CopperCom Connections

No. 2, Summer 2005 www.coppercom.com

Rural Telephony Has a New, Unified Voice

In a first for rural telephony, four national trade associations representing rural telephone companies and cooperatives have come together to strengthen the rural voice and deliver a unified message to Capitol Hill and the FCC.

The Independent Telecommunications & Telephone Alliance (ITTA), the National Telecommunications Cooperative Association (NTCA), the Organization for the Promotion and Advancement of Small Telecommunications Companies (OPASTCO) and the Western Telecommunications Alliance (WTA), represent the entire rural telephone industry and share similar advocacy goals for rural consumers and the companies that serve them.

The goal of this precedent-setting cooperative effort is to ensure that Congress, the FCC, and telephone consumers everywhere understand the role rural telephone companies play in our nation's economy and the value of the rural broadband network in bringing new technologies, such as voice over Internet protocol (VoIP) to rural consumers. This education and understanding is key to ensuring that rural telephony issues are given full consideration as Congress considers changes to the Telecommunications Act of 1996 and the FCC implements rules that affect rural telephony's most important (continued on page 2) >>

IP Telephony For Interplanetary Exploration

Voice over IP uses techniques developed for telephony, a natural method for providing voice services for planetary explorers.

Providing the ability to make telephone calls over the Internet, VoIP can replace radio frequency communications in remote environments that are not serviced by a conventional telephone system. VoIP can provide better quality voice than either analog radio or conventional phone. As another benefit, VoIP enables the integration of voice and data applications, thus eliminating the need for separate frequency management and antenna systems.

The astronaut and her robot assistant make their way across the rocky field in the direction of the red mesa. The robot follows, positioning its antenna where it provides the best wireless Ethernet coverage back to the ship. It comes close to her side to provide sample bags for the rubies she picks up as well as for the fossils.

She looks up through her visor and says, "Telephone exobio." The phone is answered on the first ring. Several people are on the line, but one answers. "Peter here. How can I help, Marjory?"

"There is a rather large creature with very big teeth coming off the mesa toward me. What do you make of it?" With that she raises her arm and like the archetype Shinjuko teenager, shoots a picture with her wrist cell phone. Several people see the image on their phone sets and start to skim through a book. "I found it!" says Julia.

"Page 172." They all know which book.

