and I'm pleased personally to be associated with the company, but right now, at least as a core focus, the direction is there. It's here to touch and feel, so I am excited. I wake up in the morning and I want to go to work and people see e-mails from me in the wee hours of the night, crazy hours, because this really is an exciting time for us as a company, and I'm glad to be part of it. IT

Go To Table of Contents | Go To Ad Index

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Dual Mode Handsets

The dual mode handset market — handsets capable of seamlessly switching between cellular and WiFi networks — promise unparalleled mobility options for users. With these devices, customers will not only be able to save time by remaining connected, but they also will be able to save money by connecting through WiFi networks, which are being deploying in cities worldwide. Indeed, some reports indicate the market for these devices will eclipse 100 million by the end of this decade, making it a seemingly lucrative opportunity for handset producers.

Naturally, there are challenges involved, as is always the case with cutting edge technology. Battery life has been one hurdle, though most manufacturers now promise upwards of 100 hours of standby time. Cost, of course, is also a major obstacle. These devices will not be inexpensive, at least not for some time, so it may well be that businesses willing to outlay the cash to better enable their workers to communicate on the road will drive the market for these handsets, at least initially. Perhaps most importantly, to maximize the functionality of these devices, the proper switching infrastructures must be in place to take advantage of the seamless transitioning capability.

For business users and consumers alike — and they ultimately become one and the same — the following is a selection of devices that feature dual mode technology. For more information about the devices, please contact the manufacturers or carriers.

BroadVoice Falcon
http://www.broadvoice.com

BroadVoice's (news - alert) dual mode wireless VoIP/GSM phone, which it calls "Falcon," allows users to take advantage of BroadVoice's unlimited VoIP calling plans using WiFi networks, but allows users to also make calls on cellular networks when outside WiFi coverage.

Once a BroadVoice customer buys the Falcon and activates a phone number, he can begin making and receiving SIP-based VoIP calls over WiFi immediately. As soon as the customer plugs in a standard SIM card GSM-based cellular carrier, he will be able to make cellular calls as well. Calls to either the BroadVoice number or the user's cellular number can be received on the Falcon.

With BroadVoice's E911 capabilities, the integrated Falcon also becomes completely E911 compliant.

BroadVoice announced the Falcon in April, and said the device would be available sometime this summer.

Calypso Wireless
http://www.calypsowireless.com

The sleek C1250i video phone is Calypso Wireless' (news - alert) WiFi/cellular handset. The phone features Calypso's patented ASNAP technology, which enables the seamless roaming of voice, video, and data between Wide Area Network APs, such as cellular towers (GSM/GPRS/EDGE, CDMA, WCMDA) and short-range Internet APs (such as WiFi and Bluetooth) to deliver seamless connectivity to mobile phones, PDAs, and mobile devices.

With the C1250i, users will no longer have to waste precious time to simply send or receive a single still picture or download a graphic intensive Web page. The C1250i connects to the Internet at broadband speeds of 11 MB per second. The unit runs on an Intel PXA series application processor and Microsoft WinCE 5.0 OS.

Go To Table of Contents | Go To Ad Index

In addition, C1250i's 30 frames per second video capabilities make phone-to-phone video conferencing simple. The built-in digital camera also enables users to capture all of those special moments and share them instantly with friends, family, and colleagues, as they happen.

Cingular 8125
http://www.cingular.com

Cingular's (quote - news - alert) 8125 smartphone is a quad-band (GSM 850/900/1800/1900) world phone with integrated Bluetooth, WiFi (802.11b), and EDGE support. It sports a full QWERTY keyboard hidden behind the slider design, and supports real-time push e-mail with the addition of Microsoft's Messaging and Security Feature Pack. For the mobile workforce, that needs to get work done on the road, the 8125 enables it.

The 8125 runs on a 200 MHz OMAP 850 processor running MSWindows Mobile 5, including mobile versions of MS Office applications. The device also includes the ClearVue PDF viewer, which allows users to open PDF files on the 2.8-inch display. The unit supports both corporate and personal e-mail using Outlook Mobile or one of the various other e-mail applications supported. By connecting to a PC with the included USB cable, users can synchronize calendar and contact information with ease.

In addition to allowing up to 12 entries per contact, the device also allows users to add a photo ID for contacts, include them in caller groups, or specify a ring tone.

Nokia N80
http://www.nokia.com

The N80 is Nokia's (quote - news - alert) first smartphone to simultaneously offer 3G and quad-band GSM, also throwing in EDGE for high-speed data transfers in areas where 3G is not an option, as well as wireless 802.11g. The N80 takes aim at the digital home with its support for the UPnP (Universal plug and Play) protocol, which enables simplified exchange of media between devices in a home network.

The N80 supports the new Nokia Web Browser with Mini Map, providing a semi-transparent zoomed-out overall view of Web pages for simplified navigation. This runs in tandem with the high-resolution, 2.1-inch display of the device, which features the 325 x 416 resolution and a 262k color depth.

The N80 also features a three megapixel camera, which can record still images as well as video that can be stored either to the 40 MB of onboard memory or to a miniSD memory expansion cards, which are available with capacities up to 4 GB. The installed music player supports MP3 and WMA formats as well as AAC, and also includes a FM tuner. A USB 2.0 connection is available for high-speed wired data transfers and the presence of a front-mounted 0.3 MP camera enables video calls.

Paragon Wireless
http://www.parawireless.com

Paragon Wireless (news - alert) began selling its WiFi/cellular dual mode phone in the United States earlier this summer. The handset, call the "Hipi," uses GSM and GPRS for its cellular connections, and WiFi for wireless network connections, including support for SIP-based VoIP communication.

The phone is capable of seamlessly transitioning between cellular and WiFi connections, but, because the central office equipment required for that capability is still rare, most users will, for now, have to choose between VoIP and cellular calling each time. With the right infrastructure, of course, automatic seamless handoff becomes a reality.

The unit supports a complete set of PDA functions, including a Web browser, e-mail, a calendar, and a camera, and is based on an Intel PXA271 processor running Linux. The phone operates using a touch-pad that works with the press of a fingertip. There are a QWERTY keyboard and a number pad available on the phone's touch-screen. The screen will also perform handwriting recognition in English and Chinese, and a stylus is hidden in the bottom of the phone for this purpose. The Hipi also comes with a wealth of smartphone features, including the ability to record and play video and to play MP3 files.

Pirelli Broadband Solutions DP-L10
http://www.pirellibroadband.com

The Pirelli (news - alert) Discus DualPhone DP-L10 is a dual-mode GSM/SIP WiFi handset, combining triband capabilities with the support of SIP VoIP via an integrated WLAN 802.11g interface. The DualPhone works like a standard cell phone — any GSM SIM card will work and cell phone features such as SMS, MMS, e-mail, and Internet browsing are easily enabled.

The unit is designed to switch between GSM and WLAN VoIP networks, either automatically or as specified by the user, providing the combination of a mobile and a cordless broadband phone.

Pirelli's software supports seamless roaming, zero touch registration, and remote manageability, and the unit is designed to operate in a multi-vendor, standards-based environment.

Pirelli's SIP WiFi serviceoriented portfolio includes Pirelli's AWR WLAN extender, a self-configuring WiFi repeater supporting extended indoor coverage and seamless WLAN roaming; Pirelli's Multiplay Access Gateways, delivering dual mode phone QoS and service provisioning; and Pirelli's PMP Management Platform, a TR-069 remote management system that supports the provisioning, diagnostics, and software upgrades for the entire Pirelli FMC suite.

Quorum Systems Sereno UM-1
http://www.quorumsystems.com

Quorum Systems, (news - alert) in collaboration with Analog Devices and TTPCom, offers the Sereno UM-1, a GSM/SIP-based Voice over WiFi dual-mode handset. Housed in a small form-factor clam-shell design, the UM-1 is based upon Quorum's unique QS2000 single-chip bulk-CMOS multi-mode transceiver.

With Quorum's Multi-Access Technology (QMAT) at the heart of the device, the Sereno UM-1 has more than double the WiFi range for voice applications when compared to today's cordless VoIP. In cellular mode, the technology also provides increased talk and standby time while enabling seamless handoff between cellular and WiFi networks.

The UM-1 fully supports concurrent operation of 802.11 b/g and GSM/GPRS/EDGE for both voice and data applications and is optimized for VoIP over WiFi connections. It also features multimedia capabilities, such as 64-tone polyphonic ringer, SMS/EMS/MMS messaging client, a 262k color main display, and WAP2.0 compliant browser.

Perhaps most notable about the UM-1 is that, unlike some comparable designs, it is said to make GSM/WiFi capability available for less than $100.

Go To Table of Contents | Go To Ad Index

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Samsung SGH-P200
http://www.samsung.com

Samsung's (news - alert) SGH-P200 is an Unlicensed Mobile Access (UMA) phone, which allows for seamless handover between cellular networks and WiFi (802.11 b/g) hotspots. As such, it is capable of freely switching between GSM, GPRS, EDGE, and wireless LAN networks voice and data communication in both mobile and fixed environments. With the P200, users can engage in high-speed large-capacity data communication or VoIP, either via a cellular network or a local WiFi connection.

The P200 features a sophisticated slide-up design and several cutting-edge features, including a 1.3-megapixel camera, camcorder, multimedia messaging system (MMS), and MP3 and file viewer functionality.

The handset has a 1.9-inch 262k-color TFT screen and includes 80 MB of embedded memory.

Shanghai Simcon
http://www.sim.com

Shanghai Simcom, (news - alert) a subsidiary company of SIM Technology Group, and Kineto Wireless are together developing a UMA-enabled mobile handset. Simcom will integrate Kineto Wireless' UMA client software into dual mode (GSM/EDGE and WiFi) handsets.

Following testing of the device, the result will be a handset that conforms to 3GPP standards and UMA specifications, which together will enable seamless mobility between WiFi and GSM networks.

Sprint PPC-6700
http://www.sprint.com

The powerful and feature-rich Sprint (quote - news - alert) PCS VisionSM Smart Device PPC-6700 runs on Windows Mobile 5.0 and sports a smaller and lighter form factor than most traditional Pocket PC devices. The unit has multiple ways of connecting: built-in EV-DO, WiFi, CDMA, Bluetooth, USB. The unit is powered by a 416MHz Intel processor and includes 128MB of SDRAM, providing enough power to run programs and phone functions quickly and smoothly.

The attached QWERTY keyboard can be accessed by sliding the entire front face of the device to the side, while the screen simultaneously switches to landscape mode. The unit comes with a 1.3 megapixel digital camera and camcorder. A mini SD card can be added for extra storage space, which also is useful when transferring music, video, or additional applications from a desktop PC. The Sprint PPC-6700 measures 4.2 x 2.3 x 1 inches and weighs a mere 6.1 ounces.

For e-mail support, the PPC-6700 offers synchronization with Outlook and Microsoft Exchange Server, and also allows access to POP3 and IMAP e-mail clients. As a bonus, Sprint includes the AudiblePlayer application

Go To Table of Contents | Go To Ad Index

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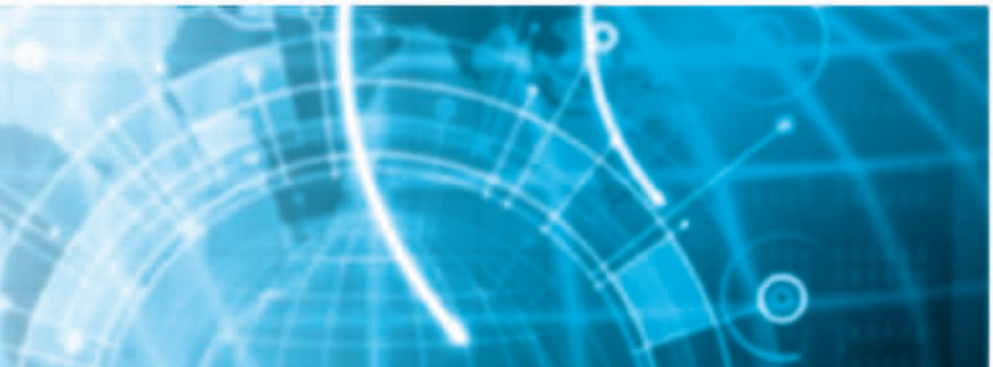

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T-Mobile MDA
http://www.t-mobile.com

The T-Mobile (quote - news - alert) MDA features a full sliding keyboard to make the most of its GSM, GPRS, EDGE, and WiFi (802.11b) connectivity options, which make it easy to jump onto available hot spots, manage messages, open and edit documents, surf the Web, or listen to music.

The unit has a 2.9-inch display, and measures 4.3 x 2.3 x 0.9 inches. The MDA runs on Microsoft's Windows Mobile 5 OS, which includes Microsoft's Mobile Office suite, including mobile versions of Outlook, Word, Excel, and PowerPoint, plus mobile Internet Explorer and Windows Media Player. With an upgrade to Microsoft's Messaging and Security Feature Pack, users will have available true push e-mail and real-time contact, appointment, and mail synchronization with Exchange servers.

The MDA also acts as a world phone with its quad-mode GSM abilities, and can access T-Mobile's EDGE network for download speeds up to 135 kbps.

Thuraya SG-2520
http://www.thuraya.com

While the Thuraya (news - alert) SG-2520 is not WiFi compatible, it does offer unparalleled global connectivity with its dual mode GSM/satellite connectivity — which means that you can use it anywhere in the world: in the middle of an ocean, inside a cave, in the Amazon, or in the middle of the Mojavi Desert.

In addition to tri-band GSM and satellite coverage, Thuraya also offers GPS features in its lightweight, elegant and easy to use handset, which also supports data, fax, and short messaging services in addition to voice communication — which means that users can easily conduct business regardless of where they are traveling. When the unit cannot connect via a GSM network, it will switch to satellite mode by connecting through an artificial satellite, which results in no extra roaming costs to the user.

The SG-2520 also includes several added features not available on many other satellite phones, like an integrated MP3 and video player, 1.3Megapixel camera, Bluetooth connectivity, both infrared and USB communication, and a 1.9-inch full-color hi-res screen.

Winstron NeWeb Corp. GW1
http://www.wneweb.com

Taiwanese manufacturer WNC (Wistron NeWeb Corp.) (news - alert) specializes in advanced wireless communication. Late last, the company began mass production of it candybar style GW1 GSM/WiFi dual mode phone, which provides users the ability to automatically switch between VoIP and traditional voice over GSM. In addition its dual mode telephony, the GW1 also features IPTV capability, MP3 playback, Web browsing, and POP3 e-mail. For CDMA users, WNC also offers a CDMA version, which also adds GPS functionality.

The GW1 features "always on" signal coverage with its support of WiFi and GSM coverage, including an Internet browser, allowing for sending of e-mails or Web browsing. The GW1 also supports Instant Messaging, the latest craze in mobile communications. The embedded memory provides for mass storage, including music that can be played using the handset's MP3 player.

The main display on the GW1 is a 2-inch 262k color TFT LCD. The handset itself measures 4.2 inches by 1.7 inches and is a mere 0.7 inches thick. IT

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This special edition of *Internet Telephony* contains a truly special feature, our list of the **Top 100 Voices of IP Communications**, as selected by the editors. There was no lobbying for a spot on this list. The editors simply sat around the conference room table and went through the names of many of the more influential, significant, groundbreaking individuals with whom we have had the pleasure of working since the magazine's inception. Some are CEOs who have led their companies through thick and thin. Some of the executives are responsible for honing the marketing messages and business plans that have helped their companies achieve great success in this market. Some of them I have met but once or twice over the course of nearly a decade, while others I see much more often than that. Some of them have become the individuals I seek out to pick their brains regarding industry trends. Some of the people on this list are regular contributors to *Internet Telephony*. Others have shared their thoughts on a handful of occasions over the past 100 issues.

One thing the people on the list have in common is that each has influenced my knowledge and my understanding of the industry to some degree, and each has done infinitely more to promote and grow the industry through their insights and contributions than anyone will ever truly comprehend.

While 100 might not seem like a very small number, the fact of the matter is we had a difficult time paring the list down to that limit. There are a number of executives who made it onto the bubble, so to speak. We even considered running a list of the most influential public relations teams, and analysts and journalists, without whom this industry would be a very well kept secret. At the end of the day, we chose who we felt best represented the Top 100 Voices of IP Communications, as seen through the eyes of our editorial team. Several of us who gathered to make this list have been with the publication since its very first issue. I'm sure I speak for the entire *Internet Telephony* editorial team when I say congratulations to those individuals who made our list. Without your efforts, this industry would not have reached the level of success it is enjoying today. And for that we thank you.

– Greg Galitzine

Go To Table of Contents | Go To Ad Index

Michael Powell, Chairman, FCC (2001–2005)

As chairman of the Federal Communications Commission, Mr. Powell set out to bring FCC regulations into the 21st Century and to recognize the move of voice, video, and data technologies away from limited analog platforms to powerful digital applications that bring more value to the public. He focused on initiatives that encourage market-driven solutions that promote consumer interests. He supported new methods of deploying advanced services through the use of new alternatives such as power lines, unlicensed wireless devices and other technologies that would expand affordable broadband options to all Americans regardless of their geographic location.

Powell is perhaps best remembered for articulating a series of non-discrimination principles which he dubbed the principles of "Network Freedom." In a speech at the Silicon Flatirons Symposium University of Colorado in Boulder (February 2004), Powell stated that consumers must have the following four freedoms:

- Freedom to access content.
- Freedom to run applications.
- Freedom to attach devices.
- Freedom to obtain service plan information.

According to Powell, "...the possibilities for consumer empowerment extend beyond devices. These possibilities arise from the Internet's open architecture, which allows consumers to freely interact with anyone around the globe."

John Sununu, United States Senator

John Sununu first ran for public office in 1996, winning election in New Hampshire's First Congressional District and serving three terms in the U.S. House of Representatives. The Senator brings an extensive background in science, engineering, and small business to his work in Washington.

Sununu believes the nation's telecommunications industry holds potential for tremendous growth and innovation provided it has the appropriate regulatory framework and is kept free from the stifling forces of taxation.

Senator Sununu understands these principles, and has taken a leadership role on Capitol Hill in bringing them to bear on two specific areas — broadband voice and the Internet.

He believes that subjecting VoIP or broadband voice to individual state jurisdictions is the wrong approach, and one that would hamper investment and slow its deployment to consumers. During his tenure in the United States Senate, Sununu has been effective in ensuring that telecommunications tools including broadband voice and the Internet are able to flourish through legislation such as the Internet Tax Non-Discrimination Act of 2003 and The VoIP Regulatory Freedom Act of 2004.

John Ensign, United States Senator

Senator John Ensign has served the people of Nevada from his days as a veterinarian, small business owner, and U.S. Congressman to his present role as the 24th U.S. Senator for Nevada.

Senator Ensign was elected to the U.S. Senate in 2000 and serves on the Science and Transportation committee among his other responsibilities. Ensign is Chairman of the Subcommittee on Technology, Innovation and Competitiveness of the Commerce Committee. In addition, Senator Ensign chairs the Republican High Tech Task Force, which was established to serve as a portal for those in the technology community, where their issues can be heard, addressed, and disseminated among other members of the United States Senate.

Senator Ensign introduced legislation designed to update the nation's telecommunications laws and increase choices for consumers. The Broadband Consumer Choice Act of 2005 was unveiled July 27, 2005.

"We must not allow government regulations to be an anchor on the advance of technology if we want America to lead the world in the information age," Ensign said at the time. "Americans' ingenuity and creativity can provide more choices for consumers if government bureaucrats will get out of the way and allow our companies to compete."

Bryan R. Martin, 8x8, Inc.

Bryan R. Martin is Chairman and Chief Executive Officer of 8x8, Inc. (news- alert) Through the years, Martin has served the company in a variety of corporate and engineering capacities including President, Chief Operating Officer, Chief Technical Officer and Senior Vice President, Engineering Operations. He has been a member of the Board of Directors since 2001.

According to Martin, "IP communications is not just about the freedom to enjoy lower phone bills, it's about the things that you cannot do with a legacy, copper line. Videophones, virtual numbers, find-me/follow-me services, and virtual software telephones... these inventions enable you to see your kids every night when you travel on business, or to customize your own telecommunications services and applications to suit the needs of your business."

A publicly traded company, 8x8 is the provider of the Packet8 VoIP and videophone communications services.

Robert Messer, ABP Technology

Robert Messer believes in IP Communications. He gets it. As Messer says, "IP Communications was the key element for ABP since we founded the company. It's even in our on-line tagline 'ABP Technology — Your single source provider for IP Communications Solutions.'"

ABP Technology (news- alert) specializes in the distribution of high-end technology products in the fields of Information Technology and Telecommunications, concentrating on:

- VoIP solutions based on Open Standards for converged data and voice communications; and
- Ultra Secure Remote Management and Monitoring of IT and Communications Infrastructure.

Based in Dallas, Texas, ABP is committed to VoIP over Open Standards and works with vendors that support interoperable solutions in a multi vendor environment.

According to Messer, "Everything that happens digitally in a converged world will be part of IP communications. Our main focus today is on VoIP but we are already getting involved in Video surveillance over IP, Video conferencing, collaboration including white boarding, and many other fields."

Seamus Hourihan, Acme Packet

Ever wonder where the term session border control originated? With Acme Packet (news-alert) since 2001, Seamus Hourihan is credited with coining the term. In fact, against seemingly insurmountable odds, he recently won the acronym battle against Southwestern Bell Corporation (SBC) when they adopted the AT&T name.

Seamus has served as Vice President of Marketing for Pingtel, and was the Vice President of Marketing for Wellfleet Communications in the early to mid 1990's.

Perhaps looking to corner the market on yet another catch-phrase, Hourihan has lately been talking about enabling "net-vana" — his contraction for 'network nirvana.' According to Seamus, "...net-vana... is creating new ways to collaborate, learn, buy, sell, and socialize. It's moving beyond the tedious typing of e-mail and instant messaging (IM) to a simple click-to-talk and see. It's easy-to-use, presence-based voice, video and multimedia instant communications (IC) with anyone, anywhere, anytime; using any device, wired or wireless."

Alan Pound, Aculab

Alan Pound founded Aculab (news- alert) in 1978 to develop professional mixing desks and sound reinforcement amplifiers, but soon, with the advent of the early PCs, moved into the digital product arena. In 1990 he identified opportunities within the emerging speech processing market and developed a high-capacity digital access product.

Alan is a proponent of IP as a catalyst for change; however he offers the following warning to companies that they should avoid complacency:

"The new applications made possible by IP will mean that the users themselves will diminish TDM. There will be a turning point when IP will really gain some momentum and when overnight, being a supplier of TDM will simply not be enough to stay in business. Some of the largest businesses in the world now need to reinvent themselves and quickly, or risk extinction. Clearly, the opportunities for both new entrants and the 'fleet of foot' are immense. IP is the greatest driver for change that this industry has ever seen, with rich media content entering every facet of modern life."

Mike Quigley, Alcatel

It's rare these days to come across an executive who has spent any substantive length of time with the same organization. Working one's way up through the ranks to end up at the helm of the company is a story that we don't hear too often any more.

Currently President & Chief Operating Officer of Alcatel, (news-alert) and member of the Executive Committee, Mike Quigley started his career in 1971 in Alcatel Australia, — ITT Australia at that time — as part of his scholarship.

He first spent ten years in R&D. In the 80's, he moved into senior positions in Manufacturing and Quality and then into senior roles in Marketing and Sales. During this period, Mike was involved in almost every product area of Alcatel, from customer terminals and Enterprise solutions to submarine optical systems and network switching.

In 1996, Mike was appointed General Manager responsible for all of Alcatel's activities in Australia and New Zealand.

In 1999, Mike moved to the USA (Dallas) to join Alcatel USA as Chief Operating Officer. He was subsequently appointed CEO of Alcatel USA and then President of Alcatel North America. In 2003, he was also appointed President of the fixed communications activities.

Jonathan Shapiro, Alliance Systems

(news- alert)

Jonathan Shapiro is a twenty-year veteran of the communications industry and one of the earliest evangelists for Open Communications Systems. It's an established fact that it takes a good understanding of history in

Go To Table of Contents | Go To Ad Index

order to plan for a successful future. And being an integral part of that history helps to inform that future vision.

According to Shapiro, "IP Communications began as a method of leveraging the packet network to converge voice, video, and data and eliminate the need for separate networks. Only because TCP/IP was widely accepted did it become the delivery mechanism of choice for convergence. Today, IP Communications has revolutionized the way we access content — anytime, anywhere, and with any IP device. This convergence on the IP network is now driving IPTV and mobile TV as well as the convergence of fixed and mobile wireless technologies. IP Communications is the enabling force behind these new methods of content access and delivery."

Ragui Kamel, AOL Voice Services, AOL

As Senior Vice President and General Manager for the AOL (quote - news- alert) Voice Services Group, Ragui Kamel is leading AOL's integrated voice business and is responsible for P&L, overall market strategy, product definition, product management and the day-to-day operations for AOL's suite of Voice Services Products including: AIM Phoneline, AOLbyPhone, AOL Voicemail, and AOL Call Alert.

A veteran of the convergence of telephony and computing, Kamel first discussed the topic in 1989 while guest editing an issue of IEEE Computer on Voice in Computing. Many of the items talked about at that time are now coming to life with many of the VoIP products available in the market today, such as AIM Phoneline.

When asked about the significance of IP, Kamel responds simply, "IP is about freedom and user control."

"Of course," he continues, "it's also about efficient use of network resources, faster time to market, and such, but to me, the freedom and user control is the most world-changing aspect of IP."

Alex Mashinsky, Arbinet, VenturiFX

Born into Communism, reared under Socialism, and now thriving under Capitalism, Alex Mashinsky has long been involved in the international telecommunications industry. As the Managing Partner of VenturiFX, (news- alert) an early stage venture capital firm, Alex founded several companies including Qlimo in 2002, Qwireless in 2001, Elematics in 2000, and Arbinet in 1996, where he served as its CEO until Jan 2000. Alex has proven his ability to identify the winning trends, build a powerful intellectual property portfolio and bring together winning teams to build world-class companies. He has raised over one hundred fifty million dollars to help position his startups as leaders in their fields.

On the significant differences between IP networks and the legacy circuit-switched networks they are displacing, Alex has this to say, "The IP network was born and developed on shared global open standards, unlike the PSTN which was a closed monopolistic network. The transition of telecom services to the IP network profoundly changes what can be offered and who can access such services.

"The pace of development in IP communications is several fold faster than anything we were used to on the PSTN side and it is available on the same playing field worldwide. In the PSTN era it would have been impossible for a few guys in Estonia to come up with an application that 70m people would find irresistible but Skype has done it in two years on a typical IP communications platform."

Hossein Eslambolchi, Ph.D., Venture Partners

Hossein Eslambolchi is chairman of 2020 Venture Partners, (news- alert) which provides technology and operations consulting to private equity firms and venture capitalists in the area of telecommunications infrastructure. He was CIO and CTO of AT&T, as well as president of AT&T Labs until 2006, where he led the transformation of the company's network, systems, and services. Upon his departure from AT&T, *BusinessWeek* called him "a critical player in maintaining AT&T's status as a technology leader" (Dec. 30, 2005) and noted that he is "a bold, but pragmatic, visionary." The editorial staff of this publication agrees.

Since we launched *Internet Telephony* magazine we have always maintained that "it's all about the applications."

Eslambolchi concurs with that vision. "IP communications is the key enabler that decouples applications from infrastructure build," he says. "IP opened the innovation pipeline in applications since it broke all the barriers associated with building applications and distributing them to end-users regardless of geography or devices used.

"IP enables unfiltered access and production of content. We get what we want, when we want it, and we can produce it too... To sum up: IP puts the world at our fingertips!"

Shabtai Adlersberg, AudioCodes

Shabtai Adlersberg co-founded AudioCodes (news- alert) in 1993, and has served as Chairman of the Board and Chief Executive Officer since inception. Mr. Adlersberg co-founded DSP Group, a semiconductor company, in 1987. From 1987 to 1990, Mr. Adlersberg served as the Vice President of Engineering of DSP Group, and from 1990 to 1992, he served as Vice

President of Advanced Technology. As Vice President of Engineering, Mr. Adlersberg established a research and development team for digital cellular communication which was spun-off in 1992 as DSP Communications.

Mr. Adlersberg also serves as Chairman of the Board of Directors of Natural Speech Communication Ltd. and as a director of MailVision Ltd and CTI Squared Ltd. Mr. Adlersberg holds an M.Sc. in Electronics and Computer Engineering from Tel Aviv University and a B.Sc. in Electrical Engineering from the Technion-Israel Institute of Technology, or the Technion.

Alan Percy, AudioCodes

Mr. Percy is Director of Business Development at AudioCodes, (news-alert) a leading provider of Voice over IP Telephony enabling technology and systems components. Percy joined AudioCodes in July 2001, bringing over 15 years of experience in the telecommunications, networking and wireless equipment industries.

Alan is a thought leader who played a major role in helping TMC conceive and implement our first VoIP Developer Conference, an event which has grown every year since its inception.

Alan Percy believes that we are just beginning to grasp the true significance of IP communications: "In their early days, who really understood the power of e-mail, chat, Web, and other now widely used applications for IP? Would anyone think back just a few years ago that today we'd have to limit our kids 'computer time?'

"I truly believe that voice and video over IP will open windows to new applications that will fundamentally change where we work, the way we communicate, and how we entertain ourselves."

Michael Thurk, Avaya

Michael Thurk is Chief Operating Officer of Avaya. As a member of Avaya's executive team for the past four years and most recently as President of Global Communications Solutions, Thurk has helped lead the company's efforts to develop and offer converged communication solutions to meet businesses' needs worldwide. His broad experience in all aspects of data and IP communication has enabled Avaya to successfully collaborate with customers to assure current communications needs are met while providing customers with a leading edge vision for the future.

As you can imagine, Thurk is bullish on VoIP. "VoIP will arguably be one of a very few highly transformative technologies of the 21st Century," he believes. "Businesses and organizations are just beginning to understand the value resident in blending voice and data applications — value that goes far beyond simply reducing costs and providing dial tone. VoIP enables communications to be more malleable, to be embedded with business applications, to evolve from the basic voice over a data network to provisioning Intelligent Communications. Intelligent Communications builds on VoIP, moves beyond unified communications and siloed business applications, leverages event-driven architectures and will change how business and work gets done."

Michael J. McHugh, BEA Systems, Inc.

Mike McHugh is Vice President and General Manager, responsible for driving the WebLogic Communications Platform. Chartered with creating customer success in telecommunications, Mr. McHugh has grown a telecom network product team and portfolio inside BEA — (news-alert) a company primarily known in the telecom industry for BSS and OSS platforms. The WebLogic Communications Platform is an innovative approach to help the telecom industry move to next generation services.

"The ubiquity of IP services and the convergence of voice and data are powering a new age of communications," he says. "Just as the advent of the telephone, followed by mobile voice, permanently changed our lives, IP communications are revolutionizing our lives today.

"Within IP communications, voice is just one medium. Because of IP technology, we may soon see a time when the content of our communication — what we wish to say and how we wish to say it — is without compromise."

Scott Wharton, BroadSoft, Inc.

As BroadSoft's Vice President of Marketing, Scott Wharton leads the company's marketing strategy, product marketing, and corporate marketing initiatives. Prior to BroadSoft, (news- alert) Wharton was Vice President of Marketing at VocalTec Communications, an early pioneer in the IP communications space.

Wharton believes that the IP in IP Communications acts as something akin to 'the Great Equalizer,' enabling the masses to take advantage of those features and functionalities that were once solely in the domain of the tech-savvy.

As Wharton says, "IP Communications will enhance — and change — users' relationships with the telephone, unleashing feature-rich products that will improve the everyday lives of average users. Great features have been available for years, but have been underutilized and undervalued because of the restrictive user interface of a telephone with its 12-button keypad.

"IP Communications changes this by providing easy-to-use interfaces that marry the simplicity of the Web with telecom services. IP Communications moves access of feature-rich communications into the lives and lifestyles of typical home users and business profes-

Go To Table of Contents | Go To Ad Index

sionals. The Web brought the power of the Internet to the masses; IP Communications will do the same for telecom."

J.C. Murphy, Cantata Technology

J.C. Murphy is president of Cantata Technology, (news - alert) a company that was formed through the merger of Excel Switching and Brooktrout Technology. Mr. Murphy has held leadership positions with Excel and Lucent Technologies for over ten years. Before being named Excel president, Mr. Murphy held senior management positions within Lucent, including Vice President and General Manager for the Open Network Platforms group, and Vice President and General Manager of the Softswitch Solutions Group.

According to Murphy, "One of the most significant advantages of IP is that it allows applications to transcend carrier and enterprise networks. Small to medium size enterprises can use IP technology to transport data, instead of using a carrier, and likewise carriers can now offer enterprise applications as managed services. This convergence of enterprise and service provider applications is one of the most attractive features of IP and also one that will keep the industry thriving long into the future."

John T. Chambers, Cisco Systems, Inc.

"Best Investor Relations by a CEO." "Woodrow Wilson Award for Corporate Citizenship." "Most Influential CEO." "The Most Influential Person in Communications." "Man of the Year."

In addition to these other 'labels' John Chambers wears at least one other: President and CEO of Cisco Systems. Since January 1995, when he assumed this position, Chambers has grown the company from $1.2 billion in annual revenues to its current run-rate of approximately $24.8 billion. Chambers has been lauded for his visionary strategy, his ability to drive an entrepreneurial culture, and his warm-hearted, straight-talking approach.

On the subject of the significance of IP Communications, Chambers shared the following thoughts,

"People are communicating with one another through a combination of devices and applications — many applications, many devices, many screens. Now, our challenge is how we take these technologies and create one experience for the user.

"Not too long ago, Cisco (quote - news - alert) was considered radical for pushing the concept of converging data, voice, and video across a single IP infrastructure. Today, we see that vision is truly playing out and changing the way people experience life, and we believe we have only scratched the surface for unleashing its power and significance."

JD Rosenberg, Ph.D., Cisco Systems

Dr. Jonathan Rosenberg is a Cisco Fellow in the Routing and Service Provider Technology Group at Cisco Systems. (quote - news- alert) There, he is responsible for guiding the technology directions for their service provider VoIP products. Jonathan is active in the IETF; he is the lead author of the Session Initiation Protocol (SIP), the inventor of SIP for presence and IM, known as SIMPLE, in addition to other Internet technologies, such as STUN, ICE, XCAP and TRIP. Jonathan received his Ph.D. from Columbia University, and his Bachelors and Masters from MIT.

Rosenberg is a regular columnist in *SIP Magazine* and he serves on that publication's Editorial Advisory Board.

"IP is the unifying factor in giving people a better communications experience," he tells us. "It enables broader reaching and higher-quality communications, such as hi-definition (wideband) voice with excellent quality of service. It enables seamless multimedia development and delivery, including video, text, and IM. It incorporates presence, allowing for more efficient and effective communications and a 'one-number' experience across a multiplicity of devices. It can also provide ubiquitous and seamless mobility. By serving as the foundation technology for converged communications regardless of and including all access types, IP is ultimately improving the way we relate to each other."

Gordon Payne, Citrix Gateways

Gordon Payne is vice president of marketing for Citrix Gateways. In that role, he provides marketing and product leadership for Citrix' (quote - news- alert) customers and partners. Gordon joined Citrix in December 2004, through the $50M acquisition of Net6, Inc., a company that focused on SSL VPN Secure Remote Access and IP Telephony Application Solutions. With Net6, he held the positions of both Chief Marketing Officer and Chief Financial Officer, establishing a strong position for the company leading up to the acquisition by Citrix. Previously with Nortel Networks, he was vice president and general manager of the Call Center/CRM and Enterprise Wireless Business Units.

Gordon subscribes to a theory that the editors of this publication have long held to be true, that saving money as a result of implementing IP Communications is just a starting point. The real benefits come later.

According to Payne, "Although many of the initial benefits of IP Communications have been associated with cost savings, the benefit to users will come to pass as the true legacy of IP

Communications."

Payne continues, "IP Communications enables users to do many things that are just not possible with legacy phone systems. IP Communications provides us with the foundation required for adapting technology around the user, instead of trying to adapt the user around technology. This subtle difference has a huge impact on how well users can, and will, take advantage of new capabilities. We will all be able to communicate more naturally, improving both our business productivity and personal quality of life."

Henning Schulzrinne, Ph.D., Columbia University

Prof. Henning Schulzrinne received his Ph.D. from the University of Massachusetts in Amherst, Mass. He was a member of technical staff at AT&T Bell Laboratories, Murray Hill and an associate department head at GMD-Fokus (Berlin), before joining the Computer Science and Electrical Engineering departments at Columbia University, New York. He is currently chair of the Department of Computer Science. He is a Fellow of the IEEE.

Protocols co-developed by him are now Internet standards, used by almost all Internet telephony and multimedia applications. He is co-author of the Real-Time Protocol (RTP) for real-time Internet services, the signaling protocol for Internet multimedia conferences and telephony (SIP) and the stream control protocol for Internet media-on-demand (RTSP).

Professor Schulzrinne spoke to us about the ability of IP to empower the mass creation of applications and services, and as we have often said, "it's all about the applications."

According to Schulzrinne, "IP communications completes the conversion of communications from analog and circuit-switched to digital and packet-based. Since it uses Internet technologies, it can also empower end users or third parties to create services, rather than waiting for service providers to come up with killer applications.

"For the first time, it is likely that global standards will increase customer choice, rather than encourage national technology islands."

Neal H. Shact, CommuniTech Services

Neal Shact is the founder and CEO of CommuniTech Services (1983), (news- alert) a voice messaging company and CommuniTech (which was sold last year). He was also the founder of the International VoIP Council which later joined forces with the International Packet Communications Consortium (IPCC).

Regarding the significance of IP Communications, Shact shared his thoughts:

"Prior to the advent of IP Communications, voice transmission was tightly coupled with traditional telephone systems. In the first stage of VoIP, voice could be transmitted by PC/Internet technology without using phone equipment. We are just now grappling with what it means when voice emerges as an application regardless of platform or even reside as a subset of other applications. Rich Presence and Unified Communications are ushering in revolutionary changes in the way people communicate that are only limited by our imagination and genuine customer needs.

"I love this business."

Grant Henderson, Convedia/Radisys

Grant Henderson is Vice President of Product Marketing at RadiSys, (news- alert) a leading provider of advanced solutions for the communications networking and commercial systems markets. RadiSys recently acquired Convedia, a global supplier of IP Media Servers, where Grant was co-founder and Executive Vice President of Marketing & Strategy. Grant has over 15 years of experience in the data and telecommunications industries, working with leaders such as Newbridge, Stentor and Bell Canada. Grant is also an industry expert in the areas of IP media processing, audio, and video conferencing.

Manuel Vexler, CopperCom

Manuel Vexler is still building on what by all accounts is an already successful career. Having served at Cisco, AMD, Newbridge (now Alcatel), and Nortel, Vexler brings over 20 years of experience in networking and telecommunications to his role as CopperCom's (news- alert) top technology strategist.

Well known for his expertise in voice and multimedia over IP, he joined CopperCom from the International Packet Communications Consortium (IPCC), an industry organization dedicated to accelerating the deployment of IP communications and related technologies. As vice president of marketing and technology at IPCC, Vexler led strategy development, and, in 2002, he was appointed chair of the SIP Forum Service Providers Working Group.

Vexler thinks that the history of IP-based communications is still in its nascent stages. "IP has enabled innovation at levels previously unimaginable," he says. "IP technology has broken through borders and barriers, allowing individuals anywhere on the planet Earth to connect with one another. IP's transformational power is just starting to show up in business models, regulatory rulings and legislative debates. And the gold rush is not over, as the rules of the new world of IP Communications are still being written."

Go To Table of Contents | Go To Ad Index

Charles Hoffman, Covad

Charles Hoffman brings to Covad (news- alert) more than 30 years of telecom and broadband experience in the wireless, cable, local, and long-distance sectors. Since joining Covad in 2001, Mr. Hoffman has successfully transformed the firm into a leading nationwide provider of broadband voice and data communications.

Prior to this current role, Mr. Hoffman was President and Chief Executive Officer of Rogers AT&T, Canada's largest national wireless service provider, which under his leadership, grew from fourth to first place in a market of four national wireless providers.

"IP communications services, particularly those like hosted VoIP, allow forward-looking businesses to focus on their customers — not their technology — and maintain an edge over the competition," says Hoffman.

"As more businesses adopt a VoIP solution, the incredible flexibility of the IP platform allows providers like us to continue to build VoIP applications that will make traditional phone service seem as dated as the telegraph," he continued.

Gregory Giagnocavo, Dash 911 – E911 for VoIP

Gregory Giagnocavo is a serial entrepreneur, always on the forefront in new technologies. Although the Internet wasn't yet invented when he was at the University of Western Ontario, he's so far established his well-earned "15 minutes of fame" twice, having founded and sold Supernet.com, and Classroom.com for which he invented the first 'live-web-on-CD' process for the education and research community. Gregory's acute sense of The Next Big Thing a few years ago was VoIP and IP communications convergence: Gregory is the co-founder and CEO of, and leads a great team at, Dash911 – E911 (news- alert) for VoIP which provides nomadic E911 for VoIP providers.

Giagnocavo gets excited when people suddenly realize what IP communications is all about. "Don't you just love the moment you see the 'Oh I get it now!' look when explaining the benefits of IP communications? The rewards are just starting to be tallied, especially in global communications environments," he says.

Mark Spencer, Digium

Mark Spencer founded Linux Support Services in 1999 while still a Computer Engineering student at Auburn University. When faced with the high cost of buying a PBX, Mark simply used his Linux PC and knowledge of C code to write his own. This was the beginning of the world-wide phenomenon known as Asterisk, the open source PBX, and caused Mark to shift his business focus from Linux support to supporting Asterisk and opening up the telecom market. Linux Support Services is now known as Digium, (news- alert) and is bringing open source to the telecom market while gaining a foothold in the telecom industry.

Mark strongly believes that every technology he creates should be given back to the community.

According to Spencer, "IP communications liberates communications from the limits of the traditional wire-line system, personally and professionally. IP has had a tremendous impact on the open source community as well, furthering tremendous innovation in the telephony world from unified messaging to collaborative communications and incomparable cost savings."

Meg Whitman, eBay

As president and CEO of eBay (quote - news- alert) since March 1998, Meg Whitman has led the company to become an unparalleled global ecommerce engine. Meg's expertise in brand building, combined with her consumer technology experience, has helped eBay evolve into a leading company that is reshaping online commerce, payments, and communications around the world. And under Whitman's guidance, eBay's purchase of Skype for $4.1 Billion was one of the biggest VoIP stories of 2005 with repercussions still being felt today.

Prior to eBay, Meg was general manager of Hasbro Inc.'s Preschool Division, responsible for global management and marketing of two of the world's best-known children's brands, Playskool and Mr. Potato Head. From 1995 to 1997, Meg was president and CEO of FTD, the world's largest floral products company.

Among Meg's many accolades, *The Wall Street Journal* named her one of the 50 women to watch in 2005; Time named her one of the world's 100 most influential people in 2004 and 2005; Fortune ranked her the most powerful woman in business in 2005 and the most powerful woman in American business in 2004; and *BusinessWeek* has included her on its list of the 25 most powerful business managers annually since 2000.

Niklas Zennström, Skype/eBay

As the CEO and co-founder of Skype, (news- alert) Niklas Zennström sets the strategy and oversees all aspects of Skype's business internationally. Niklas reports to eBay CEO Meg Whitman, and also serves on eBay's executive committee.

Niklas co-founded Skype in 2003 to offer consumers worldwide free software for making superior-quality calls using

their computer. Prior to Skype, Niklas founded and served as CEO at Joltid, a software company that develops and markets peer-to-peer (P2P) solutions and traffic optimization technologies for service providers. Niklas co-founded and served as CEO of KaZaA, the consumer file-sharing sensation that became the world's most downloaded Internet software in 2003.

Niklas also co-founded Altnet, the world's first secure P2P network that promotes commercial content and integrates the full value chain of promotion, distribution, and payment for digital content. Altnet was the world's largest issuer of DRM licenses.

Duane Sword, Empirix Inc.

As Vice President, Product Management & Marketing for IP Communications test company Empirix, (news- alert) Duane is responsible for the Strategic Marketing, Product Policy and Outbound Marketing for the suite of Hammer test solutions spanning contact centers, labs, network operations and self service applications.

Duane has worked extensively in the telecommunications industry, specifically with manufacturers and service providers of broadband switches and routers in Europe, North America and Japan and has a wide background in international product marketing and business development.

Sword maintains a rather broad perspective on the significance of IP Communications. "Overall, the broadband communications industry has made tremendous contributions to the accessibility of knowledge, completely revolutionizing the way people around the world share information," he says. "With the last decade focusing on the build-out and interoperability of the IP network infrastructure, the next decade ahead will be one to ensure seamless interworking and a richer offering of applications and services, to both consumers and enterprises."

Mikael Stromquist, Ericsson North America

Mikael Stromquist serves as Executive Vice President of Strategic Sales for Ericsson North America. His focus is on developing business in new market segments. In his role at Ericsson, (quote - news- alert) Stromquist is very tuned in to the behavior of end users and how that behavior is affected by IP Communications.

"Communication today is a melange of technology and devices," he tells us. "What's important is how people behave. User communication behavior today? We are:

- Mobile talkers, where people get and make calls anywhere;
- Users out for a bargain;
- Instant messengers — people live on IM;
- e-mailing and corporate IT-ing stuff;
- 'MySpace-ing' & 'YouTube-ing'
- Watching TV, surfing the 'net…

"Most of all, we are instant gratification. All the Time. We want to see what we want, communicate with who we want, in the way we want. Immediately. With whatever is in our hands at the moment."

IP Communications makes that possible. "And that's cool."

Mike Ross, Acredo Technologies, Inc.

(news- alert) Mike Ross has seen the industry from a number of vantage points: COO of Esna Technologies. President/Owner/Partner of Aculab, USA. Vice President Sales and Marketing/Director/Owner/Partner of Rhetorex. Vice President of Sales and Marketing/Owner/Partner of Dialogic Inc. These days Ross serves as the President and CEO of Acredo Technologies, a company whose mission is to "Build and manage a recognized brand in the hosted IP-Centrex space for small business in North America; Deliver highest content, best services, and most easily adopted product in the market;" and not insignificantly, "Change the way the world communicates, one business at a time."

Mike believes that the development of IP communications is truly revolutionary.

"IP Communications should be viewed in this century as the equivalent to the internal combustion engine of the last century," he says. "The invention and improvement of the internal combustion engine allowed for the development of not only the automobile for transportation, but changed factories, construction, and led to the development of aeronautics.

"IP communications will have the same quantum effect by binding all communication and information technologies together. For the 21st century, it will form the backbone of all sociological activities and advancement on the planet and become the center of all technology evolution. It will become the single most important element in creating one global community."

Brian Mahony, Espial IPTV

As Vice President of Marketing, Brian leads marketing and product management activities and is responsible for promoting Espial's (news- alert) brand leadership for IPTV middleware and applications. His 14-year background in marketing, strategy, and business development spans IPTV, VoIP, edge routing, wireless, and TDM switching. Prior to Espial, Brian was Vice President of Marketing for market-leading VoIP and triple play vendor Netcentrex until its $180M acquisition by Comverse.

Brian's tenure in the industry gives him a sense of perspective. "Ten years ago, we were heralding the disaggrega-

Go To Table of Contents | Go To Ad Index

tion of communications services from the underlying network elements with the advent of what used to be called the 'softswitch.' At the time, we dreamed up a lot of new IP services that network architectures really could not support.

"Fast forward 10 years and we have finally realized this vision with an explosion of IP-based services. The fact that this former TDM guy who cut his teeth on Nortel's DMS-100 is now working on cutting-edge IPTV solutions from Espial shows just how far we've come."

Gregory O. Welch, GlobalTouch Telecom

Mr. Welch is the Founder of GlobalTouch Telecom. (news- alert) Prior to founding GlobalTouch, Mr. Welch was Executive Vice President of Sirius Telecom, a switching services provider based in Los Angeles, and Executive Vice President of Q Telecom, an international wholesale carrier. Previously, he was Founder, President and CEO of AmeriCom Communications, Inc., a $36 million carrier specializing in international services. Mr. Welch was also Director of America's Choice Long Distance, a subsidiary of General Electric, and helped build the West Coast operations for ALNET before it was sold to Frontier and ultimately to Global Crossing.

According to Welch, "The future of communications will be driven by continued consumer adoption of VoIP and IP. Already, we are seeing a true paradigm shift towards this technology; IP telephony is continuing to gain momentum in European and Asian markets, and in fact, analysts predict that the number of residential U.S. VoIP subscribers will exceed 44 million in 2010."