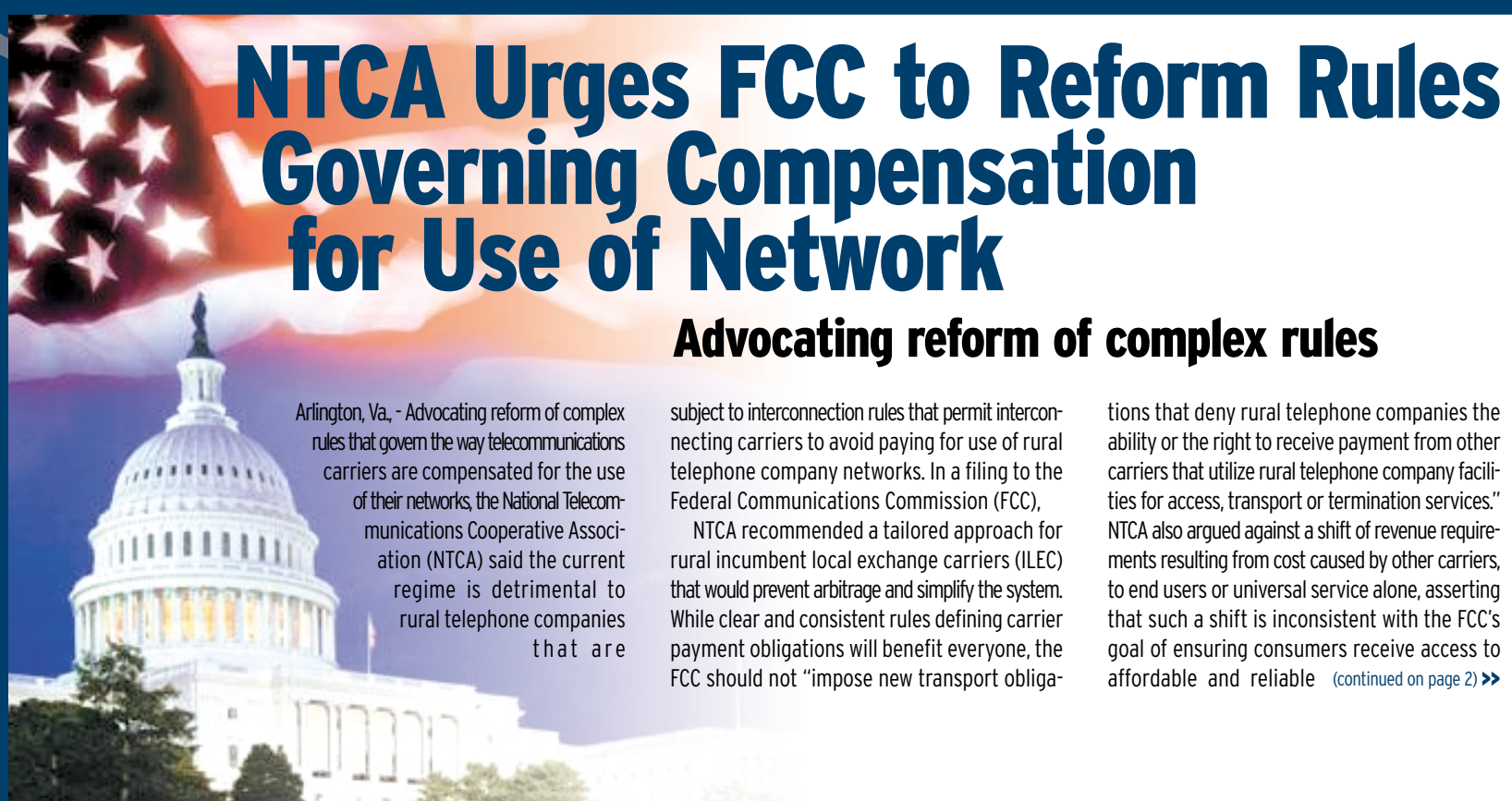
Peter says, "Don't worry, it is not a carnivore, but it eats hydrocarbons sometimes . . . like clear plastic...LIKE YOUR HELMET . . . **RUN!**"

The above is fiction but the telephone technology described is not. You may well have a phone in your pocket with many of the features highlighted above.

These simulations did not take into account the effect of delays caused by light speed. For exploration of Mars, the 20-minute delay each way will be an obstacle for interaction between people on the Martian surface and people monitoring the mission on Earth. There will also be a habitat on the Martian surface, and reference mission concepts will use it as the primary point of mission control because the habitat can communicate with the field party in real-time.

It is well known that the speed of light will not allow for astronauts on Europa or Mars to carry on voice calls to friends and family on Earth. However, VoIP technology can be used for proximity communications between parties on a remote planetary surface, and, on orbiters, these technologies can be extended to interplanetary capability by voice mail technology and other non real-time but standard commercial offerings.

source: NASA Amers Research Center



NTCA Urges FCC to Reform Rules Governing Compensation for Use of Network

Advocating reform of complex rules

Arlington, Va., - Advocating reform of complex rules that govern the way telecommunications carriers are compensated for the use of their networks, the National Telecommunications Cooperative Association (NTCA) said the current regime is detrimental to rural telephone companies that are subject to interconnection rules that permit interconnecting carriers to avoid paying for use of rural telephone company networks. In a filing to the Federal Communications Commission (FCC),

NTCA recommended a tailored approach for rural incumbent local exchange carriers (ILEC) that would prevent arbitrage and simplify the system. While clear and consistent rules defining carrier payment obligations will benefit everyone, the FCC should not "impose new transport obligations that deny rural telephone companies the ability or the right to receive payment from other carriers that utilize rural telephone company facilities for access, transport or termination services." NTCA also argued against a shift of revenue requirements resulting from cost caused by other carriers, to end users or universal service alone, asserting that such a shift is inconsistent with the FCC's goal of ensuring consumers receive access to affordable and reliable (continued on page 2) >>

REGULATIONS

NTCA Urges FCC to Reform Rules Governing Compensation for Use of Network

(continued from page 1) >>

telecommunications services. It said the FCC must create a mechanism to allow rate-of-return regulated carriers to recover any revenue requirement displaced by new rules. NTCA maintained that the complete elimination of carrier-to-carrier compensation mechanisms would threaten the investment of rural telephone companies in both broadband and in the basic infrastructure needed to provide the advanced services that the nation relies on for commerce, safety and security.