Vinton G. Cerf, Google

Vinton G. Cerf is vice president and Chief Internet Evangelist for Google. (quote - news- alert) He is responsible for identifying new enabling technologies and applications on the Internet and other platforms for the company.

Widely known as a "Father of the Internet," Vint is the co-designer with Robert Kahn of TCP/IP protocols and basic architecture of the Internet. In 1997, President Clinton recognized their work with the U.S. National Medal of Technology. In 2005, Vint and Bob received the highest civilian honor bestowed in the U.S., the Presidential Medal of Freedom. It recognizes the fact that their work on the software code used to transmit data across the Internet has put them "at the forefront of a digital revolution that has transformed global commerce, communication, and entertainment."

Since 2000, Vint has served as chairman of the board of the Internet Corporation for Assigned Names and Numbers (ICANN) and he has been a Visiting Scientist at the Jet Propulsion Laboratory since 1998.

Ofer Gneezy and Gordon VanderBrug, iBasis

Ofer Gneezy is President and Chief Executive Officer of iBasis, (news- alert) a leader in international long distance, VoIP, and prepaid calling cards. As co-founder, Executive Vice President and Assistant Secretary of iBasis, Gordon VanderBrug shares overall responsibility for the company's financial performance with Ofer Gneezy and in addition, oversees the company's marketing initiatives.

Right around the time we decided to launch *Internet Telephony* magazine, Gneezy and VanderBrug stopped by our offices for a chat. Their company was still called VIP Calling, and the future looked bright.

"Ten years ago, our commitment to VoIP was pioneering; today, it is clear that VoIP is the future of global communications for consumers, enterprises, and carriers. While the deregulation actions of the FCC and the WTO in the 90s paved the way for global competition, the cost-efficiency of VoIP and the opportunity to use the Internet for transport enabled emerging providers to roll out services and expand network footprint quickly and at a fraction of the capital investment required by circuit switching."

IP has enabled iBasis to scale. The executives told us, "For example, IP has enabled iBasis to progress from a start-up to one of the largest carriers of international calls in the world in just 10 years. Our annual run-rate of 20 billion minutes of international traffic — after the merger of KPN Global Carrier Services into iBasis takes effect — will be second only to Verizon, according to Telegeography. The transformation of global telecommunications continues to be driven by the migration to All-IP networks."

Howard S. Jonas, IDT

Howard S. Jonas founded IDT (news- alert) in August 1990 and has served as Chairman of the Board since its inception. Mr. Jonas served as Chief Executive Officer of the Company from December 1991 until July 2001, as President of the Company from December 1991 through September 1996, and as Treasurer of the Company from inception through 2002.

Since December 1999, Mr. Jonas has also served as the Chairman of the Board of Directors of IDT Telecom, Inc. and since November 2003 as Co-Chairman

of the Board of Directors of IDT Entertainment, Inc. Mr. Jonas has been a director of IDT Capital, Inc. since September 2004 and a director of IDT Spectrum, Inc. since January 2005. Mr. Jonas is also the founder and has been President of Jonas Publishing since its inception in 1979.

Mr. Jonas was the Chairman of the Board of Directors of Net2Phone from October 2001 to October 2004 and has since served as the Vice Chairman of the Board of Directors of Net2Phone. Mr. Jonas received a B.A. in Economics from Harvard University.

Olle Westerberg, Ingate

(news- alert) Olle Westerberg boasts more than twenty years of experience in the technology sector. His knowledge of telecommunications, networks and product development evolved from a wide range of roles in the industry, from hands-on software development to company leadership. Westerberg held senior management positions with Ericsson, DSC Communications, and Alcatel, and he gained first-hand experience with small business needs as the CEO of Sweden's first dedicated e-service company, Buybridge.

"The convergence of voice and data over IP is a revolutionary step in telecommunications. Imagine connecting people, information and processes in real time, regardless of location, as long as there's a connection to the Internet," he says.

But Westerberg believes in standards, specifically the session initiation protocol (SIP). "SIP is speeding this transition to true global connectivity," Westerberg tells us. "It levels the playing field for customers and developers alike, by providing a benchmark for interoperability. We look forward to the day when all SIP-based products adhere to the strict SIP standards as outlined by the IETF. Only then will customers truly be able to leverage all that IP communications has to offer."

Michael Stanford, Intel

Michael Stanford is an Intel (quote - news- alert) Principal Engineer, and is Director of Voice over IP Strategy for Intel's Digital Enterprise Group. In this role, Michael works with architects, engineers, and business managers inside and outside of Intel to develop long range plans for supporting real time communications on Intel platforms. Michael also works in a business development role, cooperating on several projects with the Intel Capital Group.

Prior to this role, Michael was Vice President of Engineering at Picazo Communications, a VoIP PBX company acquired by Intel in 2000.

Stanford has become a fixture at TMC's VoIP Developer Conference, delivering his insights and outlining his vision for the industry in his keynote addresses, which have become a much anticipated staple at the event.

"Using IP makes communications cheaper, better and friendlier," he says. "VoIP is cheaper than TDM because it runs over generic data networking equipment and uses bandwidth more efficiently. It makes voice communications sound better with wideband codecs. And IP makes it easier to combine voice with video and application sharing for more user-friendly communications.

"Consequently, entire industries are being disrupted," he continued. "Local governments are suddenly finding that tax revenue streams are evaporating, while national governments are scrambling to rescue universal service and wiretapping control.

"Fasten your seatbelts — it's going to be a wild ride."

Jim Machi, Intel

Jim Machi is senior director of product management for the Communications Infrastructure Group at Intel, responsible for developing marketing strategy and driving product planning and realization for all media and signaling products including those targeted for the enterprise and service provider market segments.

Machi has been with Dialogic Corporation (news- alert) and then Intel since 1998 where he was director of product management, working to develop the company's IP telephony roadmap and strategy and then as director of product management for the entire product line. Machi was a regular monthly columnist for *Internet Telephony* magazine from 1999 to 2003.

Machi recalled a conversation he had with his mother: "My mother recently said to me 'You can make phone calls using your computer, and I can do all this using the TV or laptop connection?' Wow, when my mother "gets" that something new is happening that's a bellwether that it has entered mainstream consciousness."

Machi echoes the sentiment that IP Communications is more than just cheap calling.

"While the first IP applications were all about rate arbitrage, we all knew that these apps essentially just made phone calls cheaper than alternatives. It couldn't sustain an entire industry like we have today. Only new applications beyond what could be done with the PSTN could do that. So the significance comes down to enabling voice, data, and video applications, and combinations of these that we cannot dream of today, all on the same network."

Donald E. Brown, M.D., Interactive Intelligence, Inc.

Donald E. Brown, M.D. co-founded Interactive Intelligence (news-

Go To Table of Contents | Go To Ad Index

alert) in October 1994 and has served as Chief Executive Officer since April 1995 and President since inception. Dr. Brown also serves as Chairman of the Board. In March 1988, Dr. Brown co-founded Software Artistry, Inc., a developer of customer support software that became a public company in March 1995 and was subsequently acquired by IBM Corporation in January 1998. Dr. Brown's first software company was acquired by Electronic Data Systems, Inc. in September 1987.

For Dr. Brown, IP Communications is all about the software. "VoIP completes the transition of communications from hardware to software. Not too long ago, having sophisticated communications capabilities meant lots of proprietary hardware — PBXs, ACDs, IVRs, call loggers, etc.

"In the mid-90's," according to Brown, "startups began to create server-based communications systems that implemented significant functionality in software. VoIP now allows the creation of 100 percent software solutions that do everything the old hardware-based systems could and much more — at a fraction of the cost and complexity. And this software foundation now opens up application possibilities that weren't even imaginable pre-VoIP."

Jeff Ford, Inter-Tel

Jeff Ford believes that one of the key benefits of IP communications is the ability to move business communications beyond voice.

As Senior Vice President & Chief Technology Officer of Inter-Tel Incorporated (news- alert) and President of Inter-Tel Integrated Systems, Ford has the opportunity to make his vision a reality for businesses every day.

He began his career with Inter-Tel in 1983, while still in his senior year at Arizona State University. From 1989 through 1996, he led the software development of Inter-Tel's flagship Axxess and Eclipse product lines, and beginning in 1996, Mr. Ford led Inter-Tel's entry into convergent technology with patented VoIP technology.

Mr. Ford's work progressed through engineering management and, in 1997 he was named Chief Technology Officer. In 1998, he was additionally named president of Inter-Tel Integrated Systems, Inter-Tel's development, production and wholesale distribution arm.

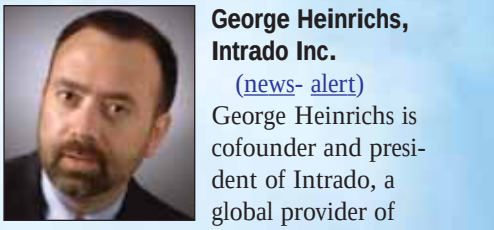
According to Ford, "IP communications has become significant for businesses for delivering rich multi-media communications with voice, video, IM/chat, and document sharing that has been discussed since the mid-80's. With IP communications, businesses are no longer limited to just voice as a means to communicate, and can leverage these new features to improve workflow, enhance productivity and streamline communications with their associates and customers."

Karl Stahl, CEO and President, Intertex Data AB

Karl Erik Ståhl is President of Intertex Data AB, (news- alert) Chairman of Ingate Systems AB, and founder of these companies. They are well known for their development of the world's first SIP capable firewalls, including a SIP proxy and registrar dynamically controlling the firewall. These Swedish companies have 20 years experience of telecommunications and development of high-quality communication and security products, combining real-time programming with analogue and digital hardware design skills.

According to Ståhl, "For us using live IP communication — presence, IM, voice and video integrated with telephony — it is addictive, both for private and professional usage."

"However, to reach its full potential," he says, "live IP communication must follow standards and have global connectivity, the same factors that made e-mail a success and something we cannot be without. The future and real success must be based on standards, global connectivity, and full Internet access."



George Heinrichs, Intrado Inc.

(news- alert) George Heinrichs is cofounder and president of Intrado, a global provider of emergency communications infrastructure and services. A recognized emergency services expert, Mr. Heinrichs has played a key role in the evolution of the nation's 9-1-1 network and continues to influence 9-1-1 public policy.

Heinrichs believes that "IP is transforming the way our society communicates. In our world of emergency communications IP will save lives."

Continuing on that theme, Heinrichs says, "The advantages of IP are particularly relevant to the emergency response community. (Remember that the very first phone call was a call for help!) IP is already playing a pivotal role in the evolution of emergency communications. IP-centered approaches allow expansion of the current 9-1-1 operations paradigm to include the delivery of previously unavailable situational and contextually relevant information to first responders. IP also streamlines how emergency response resources receive and distribute information related to emergency calls, first by expanding the type and scope of helpful information available to first responders, and then by dramatically improving the timely delivery of that information."

Alec Saunders, CEO, iotum

(news- alert) Alec Saunders is a visionary technology evangelist with 15 years of leadership in technology marketing and product management. During nine years at Microsoft Corporation Alec launched

Internet Explorer, and the Microsoft Plus! Windows companion. As Microsoft's Director of Marketing for Home Networks, Alec also launched Universal Plug and Play and recruited more than 300 vendors to the UPnP industry working group. Before Iotum, Alec was Marketing VP for Versatel Networks. Alec was also Marketing VP at QNX Software Systems where he spearheaded the creation and launch of the critically acclaimed QNX Momentics development suite.

Alec takes an interesting approach to defining the significance of IP Communications. "IP Communications, in and of itself, is fundamentally uninteresting. There. I said it. Heresy, right? But really, who cares whether the packets on your network are encoded using IP or some other scheme?

"A packet is a packet is a packet," he explains.

"The dawn of IP communications has ushered in a period where networks and applications are converging, all around the IP standard. It's forced us all to confront very basic questions — do I need that many phone numbers, e-mail addresses, IM handles? Why should there be so many bills for so many services? Why isn't my voice mail accessible from my e-mail box?

"So, just as commodity PC's ushered in an era of personal computing, driven by the applications that you and I wanted to use on the PC, and not the ones placed on the computer by the tyrants in the IT department, commodity networks are going to usher in an era of personal communications services. We'll pick and choose applications and services that we want to use, from the providers that we want to buy from. We won't have 10 e-mail addresses, three voice mail boxes, five phone numbers, and eight bills. And you know what? Ma Bell will be powerless to stop us.

"And that's what IP Communications is all about. Me."

Arun Sobti, IP Unity

Arun Sobti, Chairman and CEO of IP Unity, (news- alert) has over 30 years of technical and management leadership in the communications infrastructure industry, Arun brought with him to IP Unity a wealth of expertise in shaping, building, and managing companies. His visionary leadership, complemented by his energy and drive, has earned him a well-deserved reputation as an innovator who gets results.

Prior to joining IP Unity, Arun was Senior Vice President of ADC and President of ADC's Broadband Access and Transport Group. Under his leadership, ADC's portfolio of many prior acquisitions and internal business units were consolidated into a single group, restructured and transformed to address the market needs for this decade. Pairgain Technologies and BroadBand Access are still the largest two acquisitions made by ADC as part of this transformation.

Before ADC, Arun was at Motorola for 24 years, where he ran a number of their global businesses. Prior to leaving, he led Motorola's efforts towards participation in the third generation of wireless.

Michael Khalilian, IMS Forum

Michael Khalilian is Co-founder, Chairman, and President of the IP Multimedia Subsystem (IMS) Forum. He also serves as Chief Technologist/Advisor and Board Member to service providers including such companies as eLEC/VoX, Kancharla, and American Cable Services.

Previously, Khalilian held the positions of CTO/Board member at Volo Communications (VoIP Inc.), Chief Technologist/Advisor to NTT Business Groups and Senior Director of Technology, Architecture, Applications and Business Development with Time Warner Communications' business groups. Khalilian built and managed business and technology groups including telephony, VoIP, broadband cable, data networks, and multimedia.

Khalilian was one of the founding members of the "IP Multimedia Carrier Coalition," "International Softswitch Consortium," (ISC) and the "International Packet Communications Consortium" (IPCC) which evolved into the IMS Forum. Now the Chairman and President of the IMS Forum, he is also an appointed member of the Telecom Executive Council for the United States.

According to Khalilian, "We are witnessing the dawn of a new era of communications driven by bundled services, new applications, business and entertainment multimedia content delivery. As such, it has become quite clear that the future of telecommunications service delivery is in convergence with Broadband and IMS. Service Providers and vendors of such can embrace this convergence or miss the opportunity. Consumers are the ones driving the telecommunication convergence with their acceptance of new services utilizing IP value propositions."

Don Gant, Iwatsu Voice Networks

Don Gant is currently VP Channel Marketing and Business Development for Iwatsu Voice Networks (news- alert) and is responsible for positioning Iwatsu's communications products for sale to the channel and developing relationships with other technology companies for solutions that add value to Iwatsu's core IP competencies. Don spent 12 years with Xerox in sales and product marketing before joining Fujitsu in major accounts sales.

Gant believes that, "IP Communications will be viewed historically as a turning point in how people communicate by making it easier to stay in contact, easier to do business, and by the overall improvement in the quality of life of those using the technology. IP Communications will be

Go To Table of Contents | Go To Ad Index

ranked with the personal computer as having a positive impact on the way we do business and live our lives. Daily, millions of workers save precious natural resources by telecommuting while being seamlessly connected to their work resources. The bottom line is that IP communications will shrink the world even further, making it easier to connect with people, products and services regardless of where they are."

James Crowe, Level 3

Mr. Crowe is the chief executive officer of Level 3 (news-alert) Communications, Inc., an international communications and information services company. Founded in 1997, Level 3 constructed a 20,000-mile fiber-optic network designed to fully leverage Internet technology; today, the network serves as one of the largest Internet backbones in the world.

Prior to founding Level 3, Mr. Crowe was chief executive officer of MFS Communications, which he built into the largest competitive local exchange carrier operating in the United States and Europe. In 1996, MFS was acquired by WorldCom for $14.3 billion.

Crowe shared his thoughts on the significance of IP communications.

"Simply put, IP-based technology is where the communications industry is heading. Level 3 has long believed that most forms of communications will migrate to IP-based technologies, and that belief is coming to fruition.

"IP is a superior technology and offers better features and economics than traditional telephone systems. IP is the underlying technology of the Internet and nearly every company is on a migration path to IP technology," he says.

Patricia F. Russo, Lucent Technologies

Patricia F. Russo is chairman and chief executive officer of Lucent Technologies. (quote - news-alert) As one of the founding executives of the company, she helped launch Lucent in 1996 and has spent more than 20 years of her career managing some of Lucent's and AT&T's largest divisions and most critical corporate functions. As Lucent's CEO since January 2002, she has led the company through one of the most challenging periods in the telecom industry's history and helped return the company to sustained profitability.

Respected as a thought leader in the industry, Ms. Russo was appointed by President George W. Bush as vice chair of the National Security Telecommunications Advisory Committee, a position she held from April 2003 until May 2006. She currently is a member of the Network Reliability Interoperability Council.

Russo believes in the personal nature of IP Communications. "Sure, IP has made communications faster and more reliable, which has led to new opportunities for service providers and content providers alike. However, its true significance is far more compelling — and personal. It's about letting end users define what they want their communications experience to be. IP is about delivering a rich, customized user experience, wherever the user may be."

Stef H. van Aarle, Lucent Technologies

Stef van Aarle wears two hats for Lucent Technologies. (quote - news- alert) He was recently appointed to concurrently serve as Chief Operating Officer (COO) Europe of Lucent Technologies Global Sales and Services Organization (GSSO) and continues as Vice President of Services Marketing and Strategy for Lucent. Stef has been instrumental in building Lucent's multibillion-dollar Services business and in helping to transform Lucent Technologies into a solutions-led company. In his role as the Vice President of Services Marketing and Strategy, van Aarle oversees the marketing strategy, including all outbound and inbound marketing functions used to develop and promote services solutions around the world

Stef believes we are at the earliest stages of the transition to IP Communications.

"We haven't scratched the surface on the significance of IP Communication," he says. "Companies today focus on IP's ability to reduce costs and increase productivity. These are key factors driving enterprises to embrace all-IP networks, but they also miss part of the broader picture. The ultimate promise of IP is a much more personal one... we expect access to our networks, our applications, our content in a way that follows us easily and flexibly. With IP we have a chance to reach that simplistic goal – a personalized world that makes our complex lives easier."

Anoop Gupta, Microsoft

As corporate vice president of the Unified Communications Group (UCG), (quote - news- alert) Anoop Gupta leads Microsoft's client-server-service efforts to provide business communications solutions (e-mail, IM, VoIP, unified messaging, audio/video/ Web conferencing) and platform components. His team is responsible for Microsoft Exchange Server, Speech Server, Office Communicator Server, Office Communicator products, Live Meeting and Exchange Hosted Services businesses.

Before leading the Unified Communications Group, Gupta was technology assistant to Bill Gates, Microsoft's chairman. In that role, Gupta helped define the company's strategy for real-time collaboration.

Gupta shared his vision for IP Communications and the role it can

play in keeping people connected. "In today's global, 24x7, always-connected, often mobile work environment, people struggle to manage different types of communication, each with a different address and different messaging system," he explained. "These silos of communication make it difficult for workers, teams and organizations to communicate and collaborate effectively. We believe very strongly that we're at a pivotal point in the area of business communications and there are significant opportunities ahead in the area of unified communications where all modes of communications, including voice, are coming together."

Michel Nadeau, Minacom

Michel Nadeau founded Minacom (news- alert) in 1996 after a fast growing engineering management carreer at Teleglobe and two years of consulting as a telecom expert in network testing and management. A member of the CTO, ITU, SCTE, and OIQ, Michel holds a degree in Electrical Engineering, Electronics & Telecom from École Polytechnique de Montréal. He was recognized by *Commerce* magazine as part of the Top 40 under 40 list and was given the Young Engineer Achievement Award from the Canadian Council of Professional Engineers in 2000.

Nadeau has a truly global take on how IP Communications will serve humanity. "Communication is one of the most deep inner needs of mankind," he says, "in both fast growing and developing economies. As the phone and the Internet brought us closer, VoIP is blending both together into our everyday lives, fostering a powerful revolution in new services we will quickly take for granted. These services will be media rich, immediate, available and interactive. Today's "mouse/keyboard-centric" Web software will evolve into a wide range of voice-enabled, communication-based applications — adding the power of human natural interaction to all levels of business, community and leisure activities.

"IP communications enables true global communication as a cost-effective alternative to telephone monopolies, diminishing the impact of the digital-divide, and making phone service accessible worldwide to people starving to communicate."

Terry Matthews, Mitel

Terry Matthews is Chairman of Mitel, (news- alert) a provider of next generation IP communications solutions and a market leader for voice, video, and data convergence.

Prior to launching Mitel, Terry served as CEO and Chairman of Newbridge Networks Corporation, a company he founded in 1986. He was instrumental in maintaining the dynamism and vision of Newbridge from its formation and built the company into a leader in the worldwide data networking industry. When France-based Alcatel acquired Newbridge in May 2000, the company employed more than 6,500 people worldwide and recorded FY 1999 revenue of $1.8 billion. Before the creation of Newbridge, Terry co-founded Mitel Corporation in 1972.

He has been awarded honorary doctorates by several universities, including the University of Wales, Glamorgan and Swansea, and Carleton University in Ottawa. In 1994, he was appointed an Officer of the Order of the British Empire. In the 2001 Queen's Birthday Honours, he was awarded a knighthood.

Don Smith, Mitel

(news- alert) Don Smith brings more than 30 years of international business experience in identifying new technology markets and coupling vision with execution to his position as Chief Executive Officer of Mitel. Since assuming this role in 2001, Don has led Mitel's highly successful venture of bringing next-generation IP Communications solutions to the global marketplace.

According to Smith, "It is not often that a real opportunity comes along for dramatically transforming the way you do business — making it more cohesive, more effective, more productive and more profitable. But such an opportunity is now within reach, and it's really just a matter of picking up your phone.

"It could be argued that IP telecommunications is transforming organizations in much the same way that the advent of the world wide web and the development of wireless communications dramatically change the way people do business. Organizations and end-users are empowered. They suddenly have more control over their telecommunications. The technology invites them to devise their own solutions and integrate them into existing processes to improve the efficiency of their business."

Edward J. Zander, Motorola

Edward J. Zander is chairman of the board and chief executive officer of Motorola, Inc. (news- alert) Since beginning at Motorola in January 2004, he has brought Motorola not only a wealth of experience, but a keen understanding of the emerging challenges and opportunities in the communications space. He has successfully reorganized the company, overseen the introduction of several exciting new products and sharpened Motorola's focus on innovation and operational efficiency. Zander entered his position with over 25 years of experience in the technology industry.

Prior to joining Motorola, Zander

Go To Table of Contents | Go To Ad Index

was a managing director of Silver Lake Partners; he served as president and chief operating officer of Sun Microsystems until June 2002; before joining Sun in 1987, he held senior management positions at Apollo Computer and Data General.

An active member of the civic and business communities, Zander serves on the board of directors of several professional, educational and non-profit organizations. Local business organizations include The Economics Club of Chicago, The Executive Club of Chicago and the Civic Committee of The Commercial Club of Chicago.

Jay Krauser, NEC Unified Solutions, Inc.

Jay Krauser is General Manager, Product Management Division of NEC Unified Solutions, Inc. (news- alert) In this role, Jay works with other NEC divisions and subsidiaries on the development of next-generation enterprise communications solutions, including NEC's PBX, Key Telephone and IP Telephony platforms.

Jay has held various engineering and product management positions within NEC, most recently as Assistant General Manager of Product Management and Product Marketing for the Marketing and Sales Support Division of NEC America's Corporate Networks Group. During his 18 years of industry experience, Mr. Krauser has held various telecommunications management positions as an end-user with large NEC call centers and has worked within large interconnect companies.

According to Krauser, "We're at an important inflection point where enterprises can capitalize on IP Communications to leverage the dynamic advancements in hardware, software and applications. Offering unparalleled flexibility and portability, IP acts as a conduit to increase productivity through real-time collaboration tools, on-demand conferencing and true presence management."

David Michaud, Netcentrex Americas

As Chief Executive Officer of Netcentrex Americas, (news-alert) Michaud leads the overall market strategy and operations for the Americas. Recently he led sales and marketing initiatives for startups in the IP networking business, including Carrius and NexTone Communications. In 1997 he founded and became Chairman and CEO of Taqua Systems, a telecommunications switch developer sold to Tekelec for $85 million in March 2004. From 1992 to 1995 Mr. Michaud served as head of sales and marketing at Excel Communications where the company grew six-fold in three years, becoming the leader in the programmable switch market and providing a foundation for the eventual $1.7 billion acquisition by Lucent Technologies.

Michaud is bullish on mobility. "IP has revolutionized wireline communications and I believe that IP will also reshape the wireless market," he says.

"VoIP has become a carrier-class technology, as shown by leading operators Verizon in the U.S. and France Telecom in Europe, who have each deployed more than 1.5 million VoIP subscribers.

"Service providers who can take advantage of the combination of IP with mobility will be the winners in terms of customer loyalty and new revenue from personalized services."

Mark D. Foster, Neustar

(news- alert)

Mark Foster sees the industry as having just left the starting blocks. "As explosive as the growth of IP has been in the past +10 years, after the next 10, we'll look back and realize we only got started. E-mail and Web have since become essential services, however, we're only now seeing the next wave emerge: ubiquitous real-time communications, such as VoIP, multimedia messaging, presence and location-enabled services, rich media (IPTV), massive online gaming, and collaboration. All delivered with strong end-to-end quality, security, policy, identity management, privacy, and business model agility across heterogeneous networks. Open standards (SIP, ENUM, identity management) and neutral interworking services amongst networks will unlock this value."

Foster has served as Senior Vice President and Chief Technology Officer of Neustar since November 1999. Prior to joining the company, Mr. Foster was an independent consultant working full-time in a similar capacity from 1996 until November 1999 for CIS. From 1994 through 1995, as an independent consultant to a group of communications industry companies, Mr. Foster was the lead inventor of local number portability, conducted the first industry field trial of local number portability in the Seattle area, and was heavily involved in the industry technical, policy and regulatory discussions leading to the adoption of local number portability.

Brough Turner, NMS Communications

Brough Turner is SVP, CTO and co-founder of NMS Communications, (news- alert) where he oversees the evolution of NMS's technology and product architectures and works on business strategy and new market development. Turner writes and is quoted widely on telecommunications topics in both trade and general business publications and he is a frequent speaker at telecom industry events around the world. He maintained a column in TMC's *CTI magazine* for several years.

According to Turner, "IP

Communications has already had a sweeping impact on areas as diverse as local and international phone rates and PBX design, but it's been technology enabling arbitrage — today's VoIP is conventional telephony, slightly enhanced. While we've reshaped the economics of telephony, wireless operators have changed the nature of the service — making it personal and mobile.

"Now it's our turn for service innovation. Skype is an early example. It's not mobile, it lacks business features and it's PC-centric for now, but it has several advances. First in coordination — before calling, I see the other party's availability and can use text to coordinate a time to talk. Second in rich media — HiFi audio, video, text and file transfer, in the same session.

"Our vast opportunity is to use IP technology to combine features — personal, mobile, context-aware — with rich media in truly new communication services."

Mike Katz, NMS Communications

(news- alert) Mike Katz has over 20 years of in-depth communications market experience. His experience includes high-level product marketing and management positions at communication market leaders including Boston Technology, Voicetek, and now NMS, as well as next-generation network application pioneers such as NetPhone and Iperia. Mike has a history of leadership in new markets, including the early computer telephony market, and is a "patented" early innovator in the VoIP space. He now brings his market insight and career experiences to the burgeoning mobile video arena.

Katz believes IP Communications to be "momentous." As he says, "To be working and creating in this industry right now is to be part of telecom history. The next generation of telecom innovators (if they still refer to our industry as telecom) won't blink an eye when someone mentions any type of IP communications, because it will be woven into the very fabric of future telecom. The changes will be so profound to the when, where, and how communications takes place and will so completely disrupt the past 100 year old behavioral model that the next generation won't understand what it means to "make a call on a (wired) telephone.

"IP communications is communication freedom for the everyman."

Phil Edholm, Nortel

Phil Edholm is the Chief Technology Officer and Vice President of Strategy and Architecture for Nortel's (quote - news- alert) Enterprise Solutions group. At Nortel, Phil has led the development of VoIP solutions and multimedia communications as well as IP transport technology. This included the first soft clients and many early VoIP initiatives.

Edholm believes that "IP Communications promises a fundamental transformation in how we work, play and interact. The power of reachability and presence of SIP, combined with the packet transformation of voice, communications capabilities will fundamentally alter the way we interact. Combining this interaction with information will create a new paradigm that will change business by enabling new collaboration capabilities and dramatically impact how businesses relate to their customers. This convergence will create "Information and Interaction Technology" (IIT) defining how technology and process innovation will transform business, bringing the front and back office together. The last decade of the 20th century will be remembered as the advent of the World Wide Web of Information, while the first decade of the 21st century will be remembered as the advent of the Inter-Human Web. This new web of people, communicating on a variety of devices, over many networks, with common capabilities will forever change our world."

Tony Rybczynski Nortel

Tony graduated in 1972 with slide rule in hand, and over the past 33 years, has contributed to numerous industry transformations that likewise transformed Nortel. (quote - news- alert) Tony has written over 100 articles just for TMC publications (including his current 'Inside Networking' column in *Internet Telephony*), spoken at numerous industry conferences, including a keynote at the Wharton Technology Conference, and contributed to two books.

Tony echoes Phil Edholm's statements regarding Unified Communications, which is creating what his colleague calls the 'inter-human web'. "But as impactful as this is on collaboration anytime, anywhere over any device," Rybczynski says the opportunities for enterprises go beyond productivity gains through person-person unified communications.

"The reason is that the industry is at an inflection point: IT convergence is bringing together the telecom and IT industries, while application interoperability is being enabled through Service Oriented Architectures (SOA). By making Unified Communications a software application, and by leveraging SOA to integrate UC into business applications and processes, IP Communications becomes tightly linked to the running of the business. UC-enabled business processes minimize the effect of human delays on business effectiveness and customer service, and allow enterprises to increasingly operate in real-time, eliminating time to service, time to revenue and time to decision, or in general, 'time to X' where you define X."

Go To Table of Contents | Go To Ad Index

Jason Talley, Nuvio

Jason Talley is chief executive officer and co-founder of Nuvio Corporation, (news - alert) a provider of Voice over Internet Protocol (VoIP) services. Mr. Talley brings extensive telecommunications and technology expertise to his position and is a frequent speaker at industry functions worldwide, regularly commenting on timely telecommunications and Internet issues such as taxation and FCC and state regulation of Internet telephony.

Previous to Nuvio, Talley founded Atipa Linux Solutions in 1998 — one of the first Linux solution companies in the world. In 1994, he also founded Talley Technologies, Inc., a large regional network and telecommunications company, which eventually was a leading provider of data security, internet access, and telephony products in a four-state area. Mr. Talley was recognized as the North America Collegiate Entrepreneur of the Year in 1998 for his work, growth and management of the company.

Dave Horton, Pactolus

As President CTO and founder of Pactolus, (news - alert) Dave has built several generations of network-based enhanced services platforms for the carrier market. He was instrumental in architecting the RapidFLEX Application Server and Service Creation Environment at Pactolus. Most recently, as Vice President of Engineering for Open Development Corporation (ODC) he led the development of calling card, conference calling, and ACD applications.

Horton recognizes the significance of IP communications. "IP and specifically VoIP has already brought both unprecedented service feature innovation and new entry point economics to telephony. For example, SIP Trunking service providers use PSTN interconnection services to launch services with only modest investments in SIP-based service delivery systems - an application server, an IP media server and a database. IP Multimedia Subsystem (IMS) interfaces are about to reshape this service reach, unifying fragmented services and subscriber populations, and supporting new content such as video messaging, gaming, and other multimedia capabilities."

Dr. Christian Stredicke, Ph.D., snom, pbxnsip

Christian Stredicke is founder and CEO of snom technology, (news - alert) Berlin, Germany since 1996, where he initiated the first SIP UA hard phone implementation in 2000. He studied computer science, business administration and holds a PhD degree in engineering from the Technical University of Berlin, Germany. Recently he co-authored his first RFC in the IETF. His latest activities include pbxnsip, which addresses businesses that want to use SIP for their enterprise communications. He uses SIP every day.

According to Dr. Stredicke, "IP-based communication is the declaration of independence. Vendors do not own customers any more; customers choose their building blocks. This will reward vendors of great products and put pressure on vendors that offer mediocre products. Better to be on the side of the winners! But not everything that has been done so far is bad. Winners in communication balance innovation and continuation. We can learn a lot from the computer and telecom industry history."

William J. Rich, Pingtel

Bill Rich brings a 20-year background in Voice over IP (VoIP) and telecommunications to Pingtel. (news - alert) Prior to joining Pingtel, Bill was an entrepreneur-in-residence at St. Paul Venture Capital, where he assisted with new ventures and the development of SPVC's portfolio companies, including serving as CEO of Aravox Technologies, which provided session border controllers for service provider VoIP networks.

Prior to St. Paul, Bill was president and CEO at VocalData, a leading provider of feature servers that enable service providers to deliver next-generation IP telephony services.

Earlier in his career, he was the senior vice president of marketing and senior vice president of operations development at ICG Telecom Group, where he launched the company's retail competitive local exchange services and its wholesale products. Before ICG, Bill led wholesale product marketing at WilTel and was a sell-side telecom industry analyst.

Jeff Pulver, pulvermedia, pulver.com

Jeff is one of the true pioneers of the IP Communications industry with more than a decade of hands-on experience in IP Communications and innovation. He is the chairman of pulver.com, pulvermedia, the VON conferences, and the publisher of The Pulver Report and *VON* magazine. Additionally, Mr. Pulver is the founder of a number of IP Communications companies. He has testified before the FCC, the United States Congress, and numerous agencies that have a growing interest in IP Communications.

Pulver (news - alert) believes that "IP Communications has finally brought us to the point where the individual is no longer obligated to a large corporate service provider for spoon-fed delivery of telecom, entertainment, and media content and applications. The individual can now take control of her own communications experience and make it as personalized and creative an experience as the individual's own imagination, or the creative power on the Internet might deliver.

"The greatest technology shift we are

seeing in IP Communications is clearly in the Internet video space. The same DNA that disrupted the telecom industry is well on its way to revolutionizing the way the TV, film, and broadcast are created, distributed, and consumed."

According to Pulver, "While we pioneer new markets in IP, we must also act responsibly to ensure that domestic and international government policy stay in tune with the evolution and changes in our markets. IP Communications cannot only help create new forms of wealth, but also help improve society as a whole."

Charles Rutledge, Quintum Technologies

Chuck has over 20 years of experience in marketing, strategy, and business development in the high tech industry. He has been leading all marketing and business development activities at Quintum Technologies (news- alert) since its beginning in 1999.

Rutledge shared his thoughts on the significance of IP Communications:

- "IP communication is expanding our interpersonal connections, and will continue to do so.
- IP communications will allow users to take advantage of applications enriched with seamless integration of voice and video capabilities, and that will inter-work with other applications.
- IP communications will give people more control over how and when they communicate.
- IP communications will improve employee productivity and business competitiveness.
- IP communications will address people's communications needs at home and at work.
- IP communications will offer "any time", "anywhere", "*any media*" communication.
- IP communications will simplify and enrich people's lives.
- In short, IP communications will become ubiquitous."

Eli Doron, RADVISION

(news- alert) As co-founder, President and Chief Strategy Officer, Mr. Doron is the visionary behind RADVISION's innovative leadership in the unified visual communications arena. Mr. Doron has been defining and designing video and communications systems for over 30 years, and he pioneered the original standards for video communication and integration between legacy and next generation networks.

According to Doron, "Almost every vision we have for the future of communications is either based on progress made because of IP or that which will become reality due to IP. IP did not just give us the Internet and innovative ways to improve efficiency and lower cost of ownership. Rather its underlying technology freed us to envision the feasibility of solutions that were previously relegated to science fiction. The industry's pursuit of unified visual communications, and the ultimate network that is a combination of separate technologies, will enable us to create and deploy multiple applications such as videoconferencing, video gaming, IPTV, video on demand, and use them in ways we never dreamed on a single network (e.g., for security and surveillance). This common network is based on the fundamental building blocks of IP communications."

David Mandelstam, Sangoma Technologies

As a pioneer in the connectivity hardware and software products for telephony, Wide-Area Network (WAN) and the Internet, Founder/President/CEO of Sangoma Technologies, (news- alert) David Mandelstam, is responsible for overall management of the company and its future strategic direction.

Before starting Sangoma in 1984, David ran an engineering company and was engineering VP of an energy conservation company.

According to Mandelstam, "IP is the ultimate API for everything. Consider: Pre-IP the world was full of protocol converters. Every time a medium changed there was a new protocol. But once your data is being transported by IP, you neither know nor care how it gets to its destination. The path may include dialup modem, OC3, Frame Relay, Ethernet... and none of it makes any difference. Your data will get through."

Andy Voss, Sansay

Andy Voss is a co-founder, President & CEO of Sansay, Inc., (news- alert) a leading provider of VoIP infrastructure to service providers worldwide. Andy co-founded Nuera Communications in 1995, where serving as VP of marketing including product management, he led the initiative to develop carrier packet voice systems and to build the first deployable carrier grade VoIP gateways, later serving as VP of strategy and business development.

Voss offers the following take on the significance of IP Communications:

"We have enjoyed a reverse "Wal-Mart Effect" in our industry over the past several decades. Many more options now exist for data/tele-communications industry workers to pursue entrepreneurial dreams than have ever existed (other than perhaps an exceptional period in the late 1990s). I can attest that it's possible to start a company and build a solid company with little or no VC funding, using expertise instead of cash, building on standards to interoperate with a broad range of complementary and competitive solutions, and by leveraging rather than replicating huge

Go To Table of Contents | Go To Ad Index

investments which have already been made by other companies. Which is why one of our customers claims that in the VoIP world versus the PSTN, whether anyone likes it or not, it's a democracy now."

Harald Braun, Siemens Communications, Inc.

As President of the Networks Division of Siemens Communications (news - alert) in the United States, Harald Braun leads operations for the following product groups: wireless networks, broadband solutions, photonics, next generation switching products and solutions, and digital home. In addition, he is helping to drive the company's strategy for deployment of IMS technology and is also responsible for overall management of the division's sales, marketing, and service and support functions. Braun has led the Networks Division since September, 2005. Prior to this, he was President of the Carrier Networks Division since 2002.

"IP communications' significance is its tremendous potential to simplify people's lives and help them live and work more effectively and enjoyably, whether in the office, at home or on-the-go. The beginning of IP's journey was all about infrastructure. Now it's about moving from voice-centric applications toward converged ones that provide users even greater benefits of ease-of-use, ease-of-collaboration and ease-of-access to information and entertainment. It's about putting people and their needs at the center of IP development efforts, resulting in ground-breaking applications that can help make our lives simpler, easier, and better."

Mark Straton, Siemens Communications, Inc.

Mark Straton is Senior Vice President of Marketing at Siemens Communications, Inc., (news - alert) overseeing such efforts as strategy development and market intelligence, analyst and consultant relations, industry and solutions marketing, strategic messaging, events and tradeshows, e-marketing, and marketing programs and promotions for fixed and mobile carriers, enterprises, mobile devices and services. Straton is also a member of the company's enterprise product decision-making boards.

According to Straton, "Siemens believes that first generation VoIP systems are a tranistionary technology and will be replaced by open unified communication systems that operate using open Internet standards and SIP. These new software-based open UC systems must be architected from the ground up and will offer a totally new communications experience unifying multiple communication medias and offering advanced presence, conferencing, collaboration, mobility and cellular integration."

Hassan Ahmed, Sonus Networks

As CEO and chairman, Hassan Ahmed is responsible for the strategic direction and management of Sonus Networks. (news - alert) Prior to joining Sonus Networks as president and CEO in 1998, Dr. Ahmed was executive vice president and general manager of Ascend Communications' Core Systems Division, which grew under his direction to a $1 billion business. Before Ascend's acquisition of Cascade Communications, he served as Cascade's chief technology officer.

"Just like airplanes took you off the fixed route of railroad tracks and enriched your travel experience, IP communications takes you places that the TDM telephony world never dreamed was possible," he says. "Communicating is one of the most important things we do in the world today, and if you look back 15 or even 10 years ago, there's no way you could have imagined doing things over a telecom network that are commonplace today — looking up baseball scores on your cell phone, sending photos or text messages, or transmitting CD quality music — and IP is the key enabler of all of those things and more.

"Today's telephones aren't simply a means to having a conversation; they're portals to a world of information that enriches the communications experience and adds new dimensions to the idea of 'conversation.'"

Ben Guderian, SpectraLink

Ben Guderian is vice president of Market Strategies & Industry Relations for SpectraLink Corp. (news - alert) He is currently directing the efforts to establish strategic market and technology partnerships for SpectraLink's WiFi telephony technology. He has been instrumental in developing vertical markets and driving product development to meet the voice communication requirements of mobile workers in a wide variety of enterprise applications.

Guderian recognizes the transformational power of IP Communications. "IP networks are the great equalizer for communications — bringing together voice and data, wired and wireless, and traditional and emerging applications. IP communication brings the industry together to work on standards and compatibility, but it also provides opportunities to innovate and differentiate. WiFi telephony is a perfect example of how two IP communications technologies — wireless LAN and VoIP — add up to let us be more accessible, responsive, and productive. IP communications is more than just technology. It's the catalyst to improving how, when, and where we communicate."

Todd Landry, Sphere Communications

Todd Landry is a Senior Vice President with Sphere Communications, (news- alert) leading new initiatives in software-based communications for all-IP communications solutions. Landry views IP Communications as a new frontier enabling opportunity ona massive scale.

"The introduction of human communications over such a broadly available and economically desirable medium undoubtedly had the making for a significant impact on traditional telecom. Just watching future leaders (teenagers) communicate provides insight for this emerging world.

"The value in communications is no longer infrastructure; instead the real value is in connections that enable new forms of interactions, exchanges, and relations between people and the tools they use every day.

"For example, the device on your belt you refer to as your phone, even though you read e-mail, access the Web, and text message with it. The machine on your desk is your PC, yet it is now a telephone. Information about your connections (people) is emerging in multiple applications everyday, creating a new level of intelligence in how we interact with one another."

Andy Huckridge, Spirent Communications

Andy Huckridge is Director of IMS Solutions Marketing at Spirent Communications, (news- alert) where he leads Spirent's IMS strategy for the VoIP market. His responsibilities include business planning and market development.

Andy has worked in the communications industry for 12 years and has a broad background in defining and marketing products in the Semiconductor and IP Telephony space. Prior to Spirent Communications, Andy was Director of Product Marketing at Centile, Inc., and 8x8, Inc.

When asked what he thought was the real significance of IP Communications, Huckridge replied, "IP Communications has made the world a smaller place! It has improved the way we communicate, provided businesses with more cost effective solutions and revolutionized the way we work, live and play. Over the last decade, we've created an industry from what was essentially an experimenter's paradise. We've proved that innovation is strong and implemented the biggest advance Telecommunications has seen over the last 100+ years. It's made us all more productive and introduced new methods by which to interact with each other.

"IP communications has revolutionized the way our industry conducts business, it is now revolutionizing the way people live."

Shrihari Pandit, Stealth Communications

Shrihari Pandit has been President and CEO since founding Stealth Communications (news- alert) in 1995. Prior to Stealth, In the early 1990s, Shrihari was a network securities consultant to various software and telecom companies which include MCI, Sprint, and Sun Microsystems. Shrihari was also an independent consultant to various U.S. Government Agencies such as NASA and National Infrastructure Protection Center (NIPC), now part of the Department of Homeland Security. In the past ten years, Shrihari has developed Stealth into New York City's largest Internet gateway.

Pandit reasons that IP Communications are the foundation upon which all communications of the future will be built.

"It is not only an enabler," he says, "but it has simplified the layers of technology we have relied on over the last millennium."

"Like the public airwaves, IP Communications is a common language in which our devices and applications may communicate openly, in a peer-to-peer fashion, without limits."

Pete Bonee, Sylantro Systems

Pete has 25 years of leadership experience in companies focused on emerging communications technologies and markets. Prior to Sylantro, (news- alert) Pete was Vice President of Product Operations at Latitude Communications, a leading innovator in enterprise conferencing. As one of Latitude's early executives, he was responsible for product development, manufacturing operations, customer support, international product approvals, and distributor channel support.

"IP communications improves our lives by making enhanced communications services available across all sectors of society," stated Bonee. "For example, hosted-VoIP services give small businesses access to the most sophisticated services previously only available to large firms with expensive IT infrastructure. Consider that in the U.S., small businesses comprise 99.7 percent of total businesses, and employ about half of the total employee pool. With 'on demand' services that can be delivered cost-effectively over broadband, these small businesses can raise their levels of productivity and competitiveness."

Scott Erickson, Telcordia

(news- alert) In his last assignment as Executive Vice President of Global Sales & Marketing

Go To Table of Contents | Go To Ad Index

at Telcordia, Mr. Erickson and his team were directly responsible for bringing new revenue streams in to the company while reinforcing Telcordia's position as one of the telecommunications industry's largest providers.

While Mr. Erickson has since moved on from Telcordia, he still believes the significance of IP is its insignificance. Sort of.

"The significance of IP," Ericskon says, "actually, is that it should be insignificant to the consumer. IP offers the vital flexibility to support the new, interactive, real-time multimedia services that are currently on operators' drawing boards, but operators need to ensure they have the network software framework to ensure that IP 'best effort' service never becomes an issue with consumers again.

"If IMS is to succeed in unlocking the potential of IP to be the foundation of services such as video streaming, multiparty gaming, and driving the success of user-generated content, then it must be backed by a fast-flowing service chain management process. In the same way that supply chain management enables retail businesses to improve the service they offer to consumers in dynamic markets, so service chain management will provide the basis for operators to quickly create, provision and launch new multimedia services over an effective IMS network."

Eli Borodow, Telephony@Work, Oracle

Eli Borodow founded Telephony@Work (news - alert) in 1997, an IP communications technology company, which defined the hosted contact center space with its industry-leading technology and its partnerships with leading service providers around the world. Eli led Telephony@Work as Chairman and CEO from inception until 2006, when the company was acquired by Oracle. He is currently Vice President Of Product Management & Strategy at Oracle.

According to Borodow, "In every generation, increases in productivity have fueled increases in our standard of living. IP Communications offer the all-important promise of future productivity gains by unifying locations and people across geography and rationalizing the management of the devices, networks, and technologies that we rely upon to stay in touch.

"IP communications, coupled with presence management technologies, are already enabling geographically distributed workforces to come together as unified workgroups. This pooling of skills across geography provides compelling efficiency gains for organizations that previously had to manage geographically-dispersed employees in separate resource pools. This offers particular benefit for contact centers, who can now route their customers to the agents best-qualified to resolve each issue in the shortest period of time, regardless of their physical location.

"Ultimately, the significance of IP Communications is that it will help simplify how we work even as we layer on additional technology to make us more efficient. It will also empower us to stay better connected with each other whether we are in the office, in our homes, or on the road."

Hunter Newby, telx

As Chief Strategy Officer of telx, (news - alert) Hunter Newby is responsible for identifying the trends in the industry and formulating strategies that shape the company's direction, vision, and leadership position in the marketplace. With over 10 years of experience developing interconnection processes in the deregulated telecommunications industry, Mr. Newby is a recognized industry expert and has hosted several industry conferences and written numerous articles and reports on the subjects of Carrier Hotels, Ethernet transport and Voice Peering. Newby currently pens a monthly column in *Internet Telephony* magazine.

According to Newby, "The significance of IP communications is broad, but in its most general sense it represents that we, as a global community, are all evolving collectively to a higher level. That level encompasses personal and business relationships that transcend multiple spoken and written languages with one common denominator — the need for each of us to be connected in order to communicate. The logical conclusion to address the underlying issue of scale and ubiquity is the need for a common machine language that can support the global need for communications. Internet Protocol has filled that role. We, the accessible and interconnected, as a whole, are now ready for the future as a result. What is to be built upon this foundation is only limited by our imaginations."

Larissa L. Herda, Time Warner Telecom Inc.

Ms. Larissa Herda and currently holds the title of Chairman, President and CEO of Time Warner Telecom, Inc. (news - alert) Under her direction, Time Warner Telecom introduced comprehensive data, voice over IP and metro Ethernet products; expanded its optical network footprint and regional connectivity between cities; launched switched telephone services; built a national IP backbone; and made three acquisitions — a regional Internet service provider and two competitive local exchange carriers (CLECs).

Ms. Herda does not hold back her enthusiasm for IP.

"IP technologies and communications networks change everything!" she says. "From voice to video, intranet to Internet, IP technologies deliver a robust and scalable solution to increas-

ingly complex communications networks. For the first time in the telecom industry, IP communications enables the end-user to control how the network performs, what applications are available and how they integrate into the enterprise network. Through this level of control the end user can build their phone systems around their business process needs — not the other way around — to achieve business efficiencies, economies of scale and lower total costs of ownership. IP communications makes the promise of convergence – integrating voice, data, internet and video applications over a common network — a reality today."

David Endler, Tipping Point, VOIPSA

David Endler is the Director of Security Research for 3Com's security division, TippingPoint. In this role, he leads 3Com's internal product security testing, VoIP Security Center, and vulnerability and malware research.

As Chairman of VOIPSA, (news-alert) he is responsible for leading and managing the business of VOIPSA to provide clear direction and focus, ensuring that VOIPSA committees and projects are structured and run according to a culture which upholds the highest standards of integrity and adherence to VOIPSA's open and vendor-neutral vision.

According to Endler, "IP Telephony (IPT) has finally come of age and is being embraced with rapid adoption across most markets. In order for IPT to thrive however, it must be secured. This requires a collaborative partnership between standards groups, vendors, carriers, and end users.

"In order for the exciting promise of IPT to be fully realized, we need to address its security concerns today rather than wait for a compelling event to derail its adoption curve."

Michael Doyle, Ubiquity Software

Michael co-founded Ubiquity Software in 1993. Michael has over 20 years of telecoms experience and is responsible for all technology functions of the Group. Prior to joining Ubiquity, Michael held various positions at GEC Telecommunications in the software engineering group working on System X. He subsequently became lead network designer at a medical monitoring company which provided one of the first distributed healthcare information systems in the UK.

Doyle believes that IP has fundamentally changed the face of global communications.

"Consumers want convergence of their communications options — the ability to migrate seamlessly between mediums such as wired and wireless phones, GSM/CDMA and IP and to receive content in a variety of interesting forms such as pictures, IPTV, RSS feeds, IMs or just plain voice. IP Communications empowers this convergence bringing a more fruitful and challenging world of opportunity to us all."

Tom Kershaw, VeriSign

Tom Kershaw, Vice President — Next Generation Services for VeriSign, (news-alert) is responsible for a suite of new service offerings for next-generation networks worldwide. Tom joined VeriSign with more than twelve years of product development and marketing experience in telecommunications and technology.

Tom basically believes that IP Communications is all about control.

"In other words, the user defines the network, rather than the network defining the user. In traditional communications, the user is defined by the network relationship — the user is a "phone number," or a piece of wire, a device or an endpoint. In IP Communications, the User can define many relationships to content, applications and other users, and the network carries out that request in the most efficient and effective way possible.

"IP Communications will define a communications model that is limited only by the imagination and needs of users, and the network will learn to adapt to these needs on its own, without human intervention, network design overhauls, and switch upgrades. IP Communications is global, immediate, and always changing — it is a living thing rather than a static, inorganic maze of boxes and wires."

Robert Mimeault, Versatel Networks

Mr. Mimeault brings over 25 years of technology marketing and sales leadership and general management experience to Versatel. Earlier, (news- alert) as founder and CEO of Televitesse, an affiliate of Newbridge Networks, Mr. Mimeault recruited and led a team that designed and sold industry's first network-based Personal Video Recorders (PVRs), concluded key partnerships with Oracle, Bell Canada, Verizon, and CNN and secured three patents. He has also acted in an advisory and director role for several startups, successfully directing strategic partnerships and acquisitions.

In Mimeault's view, IP Communications will naturally gain tremendous traction with the next generation of users, those he refes to as the "point-and-click" generation.

"From the user's perspective, IP communications signifies a sense of freedom and increased productivity for people of all ages," he says. "You no longer have to deal with several devices for each form of communication... voice, video or data. Now, one device can integrate all

Go To Table of Contents | Go To Ad Index

forms of collaboration and information into a single seamless event.

"When you leave your home just carrying your phone, it's like you have a complete communication center with you containing your entertainment as well as an Internet information portal at your fingertips. There is also peace of mind knowing that you can always stay in touch with your family, friends, and business associates at all times. Even the 'over 50' crowd are finding IP communications quite user friendly and once they get the hang of it, they simply enjoy this new technology!"

Shawn Lewis, VoIP Inc.

Shawn M. Lewis oversees all technological and engineering activities of VoIP, Inc. (news - alert) Prior to accepting the CTO position, Mr. Lewis was President and CEO of Caerus, Inc. and its three subsidiaries, Volo Communications, Caerus Networks, Inc., and Caerus Billing & Mediation, Inc.

Lewis wrote the patent for the first Softswitch and SS7 Media Gateway for XCOM Technologies, Inc., a CLEC he co-founded at the time of the Telecommunications Act in 1996 and directed before its acquisition by Level 3 in 1998 for common stock, options and warrants valued at $154 million. Level 3 proceeded to make these patents public, which created the packet communications industry. His next venture, set-top box vendor, River Delta, sold to Motorola. His third successful venture, Caerus, Inc. empowered carriers and service providers to begin selling advanced services and realizing revenues and profits immediately.

Jeffrey A. Citron, Vonage

Jeffrey A. Citron was Vonage's (quote - news - alert) Chairman and Chief Executive Officer from January 2001 through February 2006. He resigned from his position as Chief Executive Officer and became Vonage's Chief Strategist in February 2006. In 1995, Mr. Citron founded The Island ECN, a computerized trading system designed to automate the order execution process. Mr. Citron became the Chairman and CEO of Datek Online Holdings Corp. in February 1998 and departed The Island ECN and Datek in October 1999.

To hear Citron tell it, we are on the verge of great things with regard to IP Communications: "The transition to IP communications services has brought about a worldwide shift from tools and services that have been historically controlled and provisioned by network operators to services that are now controlled by customers," he says. "We are on the precipice of a global shift to applications that are customizable, ubiquitous and flexible, enabling you to choose how you integrate communications tools into your life, on your terms."

Jeff Bonforte, Yahoo! Inc.

Jeff Bonforte is the Senior Director of Real Time Communication Product Management, including Yahoo! Messenger with Voice and Yahoo! Voice. Bonforte oversees the product and business operations for Yahoo!'s consumer instant messaging and voice initiatives. Bonforte is also responsible for enhancing and extending Yahoo!'s (quote - news - alert) voice platform across Yahoo!'s network of services.

Prior to joining Yahoo!, Bonforte was President of SIPphone, Inc., a leading VoIP startup, where he championed the development and launch of the Gizmo Project, a free Internet telephone. He was Senior Vice President for Larry Ellison's New Internet Computer (NIC), where he managed all business development and marketing for the startup.

According to Bonforte, "VoIP's lasting impact will certainly not be cheap phone calls. Instead, VoIP's potential stretches well past the dialtone. VoIP's future promises a more integrated experience, incorporating voice into our online lives. Real convergence unites our presence, our applications, our content, our communities, and our voices. By doing so, voice and presence open critical emotional connections, increase accessibility and convenience, and broaden the capabilities and power of what we do online."

Cathy Martine, AT&T

As Senior Vice President, AT&T Internet Telephony, Ms. Martine's responsibilities include accelerating AT&T's (quote - news - alert) entry into the local and DSL markets, new product development, unit cost management, and monitoring investments to improve the portfolio. She was recently appointed to lead all of AT&T's VoIP initiatives across the corporation.

Earlier, Ms. Martine led the AT&T Consumer Long Distance Services organization, serving nearly 60 million customers during her tenure. She was responsible for marketing, strategic pricing, product management, as well as profit-and-loss accountability for all AT&T subscription-based and transaction-based residential long-distance services representing $10B in revenue.

Richard Notebaert, Qwest

Richard C. Notebaert is Chairman and Chief Executive Officer at Qwest Communications International Inc. (news - alert) From August 2000 to June 2002, Mr. Notebaert was President and Chief Executive Officer of Tellabs, a communications equipment provider. Prior to that, Mr. Notebaert was Chairman and Chief Executive Officer of Ameritech Corporation from April 1994 to December 1999, and, in his 30-

year career with that organization, had numerous other appointments including President of Ameritech Mobile Communications (1986), President of Indiana Bell (1989), President of Ameritech Services (1992), and President and Chief Operating Officer (1993) of Ameritech Corporation. Ameritech Corporation is a telecommunications provider that was acquired by SBC Communications Inc. in 1999.

Craig Walker, Grand Central Communications

Craig Walker, erstwhile CEO of Dialpad Communications, which was acquired by Yahoo! last year, is involved in helping others. Walker's latest venture involves offering free voice-mail service to the homeless through local shelters. Users will be able to dial in from anywhere to access messages from, say, family members, social workers, or potential employers. GrandCentral Communications (news- alert) is further developing next generation consumer communications applications and services, with a projected service launch date of this fall.

Ivan Seidenberg, Verizon

Ivan Seidenberg is chairman of the Board and chief executive officer for Verizon. Mr. Seidenberg became chairman of the Board on January 1, 2004. He has served as the sole CEO since April 1, 2002, after serving as co-CEO when Verizon was formed in 2000.

As chief executive of Bell Atlantic, and previously of NYNEX, Mr. Seidenberg was instrumental in reshaping the communications industry through two of the largest mergers in its history: the merger of Bell Atlantic and NYNEX in 1997 and the Bell Atlantic merger with GTE in 2000. He also led efforts to form Verizon Wireless, operators of America's most reliable wireless network.

As chief executive of Verizon, Mr. Seidenberg is transforming the company through its merger with MCI and through major initiatives to provide broadband communications services to customers.

Michelle Minus Switzenberg, Verizon

As Executive Director in Verizon Communication's (news- alert) Retail Markets group Michelle Minus Switzenberg responsibilities include developing and implementing the strategy and product offer for Verizon's Voice Over IP solution for consumers, VoiceWing.

Prior to this role, Michelle served in a planning role within Retail Markets, where her responsibilities included developing the strategy for Verizon's WiFi hotspot initiative. During her career with Verizon and the former GTE, Michelle has held positions in Strategy and Product Management.

Lior Haranaty, Elon Ganor, VocalTec

Lior Haramaty was a co-founder of Vocaltec (news- alert) and was a major contributor in creating and propelling the Internet Telephony industry. Mr. Haramaty served as director since the company's inception and held multiple executive positions until mid 2000. Currently he serves as a consultant to various companies.

Dr. Elon A. Ganor served as Chairman of the board of directors from 1993 to 2005, and as Chief Executive Officer from 1993 to October 1998 and again from November 1999 to November 2005. Prior to joining VocalTec in 1990, Dr. Ganor, had nearly a decade of international business experience and several years as a practicing physician. He holds a medical degree from Tel Aviv University Medical School. IT

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Achieving Excellence in Serving Customers

The editorial staff of *Internet Telephony* magazine is proud to announce the winners of this year's Internet Telephony Excellence Awards. These companies are as varied as there are products that fit under the IP telephony umbrella. In fact, the only thing more varied than the vendors serving their customers are the customers themselves. And, as we can see from the following companies, they are increasingly turning to IP Communications solutions to build their businesses, and grow their bottom lines. This year's crop of award winners submitted case studies featuring a wide array of end users. For example:

• A global tire manufacturer in Germany turned to IP contact center technology to upgrade their customer interaction center, which handles 98 percent of the company's customer contacts in Germany. Adopting VoIP has resulted in a 10–20 percent operational savings for the manufacturer.

• A residential real estate developer was able to unify their company's communications serving their employees as they grew from three to 20 to 40 in just over a year.

• An Idaho-based University was in need of a system to manage the diverse communications needs of a variety of constituencies: students, employees, donors, alumni, community leaders, and a faculty that splits time between the Idaho campus and teaching centers in Europe.

• A 27-location integrated healthcare delivery system in California and Texas needed tools to manage its hybrid telephony solutions. It turned to an IP-based solution and is now in control of its networks and subsequently, is able to maintain high levels of voice quality.

• A NYC-based brewery recovered from a PBX fire and adopted an outsourced phone system strategy. The company has ended up saving over 35 percent off its existing annual telecom spend.

• A major Swiss insurance company chose IP-based Web conferencing technology to increase efficiency of communication between 8,800 employees scattered about the globe.

• A UK-based digital television solutions supplier is deploying a unified communications solution to help keep their 3,000 employees in touch from over 20 internationally dispersed sites.

• Most compelling is the case study of an award winner that offered free teleconferencing services to victims of Hurricane Katrina as well as the organizations that were involved in the recovery efforts.

• Congratulations to the winners of this year's Internet Telephony Excellence Awards. These companies all have proven products and services, and most importantly, customers that are willing to speak up and offer themselves as references.

• And as I like to remind readers, always check out those customer references. These days — through the efforts of companies such as those gracing our winners' list — that's becoming ever easier to do. IT

The full list of winners complete with links to the customer case studies will be available online at TMCnet.

Go To Table of Contents | Go To Ad Index

COMPANY	WEB	PRODUCT NAME
Alcatel	http://www.alcatel.com	My Teamwork
Allworx	http://www.allworx.com	Allworx 24x
Aspect	http://www.aspect.com	Aspect Uniphi Connect
Atreus Systems	http://www.atreus-systems.com	Atreus IP Service Provisioning
BandTel	http://www.bandtel.com	Virtual Central Office
Cantata Technology	http://www.cantata.com	Integrated Media Gateway (IMG) 1010
Citrix Systems, Inc.	http://www.citrix.com	Citrix Application Gateway
ClearOne Communications	http://www.clearone.com	MAXAttach IP
CommuniGate Systems	http://www.communigate.com	CommuniGate Pro
EagleTeleconferencing	http://www.eagleteleconferencing.com	Eagle Teleconferencing
Elitecore Technologies Limited	http://www.crestel.in	Crestel Convergent Billing
GlobalTouch Telecom	http://www.globaltouchtelecom.com	ASP VoIP Solution
GotVMail Communications	http://www.gotvmail.com	GotVMail VirtualOne
Grandstream Networks, Inc.	http://www.grandstream.com	GXP-2000
Ingate Systems	http://www.ingate.com	Ingate Firewall with Remote SIP Connectivity
Inter-Tel, Inc.	http://www.inter-tel.com	Inter-Tel 7000
Interwise	http://www.interwise.com	Interwise Connect v7
Juniper Networks	http://www.juniper.net	E320 Broadband Services Router
M5 Networks	http://www.m5net.com	Outsourced IP Phone System
Meru Networks	http://www.merunetworks.com	Wireless Backbone System
Narus, Inc.	http://www.narus.com	NarusInsight Discover Suite
Netcentrex CIPC, Comverse Inc.	http://www.netcenrex.com	IPCentrex
NetCracker Technology	http://www.netcracker.com	NetCracker OSS Solution
NICE Systems Ltd.	http://www.nice.com	NICE VoIP Recording Solution
Overture Networks	http://www.overturenetworks.com	ISG 180
Packet Island Inc.	http://www.packetisland.com	PacketSmart VoIP Lifecycle Management
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SPIRIT DSP	http://www.spiritdsp.com	TeamSpirit Mobile
Strix Systems	http://www.strixsystems.com	Access/One Outdoor Wireless System (OWS) 2400-30
Super Technologies, Inc. DIDX	http://www.didx.org	DIDX
SyncVoice Communications	http://www.syncvoice.com	VXTracker
Tekelec	http://www.tekelec.com	Tekelec's Next Generation Switching Portfolio
Toshiba America Information Systems — Telecommunication Systems Division	http://www.telecom.toshiba.com	Strata CIX IP Business Communications System
UCN	http://www.ucn.net	UCN inContact
Verizon Communication	http://www.verizonbusiness.com	Verizon Business' Hosted IP Centrex
Witness Systems	http://www.witness.com	Impact 360 Compliance Recording

Building the Bridge to IMS

How Mobile Operators Can Ease the Migration to IMS by Providing FMC Services in a pre-IMS Environment

According to Market Research firm In-Stat, IMS "...will deliver the 'Holy Grail' of convergence of access to multimedia services/applications across any end-user device." There are a number of factors driving the industry to turn towards IMS, or IP Multimedia System, including that it reduces operational and capital expenses; it has the ability to implement and introduce new services faster; and it facilitates the convergence of different core and access networks, allowing the user the same services no matter the location.

The impact of IMS is profound. Analysts believe that the IP telephony carrier market is poised to grow from $1.6 billion in 2004, to about $4.7 billion by 2010 due to the emergence of IMS. It is expected to bring more competition for services, greater mobility, and more specialized services and content. As mobile devices and services evolve, operators and equipment vendors are standardizing on the IMS architecture in order to tap into the high-bandwidth of fixed and local-area wireless network resources.

Yet, as IMS continues to penetrate the telecommunications industry, operators are challenged to provide users a smooth migration into a new IMS environment, providing cross-network services that can work not only on IMS networks, but also on existing 2G/3G networks. Recognizing that the transition to an IMS-based network will take years to complete, it is very important to provide for a clear and smooth roadmap from these pre-IMS services towards a full IMS environment. Operators are looking for investments that will produce revenues for them today in a pre-IMS environment, as well as in the future, in a full IMS implemented industry.

For example, we will soon see global operators that will move their subsidiaries to IMS in phases, changing over subsidiary by subsidiary. Yet these operators would like to introduce to the market IMS services as soon as that first subsidiary is now fully integrated to the IMS network. So we'll see new services running on the IMS network in some subsidiaries, but on a non-IMS network in others. In an effort to prepare for that scenario, operators must now look at how to best provide new revenue generating services to users while utilizing existing network infrastructures.

Transforming a PC Into a Mobile Phone

A number of FMC service clusters are available to operators now, which work both on IMS networks as well as existing 2G/3G networks. The first is a cluster of PC applications, which can transform any PC into a mobile phone.

Go To Table of Contents | Go To Ad Index

By Zvika Moshkoviz

Users would be able to keep all the same services offered to them on their mobile phone, and with one phone number, identity, and bill. Users are able make calls from between two PCs, and between a PC and a mobile or fixed phone. Services that can be made available to the user include simultaneous ringing on both the mobile phone and PC, video calls, SMS, MMS, as well as the ability to download content from the operator's portal and synchronize contacts.

There are various ways computer telephony integration can be achieved, whether it be by a softphone downloaded from a Web portal, a preloaded softphone on a USB memory stick plugged into a PC, installation of software from a CD, or a 3G/HSDPA data card, which is a combination of a data card and softphone bundled together to offer a complete mobile experience.

Mobile Over Broadband

The second cluster of services operators could provide for now involves providing a mobile line over broadband, working with any fixed device, and providing all mobile services, including

By 2010, shipments of cellular handsets with WiFi-based VoIP capabilities will exceed 132 million devices.

voicemail, VPN, ring-back tone, prepaid billing, etc., all adding up to, once again, one bill.

Many major mobile service providers have openly declared the strategy of using fixed/mobile substitution to increase indoor minutes. Fixed operators, however, are also looking for way to acquire and retain customers while promoting additional communications services, such as broadband IP connections. Users, on the other hand, are looking mainly for simplicity of use, freedom of device and access choice, and economic value in new services.

A mobile line over broadband service enables service providers to extend their mobile services to any fixed device, while providing a VoIP line over broadband, completely controlled by the mobile network. Subscribers benefit from using their mobile phone number and services with any fixed phone, while enjoying attractive tariffs.

Together with an existing fixed number, users can add their mobile number to their fixed phone. This enables subscribers to retain all their existing mobile services with the freedom to choose a fixed or mobile device.

Dual Mode Handset

Operators can also provide users with a dual mode handset, which enables users to have the same user experience using both WiFi and GSM/CDMA access. Users would have one phone number and one device, but one that provides for a seamless handover between networks, when crossing over different coverage areas. By doing such, the handover guarantees continuous coverage without dropping the call and also provides coverage from the best network connectivity available. Additionally, the seamless handover allows users to gain IMS access in areas that only provide GSM/CDMA coverage. In a recent report, Instat predicted that, by 2010, shipments of cellular handsets with WiFi-based VoIP capabilities will exceed 132 million devices.

Whether at home, in the office, or in a WiFi enabled restaurant, a user can receive the best call routing. A dual mode handset service allows WiFi to be utilized as the access technology, while enabling mobile operators to provide more appealing rate plans to end users. Additionally, operators could offer their subscribers a wide range of services on the dual mode handset, including voicemail, SMS, multimedia, video, an address book, access to the Internet, and more.

The service of a dual mode handset enables operators to attract new subscribers and offer original go-to-market services, while generating customer loyalty and ensuring return on investment.

Centrex to Mobile

A final option for operators could be to provide a bridge between IP Centrex and the mobile network to enable advanced PBX features on any mobile device. This type of service, integrated with an IP Centrex solution, offers operators a true enterprise-class value proposition. Service providers can integrate the service along with an IP Centrex solution with wireline services such as VPN.

Integrating this Centrex to mobile platform with an IP Centrex solution enables operators to offer their subscribers enhanced calling features to enterprise users with mobile devices. It merges the enhanced features of Hosted PBX with the mobility of wireless service. These features are available with no changes to the operator's network.

Both mobile operators and non-mobile operators (fixed line, cable, DSL, WiFi, etc.), acting as Mobile Virtual Network Operators (MVNOs) can offer enhanced PBX feature functionality to mobile devices by simply integrating with a Centrex to mobile solution.

Looking Towards the Future

Overall, operators have the ability, through a variety of converged services available, to provide users the same services on any type of device, and the same services over different networks, whether it be GSM, Cable, DSL, WiFi. Operators must realize that the end user doesn't care about the underlying technology, whether it is GSM, VoIP, WiFi, etc. — but that he/she wants to have the same experience all the time, over any network. In some cases, the end user would like to have one phone for all services, both over the mobile network and WiFi network, depending on the best coverage and cost alternative. In other cases, the end user would like to have access to his services (e.g., video calling, voice mail, etc.) from different devices — mobile phone, fixed phone, PC — while maintaining a single identity of one number and paying one bill.

The key for operators, however, is to provide service continuity with the transition to the new IMS network, as well as introducing new IMS services over their existing network. This allows users to continue using their trusted and familiar services when changing to new IMS devices, while enabling vendors and operators to get a "head start" on launching IMS, extending the time in which new IMS services can be tested and proven mature enough for IMS users. IT

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Fixed/Mobile Convergence:

Understanding the Trend

Ericsson/Marconi. Alcatel/Lucent. Nokia/Siemens. Mergers are sweeping through the Network Equipment Provider (NEP) industry because of three forces at work. The first two trends are familiar to any student of mergers and international trade. The first is the ongoing consolidation among the NEPs' customers — communication service providers. NEPs are simply responding to the fact that there are now fewer buyers with greater purchasing power for their products. Secondly, low-cost international competitors based in China have emerged and caused fierce price competition. However, it is Fixed/Mobile Convergence (FMC), which is driving the greatest transformation in the NEP sector — a force not well understood both outside and inside the industry.

FMC marks an evolutionary step in the communication industry. To effectively compete, NEPs will need to reorganize from their traditional, vertically-integrated structure to a more horizontally focused and globally scaled business. Additionally, they will need to adapt to the emerging FMC ecosystem that relies on interoperability and partnerships with smaller start-ups that are actively forging innovative hardware, applications, and services for communications customers.

A corollary to the changes in the NEP industry is found in the series of transformations that the computing industry underwent over the last 20 years. Computing quickly moved from vertically integrated mainframe and minicomputer companies to stand-alone PCs, and finally to a networked computing architecture. Over that period, many once-proud mainframe and PC companies ended up in the ash bin of history. The new winners, such as Microsoft and Intel, focused on select components of the computing solution, achieving global scale that supported the massive investment needed to push their products beyond capabilities of competitors, and actively establishing standards for interoperability between components and across networks.

In the past few years, these open computing standards and the Internet have impacted the NEP industry. Not only have NEPs' products started to resemble traditional computers, running on server technology, but also the NEPs themselves have started a similar horizontal industry transformation. Communications and computing are colliding, and NEPs are in the midst of reconstructive surgery that will leave them looking more like their computing cousins.

Fixed/Mobile Convergence is accelerating that transformation. It is based on Internet protocols that seamlessly enable voice and data communications across home, mobile, and work. Within this new environment, different suppliers have deployed a mixture of equipment in the legacy fixed and mobile networks. FMC requires interoperability across all this equipment — from the handset, to a converged fixed/mobile core network, and on to the innovative applications that will change how customers think about communications. Additionally, since end users will demand access to a wide variety of different devices and applications — provided both within the service providers'

Go To Table of Contents | Go To Ad Index

By Sanjay Jhawar

walled garden, and out in the innovative world of the open Internet — vertical integration can no longer be the dominant business model.

Instead, the NEP industry is merging and disaggregating to achieve horizontally specific global scale. With interoperability, handset manufacturers no longer must be tied to the core network infrastructure developers. Once they have spun off their non-core assets, most NEPs will focus on and invest in the key components of the emerging next-generation network architecture: IP Multimedia Subsystem (IMS). This segment is the control plane of the new core network (including HSS and CSCFs). The control plane is important because it determines which access networks, applications, and devices can be brought together to form FMC services. Achieving dominance in the control plane, combined with the pre-existing radio access strategy to capitalize on IP delivery via WiMAX and 4G broadband wireless technologies, represents the long-term product strategy of NEPs.

A focus on having sufficient scale to dominate the control plane and radio access parts of the network is driving the recent NEP mergers, and is resulting in the formation of a new horizontally layered industry model. In this model, multivendor interoperability across the layers becomes a critical success factor. Industry groups such as MobileIGNITE are actively pursuing FMC interoperability. With 45+ innovative convergence companies representing FMC applications, devices and device software, convergence elements, media path, WLAN, security gateways, and interoperability testing organizations, MobileIGNITE provides a ready-made process for NEPs to quickly achieve the necessary interoperability to make the new horizontally layered FMC industry structure successful for them. NEPs simply have to nurture these groups and fashion a solution that represents best-in-class across that ecosystem. NEPs must negotiate partnerships with smaller application developers, and effectively market FMC's new value propositions to the communications service providers and their customers.

Transformations can be painful, but in the near future, customers will be reaping the rewards of innovations spawned by FMC. The NEPs that will survive will move quickly to react not only to fewer buyers and international competitors, but also embrace and actively advance the new industry structure that is coming with Fixed/Mobile Convergence. IT

Sanjay Jhawar is Senior vice president of marketing and business development at BridgePort Networks. (news - alert) For more information, please visit the company online at http://www.bridgeport-networks.com.

A Big Business Image at a Small Business Price

Hosted VoIP Delivers Enticing and Affordable Alternative to CPE

The market for Voice over IP (VoIP) technology is poised to grow significantly over the next five years. Hosted VoIP services are increasingly becoming recognized as an attractive option over customer premise equipment (CPE) for communication services, especially in the small to medium-sized business (SMB) market.

Hosted VoIP solutions enable SMBs to improve productivity and efficiency by giving them more control and flexibility to grow or contract their business as needed. By using a hosted VoIP solution, cost-conscious SMBs can save on capital expenditure, operating and ongoing maintenance costs. Essentially, they gain a very high-end communications solution with features and functionalities that are typically only affordable by large enterprises. As SMBs look to purchase communications services or transition from a CPE solution, they should understand the benefits and options of hosted VoIP services.

Improved Productivity

The ability to be in control, particularly by self-provisioning, is the number one reason companies adopt a hosted VoIP solution. With a vendor managed solution, businesses will typically wait a day or two and incur a couple hundred dollars of cost to add a person to the local PBX or key system. This slow response hampers the ability of businesses to react quickly and respond to their customers. The self-management and provisioning of hosted VoIP is much easier and MACs (moves/adds/changes) can be made readily through its easy to use portal by an office manager.

The self-management and self-provisioning capability also allows companies in vertical markets (such as retail, real estate, healthcare) to bring new capabilities online quickly. For example, many businesses experience fluctuations with inbound customer calls. During peak

Go To Table of Contents | Go To Ad Index

By Ron Raffensperger

period calling, businesses with hosted VoIP can easily expand the group who takes inbound calls with entry level call center products. This allows businesses to respond to increased customer demand without installing lines, cards, or engaging outside vendors and fees. The office manager or administrator can easily add users to the incoming call group with a click of a mouse. Users can even take calls from remote locations using call forwarding, stand-alone VoIP phones, or even their cell phones. When the peak period is over, calls can be routed normally across the user group.

The productivity of "road warriors" and telecommuters is much improved with a hosted VoIP solution. It allows employees to work outside the office as they would inside the office by giving people one number to reach you wherever you are. Road warriors can make any phone their office phone by using the "Remote Office" feature. Instead of making calls from home or remote offices, users can tell the service to make a call from the remote phone so it appears as if they are calling from the office. This presents a better image to the customer that employees are in the office and responsive even when they are traveling. This feature also eliminates the need for businesses to reimburse users for remote phone service and allows the business to save costs by tak-

SMBs enjoy a very simple management process with hosted VoIP.

ing advantage of the rates negotiated for normal calls from the office.

"Find Me Follow Me" Contact Increases Mobility

Hosted VoIP provides real-time call control interfaces that allow users to be monitored by presence-based applications. This enables users to actively control their calls and easily activate useful functions such as placing calls on hold, click-to-call, conference initiation and controlling their telephone, including capabilities such as hands-free answering. It also allows employees to prioritize their call backs just like on their cell phones. Companies can also create a hosted "Find-Me Follow-Me" contact directory so that everyone's various contact information (including office, cell, home, PDA numbers) is always up to date. This allows employees to look up contacts from a single contact directory and reach each other more efficiently especially when they are dispersed across multiple locations.

For example, many companies find themselves in the situation where, at the end of the month, the sales organization is waiting for a few key orders from VIP accounts. Instead of waiting by their phones for important orders, they can work remotely using the Find-Me Follow-Me Feature. Important callers can be labeled as VIP in the single hosted directory. Users can turn on the Find-Me Follow-Me feature when they leave their desks. This allows users to choose where their important calls should ring, to their cell phone or remote phone. With this key feature turned on, users will never miss an important call.

In addition, companies can control call routing by analyzing call data (such as dialed digits or class of service parameters for a user) and environment data (such as time of day/day of week routing) and routing calls to appropriate facilities as needed. This feature is particularly useful in disaster recovery situations. Should disaster strike a remote office or telecommuter residence unexpectedly disabling service, companies can remotely forward all calls to another office or location so that business communication and productivity isn't negatively effected.

Achieve Same "Look and Feel" Across Office Locations

One of the enticing capabilities of a hosted VoIP solution is that it allows the multi-office locations to be under the same "corporate umbrella" and use the same communication services across every branch of the business. With hosted VoIP, all remote offices look alike even though they are in diverse locations. Everyone is on the same voice mail system and able to dial each other using four-digit dialing. This corporate consistency creates the appearance of a more mature, larger business image for SMBs.

When all remote locations are on the same service, the company saves money on interoffice calls, typically termed complementary "on-network calls." Any call that the business makes to its other locations are free because a hosted VoIP solution works as if those calls were in their office. With on-network calling functionality, SMBs look like a large company with consistent services even though they might be a small company.

Reduction in Telecom Costs

Most importantly, hosted VoIP is economical because it reduces telecom costs. From the start, companies don't have to make a large capital investment; they can be "up and running" with a hosted service immediately. They are given a flat monthly rate based on the number of users, which gives them an immediate cost per person per month. It eliminates multiple phone bills through various vendors with varying rates. This helps businesses keep track of cost and facilitates better budget planning for the future. With an estimated 70 percent of SMB outbound communication service usage being interoffice, the ongoing savings of reducing long-distance calls with free on-network calls is significant.

In terms of maintenance costs, SMBs often realize 35–40 percent reduction in maintenance costs overall even in a short two- to three-year period. When businesses own the CPE, they're paying a telephone company for their lines and services, a vendor to manage their equipment, and they're paying a vendor maintenance contract. With hosted VoIP, the whole ongoing maintenance, multiple vendors and complex management of CPE goes away. SMBs enjoy a very simple management process with hosted VoIP and an ongoing reduction in maintenance costs long-term.

Operational Efficiencies

From an operational standpoint, hosted VoIP allows SMBs to focus on their business instead of using scarce or costly resources to run and operate communications equipment. This gives them more control of their business on a daily basis because they can expand and contract on demand without engaging outside vendors.

With CPE solutions, it's very common that businesses have to deal with several vendors: the telephone company, the phone vendor and often, a system integrator as well. When problems or billing issues arise with CPE, businesses have three different people to deal with to get issues resolved. SMBs in growth mode don't have time or resources to chase all these vendors down to get issues resolved. With hosted VoIP services, SMBs only have one vendor to deal with and one bill for communication services. This improves operational efficiency by speeding service issue resolution and reducing internal resource involvement.

Go To Table of Contents | Go To Ad Index

IMS Forum

The Voice of IP Convergence

www.imsforum.org

The IMS Forum is a global, non-profit industry association dedicated to IP Multimedia Subsystem (IMS) services and solutions. Our mission is to accelerate the adoption of IMS by providing an environment for discussion and resolution of real-world implementation issues relating to interoperability, best practices, and standards-based architectures in the application layer.

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- Receive current market and technology information through newsletters, reports and conferences
- Gain access to an informed professional network of consultants and experts

For additional information on the IMS Forum, please contact: Debbie Hetland, DHetland@IMSForum.org 510.608.5907 or visit www.IMSForum.org.

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Who uses Hosted VoIP?

Today, most of the businesses that are buying a hosted VoIP solution are growing or have multi-office locations. The businesses using hosted VoIP are usually in acquisition mode where they're acquiring locations or opening new locations. Additionally, larger enterprises may put hosted services in remote offices (which look and act as SMBs) and manage it from their corporate offices. A hosted VoIP solution fits the needs of SMBs today but is clearly migrating to mid-market and larger enterprises. Growing, multi-location SMBs that are looking for a new communications solution usually fall into one of two categories: newly formed companies or companies migrating from an existing CPE solution.

Start-Up Companies

Typically, newly formed companies have approximately five to fifteen users, a hodge podge of communication services and are trying to start their business and save money at the same time. They are often awestruck at the cost of buying CPE when they go out to look at a communications solution. For this category of customer, a pure hosted solution doesn't require a piece of CPE at the corporate office or any of the remote offices. They get access to voice services across their existing broadband connection. Pure hosted VoIP is a great way for these kinds of companies to get many of the same capabilities that they would have to pay a lot of money to get usually in a solution that's targeted at a larger business.

Companies Migrating from CPE

The second kind of company is usually more mature, and has already made an investment in a CPE solution. The users typically are very familiar with CPE. They've bought a CPE system; they've used it over some period of time. They're used to buying a new piece of equipment just to get a couple new features every three to seven years.

Key Benefits of Hosted VoIP:

- Improves Productivity with Local Control and Self-Provisioning
- Enables Advanced Communication Services Across All Business Branches
- Offers Business Flexibility and Agility to Contract and Grow on Demand
- Eliminates Up-front Capital Expenditure
- Provides a Single Monthly Phone Bill for Controlling Costs Better
- Reduces Ongoing Telecom and Maintenance Costs
- Simplifies Management and Resource Needs
- Speeds Service Issue Resolution by Reducing Multiple Vendor Involvement
- Increases Accessibility and Effectiveness of Dispersed Employees
- Allows New Features for Vertical Markets to be Added Quickly

However, many of these companies are not interested in continuing to make that ongoing investment in the CPE.

In this instance, an IP trunking option is available. An IP trunking solution can be utilized by companies that have existing CPE but may have not met end-of-life for their PBX yet. It allows them to get some of the IP capabilities (such as four-digit dialing, and free calling between remote locations) using an existing piece of CPE. For companies migrating to hosted, it offers a compelling value proposition. They can gain VoIP benefits and bring remote offices together under one system now with the ability to add other locations easily when they reach end-of-life, ensuring seamless migration in the future.

Is Hosted VoIP Right for my Business?

If a company needs new communications services or is approaching the end-of-life of existing CPE equipment, they should consider whether CPE or hosted VoIP is the right option for the future. If your company wants the flexibility to expand and contract and open up offices with employees on the same services relatively quickly, then hosted VoIP is a better choice than a CPE hardware solution that is more restrictive and costly.

Businesses must be careful to select a "business class" quality hosted VoIP solution that is built around quality of service (QoS) and a secure network. It should have SLAs in place to guarantee the network will remain up and features and functionality are more in line with what is offered in an IP PBX today.

Promising Future

Awareness of hosted VoIP is growing rapidly as more companies reap the benefits and cost savings of the technology. Hosted VoIP communication services continue to be integrated with key applications and customized to vertical markets. Ultimately, VoIP will help enable the "holy grail" of one portal for all business communication needs in a streamlined format that doesn't require multiple Windows open on the desktop. Today, hosted VoIP gives businesses control and flexibility at a manageable price. In the future, hosted VoIP holds the promise to facilitate a great deal more productivity enhancements and simplification to everyday applications and communication. IT

Ronald Raffensperger is senior vice president of marketing at Sylantro Systems. (news - alert) For more information, please visit the company online at http://www.sylantro.com.

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Kurt Bertone
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Moderator

Robert Liu
TMCnet Executive Editor

Session Initiation Protocol (SIP) is the protocol of choice for multimedia communications over next-generation networks. Most voice over IP (VoIP) softswitches, IP PBXes, application servers, and enterprise collaboration platforms already support SIP, and the few that do not, will soon.

However, significant challenges remain before SIP services can be deployed to the mass market or for business-critical enterprise use. Chief among these challenges is securing and controlling SIP applications and services. The good news is that, if secured correctly, SIP services can be made as secure – if not more secure – than the traditional phone systems we have used for the last 50 years.

This Webinar, featuring Kurt Bertone, VP Product Management, Covergence, will delve into the next generation of secure SIP solutions - VoIP, instant messaging, video, file transfer, presence and others - being deployed today.

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By Francois Depayras

Improving Time to Market with Hosted VoIP Services

In a high-growth market such as hosted VoIP services, time to market combined with the ability to rapidly add new customers and scale the business are key requirements of success. Service providers need to establish a technology and business infrastructure that will allow them to quickly add new customers and drive new revenue, while simultaneously lowering cost and improving margins.

To achieve this, service providers must choose between building their own in-house infrastructure or buying a ready-to-go service delivery platform to deliver VoIP and other IP services. This article will address the pros and cons of each approach and examine current technologies that can help providers deliver hosted VoIP services profitably and with the speed and reliability needed to attract and retain customers.

The "Buy Versus Build" Dilemma

Service providers planning to offer hosted VoIP (define - news - alert) face a fundamental choice — whether to build their own system for provisioning and managing their services, or to buy a commercial ready-to-go solution. Often, the "build" option appears attractive on the surface, offering what may appear to be lower cost, more customization to the company's specific business processes, or lower risk. However, the benefits of building almost always turn out to be an illusion.

This "build versus buy" dilemma is not unique to the hosted VoIP services space. Other industries have faced the same challenge. One example is the enterprise resource planning (ERP) market. Before the emergence of companies such as SAP and Oracle, an organization's only solution was to internally build customized software to streamline its critical business processes. But as more enterprises began to adopt similar technologies, the industry created standards and commercial software developers began to emerge with pre-packaged solutions.

The hosted services market is clearly following the same evolution. In the market's early days, service providers looked to their internal IT departments to deliver customized solutions for provisioning, billing, and managing services. Given the current competitive pressure and the economics of a maturing market, such in-house solutions are becoming more expensive to maintain. Moreover, in-house solutions are often built to meet a very specific set of requirements, and as such lack some key features that a commercial solution would have, such as reseller enablement or extensibility of new services.

Software development companies are able to provide more efficient solutions because their development costs are amortized over hundreds of customers

Go To Table of Contents | Go To Ad Index

— not just one. In addition, software developers may have fifty or more employees that develop and test technology solutions, while a company's internal IT department rarely has more than five or ten people dedicated to similar functions.

The Benefits of Using a Commercial Solution

The benefits to providers of buying a commercial software solution for delivering VoIP services include:

- Increased Flexibility: Commercially developed software offers a richer set of options and capabilities than custom software, which usually has only the features that a business believes it needs today.
- Lower Cost of Maintenance: Software developers continually update their solutions to ensure they work with the latest technology platform. With custom software, a provider will need to spend money and time performing necessary updates. This includes tracking of all software version changes and upgrades of vendors served by the hosting software. This is an ongoing investment stream by an internal IT team who takes on the challenge of developing an internal solution.

Hosted providers must choose their service delivery infrastructure with an eye towards future revenue streams.

- Lower Capital Expenditure: Often underestimated, the true costs involved in developing custom software can be enormous, requiring months of project planning, designing, and development using valuable resources. And, as noted above, even after completed, it requires ongoing maintenance and support. Equally important to consider is the "opportunity cost" — that is, the value of opportunities forgone because of the length of time to market. A commercial solution is not as capital- and resource-intensive, and guarantees quicker time to market.
- Greater Extensibility: The best software solutions are architected for expandability, making it easy to add new services. Custom software is rarely architected for expandability, making it difficult to add to without disrupting business processes and customer experiences.
- Faster Time-to-Market: A turnkey software solution enables providers to get services to market in days or weeks. Typical custom software requires months to define and develop, and often takes additional months to refine. It also lacks the learning curve benefits of other customers that are incorporated into commercial products.
- Lower Business Risk: By making it faster and cheaper to launch new services, a commercial solution can help lower the risks involved with testing the market. Rather than spending months and hundreds of thousands of dollars to bring a new service to market only to find that there is no demand for it, providers who use a commercial solution can provision a new service quickly, and if it fails, withdraw it without suffering enormous financial consequences.

Another risk inherent with custom-built software is that it is typically only understood by one or two people in an organization. If they leave the company, the software can become very difficult to maintain or even use at all if there is insufficient training/documentation. Commercial solutions eliminate that risk.

What to Look for in a Commercial Service Delivery Solution

Once a provider makes the strategic decision to buy rather than build, he then faces another choice — deciding which off-the-shelf solution to buy. There are an increasing number of commercial service delivery offerings on the market today, but few of them are capable of truly addressing all the technological and operational challenges associated with delivering VoIP services.

The best commercial service delivery solutions meet the following key criteria:

Multiple Service Support

Margins and profits are driven by delivering many services to a given customer and doing so requires a robust service delivery platform. The service delivery infrastructure should be able to integrate with the growing number of applications, services, and technologies. The platform must give providers the ability to quickly bundle and combine VoIP with additional applications and services, to be able to easily bundle a variety of services so that they are provisioned at the same time and accessible via a single Web management interface.

Reseller Support

Hosted providers can reach more customers and maximize revenue per server by providing volume-based discounts to resellers. By selling through channels, providers can also dramatically reduce the costs of customer acquisition, since that responsibility shifts to the reseller.

To compete in the crowded market, hosted providers must offer resellers solutions that are easy to deploy and support, and provide value-added tools and services such as easy-to-use partner portals, marketing tools, private labeling options, intuitive customer control panels, and complete delegation of administration.

Delegated Administration

Customer expectations of service and support quality are higher than ever before. Key among these expectations is that they gain full administrative control of their services. Providers should invest in a solution that enables delegated administration — that is, a solution that provides customers with automated self-help and self-management options. Research has shown that customers are more satisfied when they can help themselves. Self-help capabilities also help service providers reduce their operational costs and increase their margins.

Future Proof

Hosted providers must choose their service delivery infrastructure with an eye towards future revenue streams. An infrastructure for delivering hosted VoIP services must be capable of integrating other applications and transforming them into fully hosted services. This allows the rapid bundling and rollout of new services while decreasing the overall cost of service delivery. By guaranteeing their ability to launch any new service or application, hosted providers are effectively future-proofing their revenues. IT

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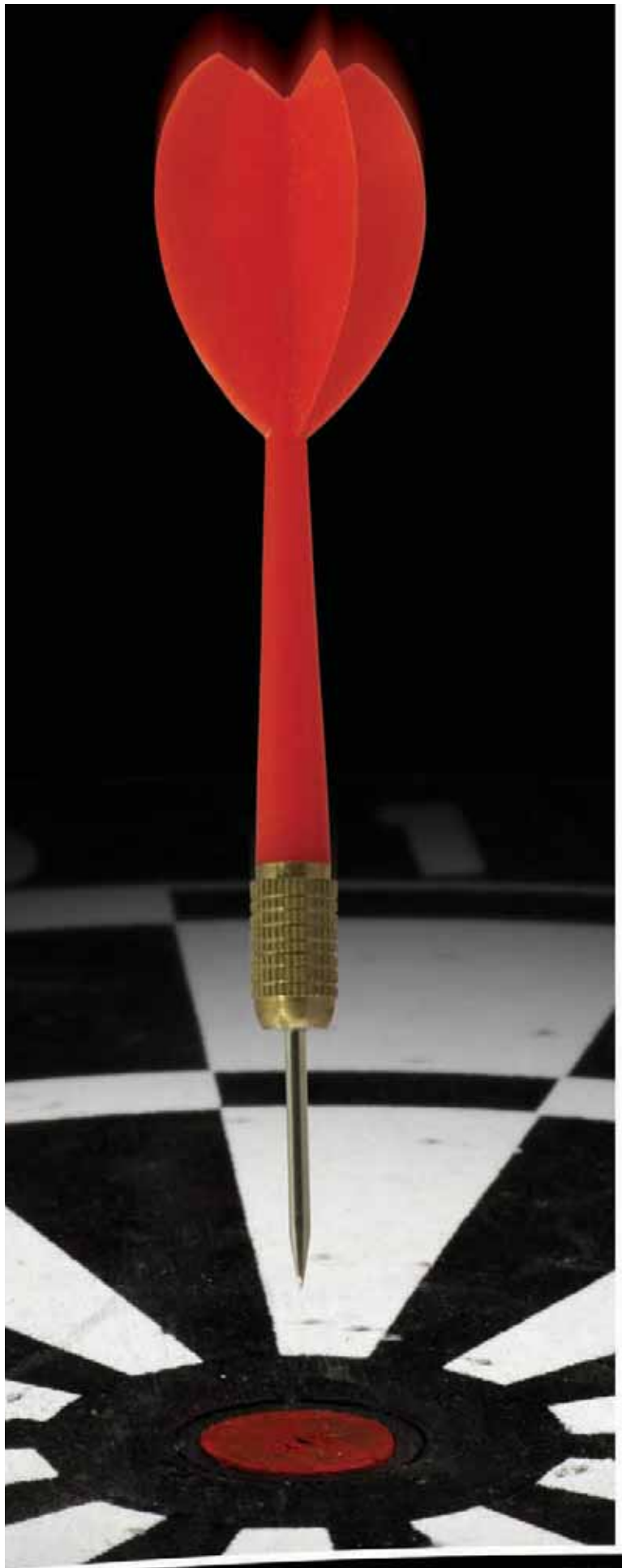

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VoIM: Making Its Presence Felt

Today, VoIM services like Skype are rewriting the rules of telephony. Tomorrow VoIM will cover content, search and productivity.

VoIM is already bigger than most realize. Voice over Instant Messenger (VoIM) is a rapidly evolving category, which encompasses Web-based voice services from eBay (Skype), Microsoft (Live Messenger), Yahoo! (Y! Messenger), Google (GoogleTalk), AOL (AIM), and several others.

Skype is signing over two million users per week, and its 100 million plus users today exceeds the combined user base of all other hardware-based VoIP providers including Vonage and Multiple System Operators (MSOs). It also exceeds the user base of any telco in the world. An increasing number of consumers and businesses are using these networks as their primary fixed phone service and there are clear indications that Skype, in particular, is more than a secondary voice service.

Changing Behavior

"Presence" is a widespread and observable behavior change brought about by VoIM. For example, many Skype users will wait for a contact to come online before they call or send a text chat requesting a live call. While they may also leave a voice mail, the probability of live conversation increases dramatically.

Many small businesses worldwide are also leveraging Skype for communication. In fact, Skype reports that approximately 30 percent of its users are businesses. A recent report by IDC states that small and home offices (SOHO) are the next frontier for VoIP, with intentions for adoption being three times higher than in consumer markets. There's a clear attraction for achieving cost savings for small businesses, and VoIM can now extend these savings further by enabling users to cut mobile and long distance bills and by enabling them to communicate in new ways. For example, several small service offshoring businesses based in India, Morocco, and elsewhere are thriving because Skype enables free and unlimited long distance talk with overseas clients. Skype is also enabling otherwise very cost prohibitive business calls in remote areas or even in airplanes where WiFi coverage is starting to appear.

This is just a small sampling of the changes that VoIM is starting to bring about. The real disruption will manifest itself to its full potential only when VoIM reaches the mobile phone of the average user. When this happens, VoIM will graduate from being a secondary, optional communication service to a primary personalized service.

Mobile VoIM

Yahoo!, Google, and Microsoft are already powering up a significant portion of your communications. The average broadband user spends around 25 percent of its communication time sending e-mail and IM, while voice through mobile and fixed phones represents 12 to 15 hours per month. For Internet leaders, capturing a share of the voice market, especially as it relates to mobile usage, offers a powerful means to drastically increase "time spent" and the opportunity to create touchpoints away from the PC.

Today, the mobile and PC universes offer separate and distinct voice communication user experiences. You have a voice mail for your mobile and one for Skype; you have different addressing system (buddy list versus phone numbers), different interfaces and calling rules, etc. While the large OEMs and carriers are trying to bring basic convergence between fixed and mobile phone services and investing billions of dollars into IMS, independent third-party application providers are focusing on

Go To Table of Contents | Go To Ad Index

By Stéphane Marceau

making the PC and mobile voice seamless for a fraction of that cost. This is being achieved by bringing VoIM to the mobile phone — and without going through mobile carriers for now. Given the rapidly growing usage of the PC and the mobile for communication purposes and the rapidly declining usage of fixed phones, which pair of devices, do you think users will most want to use seamlessly, the mobile and the fixed phone or the mobile and the PC?

As a user, unifying your mobile and PC-based communications through Skype (or through another VoIM service) offers significant advantages, starting with a reduction in your mobile phone bill. Beyond that obvious benefit, maintaining one contact/buddy list and using one voice mail for your PC and mobile service is easier and more convenient than to deal with two contact lists and voice mails. Also, the basic ability to check the presence status of your colleague or to simply to call him on his PC from your own mobile will become an important usability benefit. The notion of calling people based on their names (as opposed to their phone numbers) is an obvious VoIM advantage that can be carried over to the mobile. The user gets more applications including presence, gets the same service and usability on his PC and mobile, avoids expensive mobile long distance, and can call people on their PCs from his mobile. That, in itself, is arguably enough to cause large segments of the population to make VoIM their "communication house," which is accessed from any of the multiple devices they use — especially the PC and the mobile.

In a nutshell, VoIM is poised to become (over time) the central, multimodal, and value-added communication platform for many broadband users and the mobile network simply (and only) brings mobility to that platform.

VoIM stands to represent a multi-billion market on telephony alone.

Simplicity

Skype itself is by now a textbook case study of how to propagate new technology to the masses. Beyond the low usage price point and intrinsic virality of the product, Skype's success is attributable to its utter simplicity. The user experience is virtually dummy proof. The same principle will undoubtedly prove essential to mass adoption of VoIM on mobile phones.

Expecting users to pay for a mobile data plan, to install a VoIM software or plug-in on the mobile device, or requiring users to access to a hosted voice application through a browser can make for a cool user experiences. That said, this level of user complexity and cost are way too high to generate mass adoption in the near to medium term. It is interesting to consider that only five percent of U.S.-based mobile subscribers have ever downloaded a ring tone. Downloading a ring tone is a simple task and the value proposition is extremely simple to understand, yet, usage is still constrained to very active, yet small, segments. Moreover, using the data plan of a user to run Skype or another VoIM service can be prohibited and/or blocked by a mobile user. In any case, voice quality on the data layer is generally mediocre at best. A better approach is to use the mobile voice network to connect to the VoIM network. This offers customers a higher voice quality and reliability and takes away the need to have a data plan and to deal with uncomfortable usability on a mobile screen.

Another limitation of mobile software plug-ins is they only work with a fraction of the handsets in circulation. The mobile handset (and mobile OS) market will continue to be highly fragmented for the foreseeable future with proprietary or OEM-specific mobile Java-based OS still leading the market on market share. The result of this fragmentation is that mobile application or content providers have to customize or "transcode" their applications for almost every handset they want to support which in turn increases unit cost. Finally, there are limitations on what you can do on a mobile screen and the overall mobile handset form factor itself bears obvious basic limitations. While smartphones and handheld devices such as Blackberry reduce this form factor problem, this market segment represents less than 1 in 20 mobile handsets today.

As a result, a mobile VoIM plug-in designed to reach the mass market ought to be completely "server-side." In other words, it should not require any software on the mobile device and only a simple install on the PC. Imagine users can access and use their Skype service from their existing handset regardless of the model they own or the mobile provider they deal with. Take this one step further and imagine the VoIM application in question does NOT require a mobile data plan and uses the circuit-switched voice channel to carry the call to a VoIM gateway (i.e., a SkypeIn phone number). A few third-party providers now offer such ultra-simple server-sided plug-in applications. These enable users to call their "Skype in" number, be greeted vocally by their system, and then command the system to dynamically call contacts, play voice mails, check presence, and initiate conferencing of multiple parties, and more.

Mobile "Anything"

Clearly, one of the most strategic battlefields for portals and search engines is to capture usage and "time spent" on the mobile phone, which has virtually become a human appendage and is used "continually" and everywhere by consumers. While the apparent strategy of leading Internet players is to offer search, traffic, other content and productivity services through the users' mobile browser or through a downloaded mobile application, the average user will likely start to start to use mobile search and to consume content from the mobile through a very different path.

Imagine a mobile VoIM user calling his SkypeIn number five times a day to initiate phone calls and buddy calls, two times a day to check presence, and three times a day to listen to his voice mail. That user who has developed the habit of calling his Skype 10 times a day is only one step away from using a voice-enabled search service seamlessly integrated with the VoIM experience. That same user may also ask to have access to RSS feeds (automatically read upon request) from his mobile by calling that same phone number. From a business standpoint, that same user may be looking to initiate dynamic conference calls from his mobile involving colleagues on the PSTN and others on their PC. The opportunities to leverage the portal/search engine assets abound. The so far underwhelming success of voice portals is explained by a lack of accuracy of speech recognition technology and by a lack of contextualizing of the user experience. The former barrier is going away rapidly with speech recognition leaders reaching new levels of accuracy and top VCs funding new speech recognition related start-ups. The latter is about to be addressed by Mobile VoIM.

As a result, VoIM stands to represent a multi-billion market on telephony alone and potentially much more as a stepping stone to mobile search and content. Who knows? Maybe the $4.1B eBay paid for Skype will look like a bargain in a few years? IT

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Standards-Based Telephony:

The Best Opportunity to Address Emerging Business Drivers

As Voice over IP (VoIP) began to emerge as a viable communications option back in the late 1990s and early part of this decade, business operations by and large were conducted much like they had been for decades: a preponderance of large, central locations filled with people of all job descriptions. Executive, manufacturing, clerical, and customer service functions were typically housed in close proximity to each other, connected by the technology of the day — analog, cellular, and wireless — which served business needs quite well. Remote offices relied on wired digital technology to communicate with the head office, and cellular phones enabled mobile professionals to communicate with customers and team members whenever they needed.

The first VoIP solutions did not even attempt to satisfy overarching business drivers; instead they were positioned as solutions to address specific communications concerns. For instance, one of the more talked about benefits of first generation VoIP (define - news - alert) was the perception that the technology would significantly reduce long distance toll charges. Another potential advantage was better efficiency in network administration by collapsing redundant voice and data infrastructures into one cohesive, manageable network. But in reality, these benefits proved elusive to businesses for a number of reasons. Many long distance carriers, sensing the threat posed by VoIP, drastically reduced their tariffs to combat a VoIP incursion. In addition, many customers realized that carrying voice traffic on their data networks required substantial infrastructure improvements that did not offer a quantifiable return on investment.

Over the past several years, however, the adoption of VoIP solutions by businesses has risen steadily, to the point that no one in the industry can really doubt that IP is well on its way to replacing digital communications as the de facto solution for businesses. What change occurred that enabled it to become embraced by customers?

While there may be limited appeal to a customer just by transporting voice on a data network, more sophisticated businesses have discovered that VoIP technology has a distinct advantage over legacy solutions by enabling next generation applications that can address evolving business drivers in a rapidly changing economic environment.

Evolving Business Dynamics

Over the past several years, we have all been witness to a series of profound changes in the ways businesses operate. Tighter competition, higher costs, security concerns, and a scarcity of skilled labor have caused owners and managers to re-think how they can profitably operate their companies. Geographic limits on communications imposed by traditional telephony have been shattered by VoIP, and astute business people were quick to leverage the technology to help manage a changing business environment. For example, multi-location businesses have been effective in using VoIP to streamline communications between sites, resulting in higher efficiency and lower costs. Many companies have also used VoIP to implement telecommuting programs that enable valuable employees to handle

Go To Table of Contents | Go To Ad Index

By Jeff Ford

both work and home responsibilities. The geographic transparency of VoIP is a perfect environment for telecommuters by allowing them to keep the same profile to customers and associates as if they were working in their offices.

Enterprises have also used IP communications as a means to increase productivity among its mobile employees. Presence and collaboration applications that are optimized in an IP environment are rapidly being embraced as important tools that can enable mobile professionals to increase sales, enhance customer service and improve efficiency through a vast array of advanced capabilities, such as call routing, document sharing, Web conferencing, chat, and more.

But as powerful and profound as VoIP has become in addressing today's business issues, the reality is that no one can guarantee that the technology will have the same impact tomorrow. While we all would like to predict how business will be conducted in the future with some sort of accuracy, there are just too many variables to do so. Geopolitical issues, interest rates, macro- and micro-economic concerns, and technological innovation are just a few factors that may impact the business environment. And of course, there are other variables, like weather, energy supplies, natural disasters, changes to transportation infrastructure, and so on. So while it may be convenient to assume that today's VoIP technology will adequately address tomorrow's business drivers — much like we all assumed that TDM technology was sufficient to handle the changing business environment five years ago — both common

New tools will be created to solve tangible business problems.

sense and history tell us that this is not necessarily so.

What can businesses do to ensure that their current investments in technology will have relevance in the wake of an ever evolving business climate? The responsibility really lies with equipment vendors and software developers to ensure that solutions remain dynamic, flexible, scalable, secure, and reliable. Perhaps the most effective way to accomplish this feat is to deliver an entirely new generation of communications solutions built on industry standards.

Industry Standards: A Long-term Approach

Standards-based communications platforms give enterprises a solid, reliable foundation to build their communications systems the way they want. Through this approach, businesses can use devices, applications, and tools without having to be concerned about interoperability and performance with closed-ended proprietary technology.

It's a message that is starting to resonate with the market. Standard protocols like Session Initiation Protocol (SIP) are already gaining a toe hold in market acceptance. Recent entrants into standards-based communications like SIP-B (SIP for Business), SIMPLE (SIP for Instant Messaging and Presence Extensions), BTXML, and security standards such as STUN and TURN are also gaining more acceptance among industry thought leaders.

Recent advances in standards-based communications have been quite formidable. Compared to earlier versions of industry standards — most noticeably ISDN — SIP can offer end users a robust communications experience that certainly rivals — and exceeds — the traditional proprietary offerings of many legacy vendors. The most recent SIP-based offerings, including SIP-B, can routinely deliver the PBX-style functionality that businesses rely upon.

Other industry standards are just as potent from a technology perspective — for example STUN and TURN, two protocols that enable communications traffic to negotiate various enterprise firewalls without compromising security or impeding the user experience. These protocols enable an enterprise to maintain the most stringent security, redundancy, and reliability requirements, satisfying IT demands while enhancing both communications and business processes. From an IT manager's perspective, this is a powerful combination.

Solutions Designed to Meet Tomorrow's Challenges

While it is apparent industry standards work from a technology perspective, the litmus test for standards-based communications, as with all technology, will be played out in the commercial arena. Will these standards really translate into profound business benefits?

In one respect, this is an open-ended and constantly evolving question. One of the most powerful benefits that emerging standards-based solutions offer businesses is their open-ended architecture.

We are already seeing a growing number of savvy managers exploring the possibility of integrating multi-functional SIP devices into their networks. These endpoints, manufactured by an increasing number of third-party developers, offer the enterprise a number of vertical and horizontal market solutions that can enhance business performance in meaningful and tangible ways. For example, the deployment of tools like SIP video phones or SIP-based point-of-sale devices into the network give managers the ability to integrate value-added devices of their choosing into their networks with the full comfort of knowing that these new solutions will operate seamlessly with the infrastructure.

This story is even more compelling when discussing applications. Just imagine the upside to a business owner when he or she can choose to leverage any number of vertical market, CRM, call accounting, or virtually any business-specific application into their infrastructure without having to worry about compatibility with a proprietary system.

Safeguarding Technology Investment

And that's just the beginning. As business dynamics and economics continue to evolve, we cannot assume that existing proprietary technology will be able to handle new business challenges. And therein lies the power of SIP and other standards. The next generation of enterprise communications solutions will come from vendors working closely with the development community to build devices, applications and new offerings without the handcuffs of closed architecture, proprietary technology. These new tools will be created to solve tangible business problems, improve performance and increase efficiency. They will work uniformly within the enterprise infrastructure and interoperate seamlessly with other applications and devices within the enterprise. And the cycle will continue to refresh itself with even newer and more cost-friendly solutions as the development community continues to refine and re-energize innovation.

Standards-based communications will not have the answer for every business challenge — but it won't have to. That responsibility will lie in the creative minds of manufacturers and software developers who see SIP and other standards as their canvas. It will be up to them to use imagination, savvy, and instinct to build timely and relevant solutions that will serve the specific needs of businesses for years to come. IT

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Go To Table of Contents | Go To Ad Index

User Experiences:

The Key to Simplified Communications in a Complex World

Strategies for Harnessing IP Innovation for a More Productive Workforce

Since the introduction of the telephone, businesses have counted on new technologies to fuel even greater levels of productivity. Today, the technology choices are plentiful, ranging from IM to e-mail to cell phones, and the landscape of business communications is changing rapidly. But the proliferation in technologies has also meant more complexity for users. By implementing a communications strategy that focuses on simplicity, ease-of-use, and seamless integration of technologies and information, businesses can reduce the complexity of having too many options — and drive greater levels of employee productivity.

Simplifying access to communications functions is critical to serving the varied needs of today's workers. Today's employees are challenging companies to deliver advanced communications that support a more mobile workforce, and serve those with an 'always on' lifestyle. This includes a savvy "iGeneration" of employees that grew up using a vast array of consumer technologies and is now entering the workforce. But to truly benefit from today's advanced capabilities, devices must be intertwined with easy interfaces tailor-made for the way people work. The Web itself is just one example, having been invented in the 1960's, but not gaining widespread use until the simple Web interface became available in the 1990s, offering greater access and seamlessly integrated information to users.

To achieve simplified user experiences, a new foundation for workforce productivity is required. IP telephony delivers the solid foundation on which businesses can deliver easier access and richer user experiences — and drives faster and more productive interactions. And to obtain this type of experience, regardless of the tools employees use, the phone is still a central device that most people turn to for quick and decisive communications.

Avaya has taken steps to ensure that all of its communications tools, including its IP phones, are geared for the way people work, and bridge with every facet of business communications. Today's desktop phone should seamlessly bridge with cell phones to serve mobile needs. They should deliver an interface that makes full use of messaging and applications to reflect industry-specific needs. And of course, they should up the ante on voice quality to deliver a new audio experience fit for today's global enterprises. This all adds up to ubiquitous, seamless access that lets a modern workforce thrive in increasingly distributed businesses, whether they are working from home, in the office, or on the road.

But this is just one approach that harnesses IP innovation. There are other key tactics that companies can implement in order to enhance user experiences with communications. Here are a few:

Look for Consistency Across Devices

Many employees now manage several communication devices at once — such as Blackberries, cellular phones, PDAs — with each one supporting a different

Go To Table of Contents | Go To Ad Index

By Geoffrey Baird

set of capabilities. For example, voicemail on a cell phone is different from a business desktop phone, which allows message forwarding to other parties. In today's multimedia, multi-device business world, users must have a seamless and consistent set of capabilities across all of their communications devices.

IP telephony solves this by supporting all of a user's devices on a single platform, providing an integrated, enhanced user experience. Unified communications, for instance, delivers a business advantage by allowing users to obtain emails and voicemails through the same application. Consistency across endpoints is essential when it comes to ensuring more productive communications.

Choose Simplicity — and Specificity — in Design

Functionality and sturdiness in a device have always been qualities held in high regard. But now, streamlined aesthetics can be a key decision making factor. Business phones, for instance, should provide a streamlined interface that expose all of the capabilities of IP, yet hide the complexity. When choosing phones for the workforce, fewer buttons can make users more comfortable. When it comes to design, make sure a phone's model fits a specific user profile. Those requiring lots of mobility capabilities, for example, will require an interface different than those requiring just basic functionality.

Select Tools That Combine the New with the Familiar

Advanced IP features are great incentives, especially those that put control at the user's fingertips. Enable users to manage an entire conference call more efficiently by letting them organize, add, and mute parties via a phone interface. See someone that was not invited to a conference call? Simply disconnect them with the touch of a button. These advanced features not only make communications easier; they also invoke curiosity so people learn new ways of interacting — helping to build a productive and efficient workforce.

In the end, devices serve people. That is why businesses should ensure advanced devices and functions have a familiar look and feel, catering to the human factor and encouraging adoption. Today's phones should come equipped with cell phone-like functions — such as call logs and menu-driven interfaces — that are familiar to users. Devices that bridge the advanced with the familiar create a happy medium that enhances the user experience.

Prioritize Sound Quality

Wherever you conduct business, communicating with clarity and quality is a

IP telephony can be tailored for businesses and evolve with future needs.

prerequisite. And, with more businesses facing information overload, it's the clarity of voice communications that cuts through the clutter and gets things done. There will be little patience if workers cannot properly hear colleagues and customers, whether through a desktop phone, a softphone, or a cell phone. Advances in audio technology can deliver higher quality experiences for users of leading edge phones. Choose vendors who place a priority on high-quality voice technology, and your business will be well prepared to support a higher level of communications.

Ensure Communications can be Customized

IP telephony brings applications to the table that can be tailored for businesses and evolve with future needs. Take, for example, a hospital that needs access to patient charts, or a manufacturer that needs inventory data. Modern IP telephony devices are capable of supporting functions on the devices that are not just connected to your network, but tied to enterprise needs. Ensure your communications strategy anticipates the evolution that will occur through customizable next-generation applications. And whether you are a finance, retail, manufacturing, or healthcare organization, employees will reap greater rewards through communications.

Depending on an employee's function within an organization, one strategy will, of course, be more effective than another. Yet when considering the entire workforce, all of these tactics are powered by a key factor: simplifying the user experience. Once the workforce realizes the positive effects on their productivity, they will be ready to employ a better way to communicate. In turn, your business can realize the full potential of IP Telephony and its ability to generate improved productivity and returns on your investment. IT

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Real-Time Service Management to Enable an On-Demand Environment

As telcos ride into cable operators' triple play territory, their lances are tipped with new service bundles including VoIP and IPTV. Cable operators claim the reasons people will choose their bundle over a broadband IP operator's is the breadth of targeted and integrated services they will offer on demand, and the stickiness of their triple play bundle (digital video with video on demand, high-speed data, and VoIP). VoIP (define - news - alert) has been top of mind for many broadband operators in completing their triple play offering. VoIP, however, may be the last of the new mass market services. Going forward, revenue growth must be derived from niche-oriented, personalized, and on-demand services telcos claim they will deliver.

As broadband operators (both cable and telco) transition their operations to provide new classes of value-added services, they have the opportunity to transition to a new real-time service management model, which leverages existing OSS infrastructure, but greatly simplifies and speeds the creation and delivery of new services. IP Multimedia Subsystem (IMS) principles combined with PacketCable 2.0 specifications may be a decisive differentiator for cable operators over ILEC competitors in delivering next-generation blended services via SIP. Telcos will likely be combating this competitive threat with deployment of SIP-enabled services using the new TR-104 specification and an emphasis on fixed/mobile convergence applications.

Taking advantage of these capabilities, however, will require several incremental steps to enhance operations with the aim of enabling faster and less costly service delivery, centralized service creation, unified subscriber service management, and real-time session and transaction-based service capabilities. This operational management transition must be done in manageable steps and in a way that considers and restrains any possible increases in the unit cost to deliver each service.

Triple-Play Competition Drives Innovation

Broadband operators are investing billions in IP infrastructure, and new OSS/IMS architectures. They are thus betting their businesses on their ability to squeeze other providers out of the best parts of their core residential customer markets. Despite consistent news that progress is slow, telco developments are likely to mature over time and will present a serious threat to cable operator's primary revenue streams. Operator executives argue that their advantage over broadband IP will be derived from their ability to innovate and integrate services faster and on a more personalized basis than their broadband operator counterparts. What's true about this statement is that the real battle will be fought over on-demand, premium services revenue as negative price pressure from aggressive competition drives today's triple play deployments to commodity status.

Future revenue growth remains a concern for any broadband operator. VoIP and high-speed data services revenues will stabilize and the next big service will not be a mass market play based on a significant network build out. Instead, new revenue growth will come from the range of new applications that utilize the broadband and IP infrastructure operators already have in place, or may be enhancing with IMS-enabled architectures. The critical differentiator in

Go To Table of Contents | Go To Ad Index

By Brian Cappellani

the multi-service world will be the ability to introduce many services rapidly into a real-time service delivery and management environment at a low unit cost. Further, once services are introduced and delivered, they must also be supported and managed on a continuous basis. Providing a superior customer experience will become an increasingly critical success factor, placing a premium on support processes and service management capabilities that can cope with the complexities of these new classes of services.

Understanding Emerging New Classes Of Services

With advances in OSS Service Management and associated service delivery platforms, it is now possible to offer data, VoIP, video, and multimedia services in new ways to better address the needs of customers and to expand the addressable market with more differentiated products. These new service classes include:

• On-demand services where the customer purchases a particular service on a one-time event basis. Examples of this could be streaming video content (with QoS), premium photo upload service (with an upstream bandwidth boost), or a temporary bandwidth boost. The customer is billed on a per event basis in which an incremental additional bandwidth usage fee may apply.

The point is to allow new services to be consumed on request via ubiquitous network access.

• On-demand dynamic session-based services where the nature of the service will be modified or will evolve on a real-time basis during a communication session.

• Time interval-based services where the customer may purchase a service for a day, weekend, or week, and the OSS systems activate the service at the target start time and automatically deactivate the service at the end of the specified time interval. This would allow the lower tier customers (largest segment) to purchase premium services (i.e., higher data speeds, movie channels, sport packages, etc.) for only the intervals they desire, as opposed to not buying any premium service.

• User identity-based services for tailored packages that are targeted to particular users in a household. These packages could include gaming services, parental controlled services, and follow-me services. Customized packages require the user to be authenticated and authorized, and can be further "personalized" by the user via a Web interface.

• Converged or blended services offer service interworking between voice, data, and video services. These include services such as caller ID and unified messaging on TV, IP video conferencing, IPTV interactive features, remote DVR programming, multimedia gaming, the ability to access set-top content from any device, and more.

Understanding On-Demand, Session-Based Services

One of the newer aspects of service management that is attracting a lot of attention is real-time session-based service invocation and orchestration using technologies such as IMS. However, there isn't a clear picture of what these next generation value added services will look like. It's safe to say that all of the investments in technologies like IMS, service delivery platforms, and migration to all-IP environments are not just aimed at delivering higher-quality voice services. The point is to allow people to evoke a range of services on demand, and, in doing so, encourage them to increase their service usage and allow new services to be consumed on request via ubiquitous network access.

Some examples of what these services may look like include:

• A child wants to watch an on-demand movie and selects it using the TV's programming guide user interface. Because she does not have the authorization PIN, she requests parental approval. The request is sent to her mother's cell phone (who is out for the evening) along with the description of the movie. Mother reviews the description, and approves the request. The on-demand movie starts.

• While watching a streaming video of a sports event on his TV, Matt wants to discuss it with a friend. Matt calls his friend using his VoIP phone, the incoming call is displayed on the friend's TV who decides to accept the call. Matt shares the selected portion of the streaming event that is displayed on the friend's PC or TV. They discuss it, pull up stats off the Internet that they both can view, and, once they have completed the discussion, disconnect.

• Bill is reviewing an advertising proposal and decides to call Betty and Tom to discuss it. An audio conference call is automatically set up to Tom's multimedia terminal in the office, and the network determines that Betty is traveling and taking business calls on her wireless PDA, to which the call is then forwarded. The network notifies Bill that Betty and Tom are on video capable devices and networks, and Bill signals the network to upgrade the audio conference call to a video conference. During the call Bill sends pictures of the ad campaign to Betty and Tom, and Tom marks up the ad with some suggested changes and screen shares the changes in real time with Betty and Bill. Betty suggests she add Karen to the call to comment on the suggested changes. Karen is at home on a regular telephone, but the network automatically determines that it can send the visual content to Karen's PC at home. Karen accepts the request to send the visual stream her PC. She discusses Tom's recommended changes, and when they have completed their discussion Betty and Tom drop off the call. Bill and Karen continue with an audio call to finalize the ad campaign.

As can be seen from the above examples, on-demand session-based services accommodate mid-session enhancements without having to hang up and start a new service, change devices, change access networks, or remember to request the required services before the session begins. These services will be highly personalized and intelligent. The OSS system must be aware of the user's communication preferences, location, communication devices and available access networks, so it can deliver the required service, where and when required. This mode of service consumption will be more tuned to the users' communications lifestyle.

The point of bringing in these value-added services and focusing on creating the best possible customer experience is once again differentiation. Providing real-time session based on-demand services will be a differentiator for a time, but ultimately will become table stakes. The difference will be in how innovative and timely offerings are, how easy are they to create, deploy, order, use, and personalize. Any strategy aimed at realizing these differentiators must consider a technically and financially feasible approach that leverages existing infrastructure and allows the broadband operator to transition incrementally toward providing real-time session based on-demand services. IT

Brian Cappelani is Chief Technology Officer Sigma Systems. (news - alert) For more information, please visit the company online at http://www.sigma-systems.com.

Go To Table of Contents | Go To Ad Index

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Leveraging IMS to Deliver Triple Play

In an increasingly crowded communications market, service providers are looking to the next generation of enhanced services to boost revenue and help attract and retain subscribers. Recently, many service providers have begun marketing bundled services in which a variety of products (e.g., VoIP, TV, and high-speed Internet) are offered side-by-side with discounted pricing and the convenience of one bill. But to grow and gain market share, service providers now need to differentiate themselves by offering blended services, where all aspects of the triple play (voice, video, and data) work together to provide a seamless, feature-rich, and personalized service experience.

As the IP Multimedia Subsystem (IMS) architectural framework continues to evolve, one of the increasingly important functions to emerge is the Service Capability Interaction Manager (SCIM). The SCIM is the predominant point of orchestration for real-time multimedia applications. Wireless and wireline operators alike are quickly realizing that the SCIM is a critical component in their service management and delivery strategies. By providing dynamic service brokering among multiple application servers, the SCIM will play a key role in delivering blended triple play (and ultimately quadruple play) service packages (Figure 1).

Cross Domain Service Delivery

To accelerate introduction of value-added services, operators will require a flexible service delivery infrastructure able to rapidly integrate best of breed services as they become available without having to wait for the incumbent vendors to develop them. These new services may be IMS services, Web Services, or Content Services (such as IPTV, broadband, or mobile content) that may need to interact to provide a rich end user experience as part of the triple/quad play service bundle. This requires an open infrastructure, where loosely coupled, multi-domain services can be stitched together in any desired manner to form a composite service targeting niche subscriber profiles or demographics. This can be achieved with a converged Service Delivery Platform (SDP) that is flexible enough to package cross-domain services and define how they will interact.

Subscriber-Centric Service Model

A key step toward achieving greater subscriber loyalty and preventing churn is the development of a subscriber-centric model that delivers a personalized service experience. Leveraging the trusted business relationship with the subscriber, the service provider can mine critical information such as: profile, past purchasing history, locality, demographics, business, or personal needs. Service providers must learn how to exploit this intimacy to market services that premium customers perceive to be worth the price.

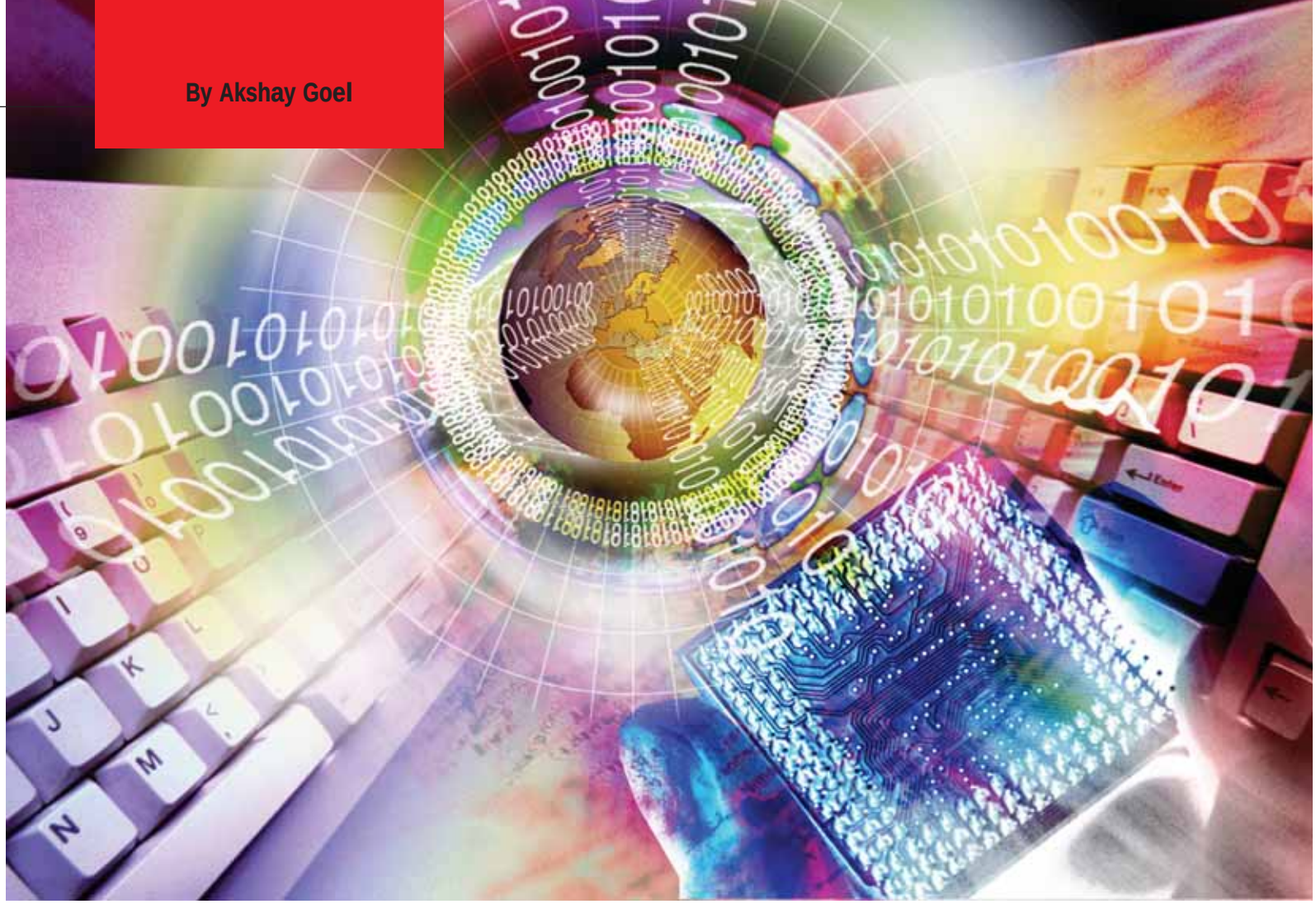
Subscriber Personalization

How is a subscriber-centric service model realized? By providing subscribers increased control over their unique service profile, including determining who can reach them, when they want to be reached, and the device(s) they want to be reached on. The service experience should be capable of changing automatically based on the personalization and the subscriber's dynamic context reflecting in the profile. Some basic examples of personalization include:

- Allow subscribers, via self-care portal integration with universal address books, to create a single view of white lists and black lists for who can reach them and when, along with personalized screening override options (i.e., PIN).
- Use presence, availability, and calendar information to dynamically control the best method of reaching the sub-

Go To Table of Contents | Go To Ad Index

By Akshay Goel



scriber — fixed line, mobile, video phone, SMS, voice mail, e-mail, etc.

• Configure optional services such as parental control for pre-screening of video on demand content via the parent's mobile phone before authorizing the purchase of the content.

• Create account sub-profiles, such as a family plan with restrictions on teen calls being made during the school hours.

IMS Subscriber Service Profile

Fortunately, the IMS standards provide the foundation for implementing the types of personalized services described earlier through the IMS Subscriber Service Profile (IMS Profile). The IMS profile is created by the underlying SDP, based on the services purchased and provisioned into the Home Subscriber Server (HSS) during the provisioning process. The profile reflects the specific set of services the subscriber can use and contains the subscriber's personalization data to be made available through the IMS architecture.

IMS profiles consist of multiple parts to be used by different elements in the IMS architecture. Parts of the IMS Profile are meant to be static in nature (i.e., they do not change very often) are generally used for executing basic session and service control capabilities by the Serving Call-Service Control Function (S-CSCF).

Subscribers' dynamic data is obtained from various sources such as self care portals, group list management tools, PIM, location based servers, service availability, calendar, and presence servers. This personalization data, the relationships among these pieces of data, and how they will be used in the IMS network, is all embedded in the

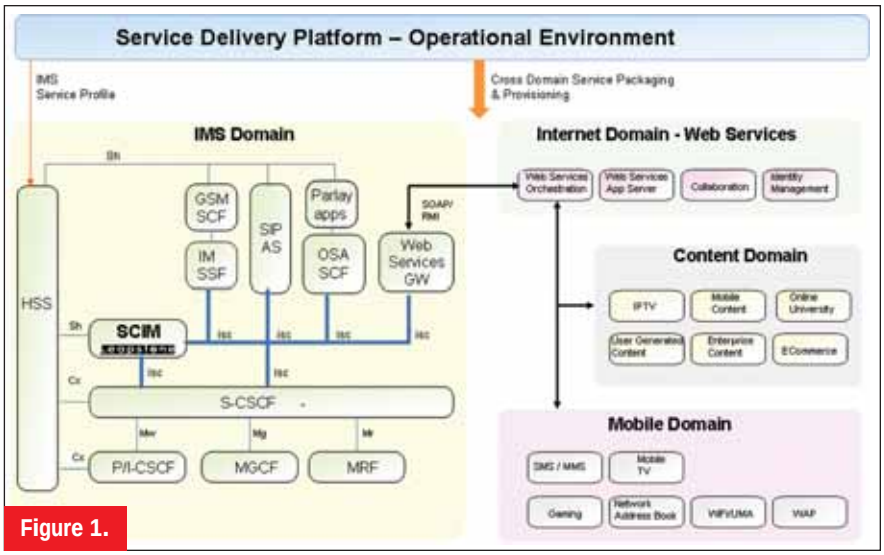


Figure 1.

IMS profile (i.e., Transparent Repository Data). Of particular note in this context is that the IMS SCIM is able to derive the subscriber's personalization context embedded in the dynamic attributes of the IMS profile, and then utilize this dynamic data to create a premium service experience based on highly individualized service orchestration.

Service Orchestration

Business-driven imperatives, like service velocity, service agility, and personalization, can now be addressed by an IMS-compliant architecture for service orchestration that is hospitable to best-in-class solutions without vendor lock-in. As a guiding principle, service orchestration should be agnostic and enable multiple services that have been created independently (and potentially on different technologies) to work together seamlessly. Despite confusion about the concept, service orchestration can be defined at three "levels" in the context of the IMS architecture. It is critical that all three be implemented in any IMS architecture to support the fully desired service set:

1. Service Invocation: The method by which the core IMS infrastructure determines which application server should be invoked to handle services in the IMS Profile.

2. Service Execution: Most of the IMS Application Server technologies have some type of limited service orchestration to enable composite service execution in technologies such as: Parlay, Parlay(X), Java SIP servlets, JAIN SLEE, and SS7 SCPs.

3. Web Services: In most recent IMS designs, Web services interfaces are being added "to the top" of the IMS architecture to allow applications to either execute Web service transactions or for Web Services to initiate IMS sessions. Web Services have their own service orchestration technology that is independent of IMS Service Invocation or the IMS Defined Service Execution technologies.

Personalized Service Invocation via an External SCIM

IMS standards define the SCIM as a specialized type of SIP application server specifically designed to make more intelligent, subscriber-specific interaction management decisions between various application servers. This includes the ability to evaluate dynamic subscriber-specific service data to determine which services in the IMS Profile should be executed or not executed. The SCIM is "subscriber-aware," and as a result is able to manage value-added NGN services based on complex service profiles.

By deploying the SCIM as an independent external component, service providers can expand the range of available cross-domain service combinations. The unique value-add of deploying an external SCIM is that it can be transparently inserted between the S-CSCF and the application servers. From the perspective of the S-CSCF, the SCIM will be just as easily integrated as any other application server. From the application server perspective, the SCIM will appear to behave just like an S-CSCF. An additional benefit of this approach is that where the IMS Subscriber Profiles that do not require the use of the SCIM function, the S-CSCF can still be communicating directly to the application servers, thereby reducing an unnecessary element in the signaling path.

The SCIM leverages the IMS profile, SIP message data and the information gathered from the subscriber's service, network and personalization data to dynamically orchestrate services across multiple application domains. These can be executed on the basis of a complex set of Conditional Service Invocation rules derived from the SIP messaging (header and data attributes), service priority, service interaction (conflict), error handling rules, and subscriber's personalized profile.

The SCIM is the predominant point of orchestration for real-time multimedia applications.

Cross Domain Service Orchestration

As mentioned earlier, Web Services orchestration is independent of IMS protocols, requiring a brokering function for tapping into internet-based application services. The SCIM interfaces with the Web Services layer by means of a SIP-to-Web Services gateway. The merger of real time communication services with the near-real time Internet services enables converged multimedia services by invoking Web and content services from the IMS domain and vice-versa.

The SCIM is best suited for service orchestration as it is aware of the real time needs of the communication network in responding to the network events in a timely manner while it is waiting for responses form the Web Services layer. The SCIM also prevents invoking applications and services that have been turned off or not available based on the subscriber's dynamic context, thereby preventing unnecessary network delays in session setup.

Summary

With the deployment of broadband networks and convergence architectures such as IMS, service providers can expand their triple play product portfolios to include a virtually unlimited array of applications and services. When deployed properly, the SCIM provides a scalable, highly flexible IMS component that enables service providers to tap these new revenue sources, create differentiated triple play service bundles, enhance customer retention and speed time-to-market. IT

Akshay Goel is director of business development with Leapstone Systems, Inc. (news - alert) For more information, please visit the company online at http://www.leapstone.com.

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Complying With the New FCC Internet CALEA Rules

In May 2006, the Federal Communications Commission adopted its Second Order providing definitive rules for broadband Internet access and PSTN-interconnected VoIP provider compliance with the Communications Assistance for Law Enforcement Act of 1994, or CALEA.

CALEA was passed by Congress to enable law enforcement officials to continue to obtain real-time forensic evidence from public telecommunication networks pursuant to a judicial warrant. The Act obliges carriers to have the technical and administrative capacity to isolate specific subscriber communications — or related signaling — and "hand over" the call data and/or content via a transmission link to a monitoring facility operated by law enforcement. The requirements also enhance end user privacy by providing for an audited process.

Because Internet service providers have not previously been covered by CALEA, they are now contemplating their next steps and options. What exactly needs to be filed with the FCC and when? What does it mean to be compliant by May 2007? Can compliance be handled internally or outsourced? And, what happens if a provider is non-compliant?

Who Needs To Comply?

The rules cover all public, facilities-based broadband Internet access service providers (i.e., offering access greater than 200 kilobits/sec) and interconnected VoIP (define - news - alert) service providers (those connecting to any PSTN gateway). Quasi-public access providers, such as libraries, campuses and corporate extranets, will likely be subject to "something less than full CALEA compliance" to be established in a subsequent order to be released in a few months.

The "facilities-based" terminology was meant to include providers offering connectivity infrastructure between end users and the Internet. However, establishments that acquire broadband Internet access service from a facilities-based provider to enable their customers to access the Internet from their respective establishments are excluded. The FCC explicitly exempted retail providers such as those offering hot spot WiFi service where the actual Internet connectivity is obtained from another provider.

What Needs To Be Filed With The FCC?

The Second Order required affected service providers to initially register and file their CALEA security policies and procedures by Nov. 2, 2006. Around the same time, the Commission is also requiring providers to submit an initial "monitoring report" on how they will meet the CALEA capability requirements by the May 14, 2007 deadline. The exact date for filing these monitoring reports will appear in a FCC Public Notice.

Compliance is based on capability requirement, which the FBI has fine tuned over the last few years. Safe harbor industry standards have been developed and continue to be evolved in several different industry bodies for wireline, wireless, and cable systems. Implementation guidelines are also being developed to help providers comply.

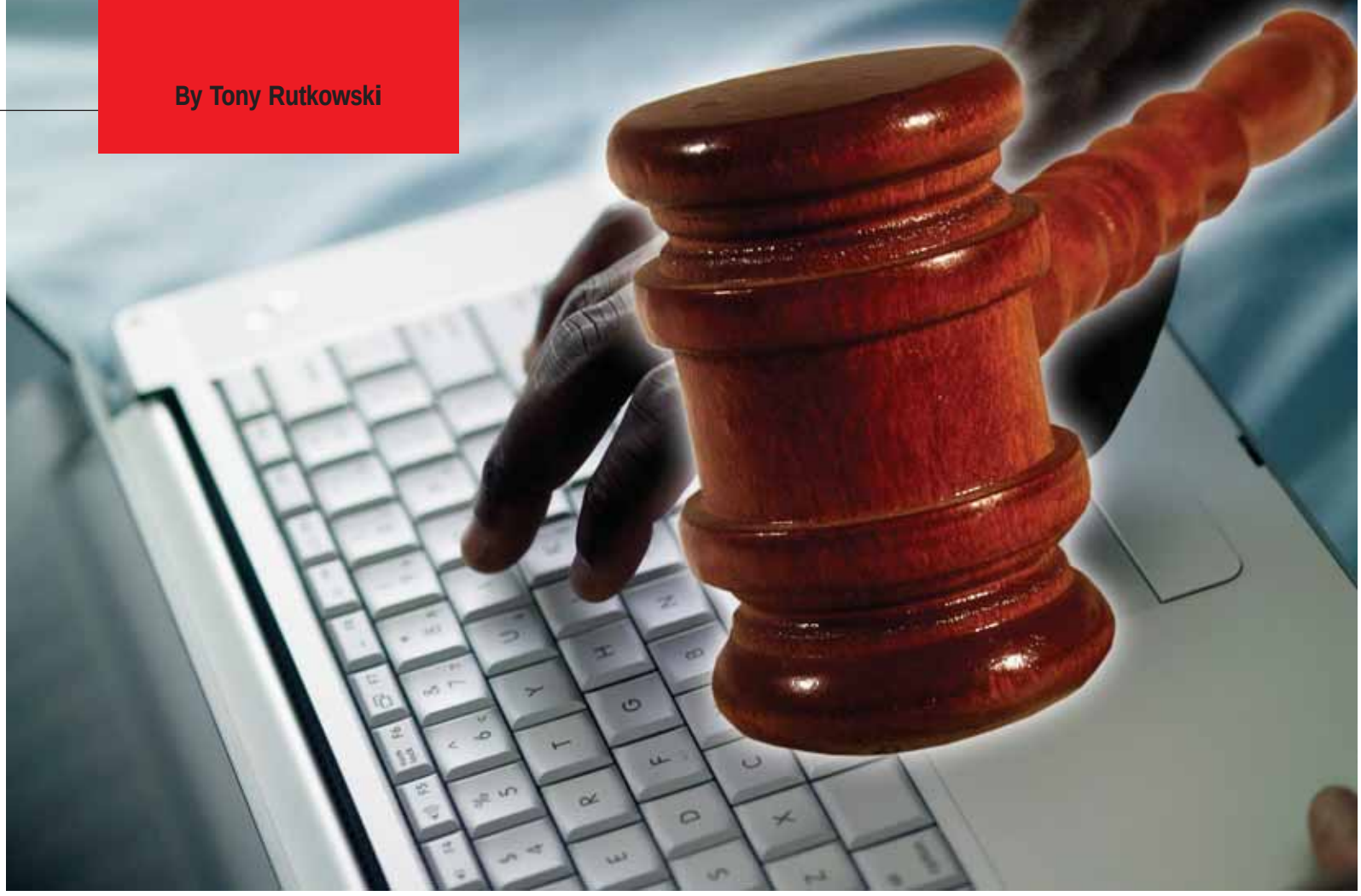
How Do You Become Compliant — In-House or Outsource?

The FCC gave providers two choices — do it yourself or outsource to a "Trusted Third Party" service bureau.

Compliance involves both administrative and technical capacity implementations. You must provide a security

Go To Table of Contents | Go To Ad Index

By Tony Rutkowski



office, train personnel, establish administrative policies, and implement technical capabilities that enable acquisition, management, mediation, and delivery including maintenance and proof of performance. These implementations include CALEA-related hardware and software, network engineering, and technical project management staff, secure facilities, as well as legal and regulatory personnel. You also need to follow the changing requirements, keep the capabilities up to date, and regularly test their operation. While entirely feasible to accomplish, dedicating the specialized resources to accomplish all these tasks is remote from provider business activities. As a result, the Commission recognized in the proceeding the unique value proposition of Trusted Third Party service bureaus.

For almost all providers, the Trusted Third Party option will be significantly less expensive and a great deal easier. TTPs specialize in CALEA compliance. They follow the latest requirements, the standards activities, and capability implementations by vendors. TTPs procure the necessary equipment and software, and share the costs across multiple provider customers. Their personnel perform administrative, access, and delivery of intercept requirements when the provider receives a court order.

For transnational providers, some Trusted Third Parties also provide international support capabilities and facilitate the complexities of meeting the CALEA equivalent Lawful Interception capability requirements found in almost all countries worldwide. Indeed, in many countries the requirements are even more extensive than in the U.S. and include new Data Retention and Identity Management capability requirements as well.

What Happens If You Are Not Compliant?

The FCC has made it clear that it will not grant extensions nor is likely to exempt providers. Indeed, they strongly suggest that even small providers make use of TTPs, and require that any petitions for exemptions include attempted service through a TTP. The Commission is also imposing its own enforcement remedies and monitoring report mechanisms that include very substantial fines and penalties for non-compliance. Given the FCC's recent track record of imposing large fines for violating even non-security-related rules, failing to become CALEA compliant is a risk that few providers will want to take. IT

DISCLAIMER: The purpose of this article is to provide general information regarding recent changes to CALEA. It is for informational purposes only. Nothing in this article constitutes, and nothing herein should be interpreted as, legal advice. Readers are encouraged to consult with their legal adviser as regards the provisions of and compliance with CALEA.

Tony Rutkowski is the vice-president for regulatory affairs and standards within the Communication Services Division at VeriSign. (news - alert) Additional news and information about the company is available at http://www.verisign.com.

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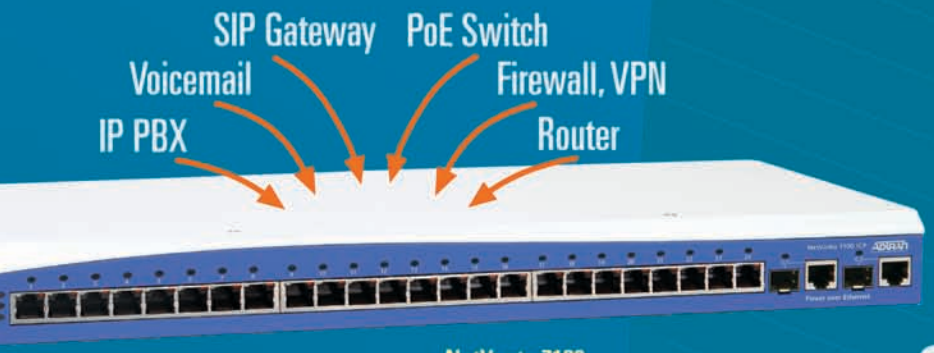
TMCnet Traffic Analysis

Note: Alexa.com ranks Web sites to their proximity to being #1.
The lower the number, the higher the ranking and therefore the greater the traffic.
Yahoo!, the world's busiest Web site, is ranked #1 by Alexa.com

To Advertise Contact Stephanie Thompson at 203-852-6800, ext. 139 • sthompson@tmcnet.com

VoIP MARKETPLACE

ADVERTISING INDEX



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