"Consistent deference to the goal of universal service suggests that reform take into consideration the different impact that "bill and keep" or given rate levels will have on rural consumers and rural telephone companies," the comments continued. NTCA pointed to data it had previously provided in the FCC proceeding, which show that a "bill and keep" regime would result in an average monthly increase of $22 for rural consumers served by rural ILECS and a similar monthly decrease in monthly revenues per line for small companies with less than 100,000 access lines.

The adverse impact of "bill and keep" goes beyond interstate revenues and increases consumer costs, the organization added. "NTCA has shown that the impact on intrastate revenues is greater than it is on interstate revenues. For rural ILECs alone, the total annual impact of imposing "bill and keep" would be $1.139 billion at the intrastate level and $884 million at the interstate level." NTCA said that while some plans commendably address the need to create a cost recovery mechanism to replace revenues lost as a result of rate restructure, no one plan submitted by other parties addresses all of NTCA's concerns. NTCA urged the Commission to reject all bill-and-keep proposals and adopt a separate set of interconnection rules for rural ILECs that contain, among other things, the following recommendations that will minimize the significant adverse economic impact on rural consumers:

- Impose no new interconnection obligations on rural ILECs.
- Recognize and confirm that rural ILECs have no interconnection obligations beyond their network boundaries.
- Require competitors that choose to interconnect indirectly with rural ILEC networks through RBOC tandems or other forms of indirect interconnection to bear the costs of transport beyond the rural ILEC's service area. This includes any transport and third party transiting charges in either direction.
- Require competitors that choose to interconnect at distant POIs located within a rural ILEC's network but beyond the rural ILEC's local calling area to bear the cost of transport beyond the ILEC's local calling area.
- Require that all unlabeled traffic that arrives as access traffic on a rural ILEC network be billed to the carrier at the other end of the trunk group on which the traffic was transported to the rural ILEC.
- Establish new equitable default termination rates in cases where a rural ILEC does not have an existing interconnection agreement with the carrier responsible for the traffic, but is able to identify the carrier originating the traffic.
- Require that all RBOC tandem transiting rates be cost based and tariffed to prevent abuse of market power.
- Create a non-portable rural carrier cost mechanism, a residual access cost recovery mechanism (RACRM). The RACRM would be based on embedded cost and calculated by taking the rural ILEC's current intercarrier compensation revenue requirement (revenues recovered or recoverable from existing interstate and intrastate access and reciprocal compensation) and subtracting out revenues collected from a new unified rate, any subscriber line charges (SLC) increases, and local rate increases. The RACRM would be recovered from all providers of telecommunications, IP-enabled services and information services directly connected to the network.
- Acknowledge that rural ILECs operate under rate-of-return regulation and structure cost recovery for these carriers accordingly.
- Establish a revenue neutral transition period for rural ILECs and their subscribers to ensure that any new rules preserve universal service and encourage investment in network infrastructure capable of delivering high quality broadband services in all areas of the nation.

source: NTCA

Rural Telephony Has a New, Unified Voice

(continued from page 1) >> issues: the cost recovery mechanisms of universal service and intercarrier compensation.

Members of ITTA, NTCA, OPASTCO and WTA will learn more about the four associations' messaging plans in the near future, how they can help educate their employees and their consumers, and how they can actively participate in important lobbying efforts. Association members are urged to contact their associations for more details and to learn how they can support this history-making campaign.

This advertisement, sponsored by the four associations, appeared in the June 6 Roll Call. Artwork for the ad was generously contributed by NTCA's charitable foundation, the Foundation for Rural Service (FRS).

author: Martha Silver, OPASTCO

Working Together to Keep Rural America Connected

itta NTCA OPASTCO WESTERN TELECOMMUNICATIONS ALLIANCE

Setting The Standard At The Inaugural User Group Meeting

CopperCom USER GROUP

Over 45 CopperCom customers and partners attended the first User Group meeting held in Deerfield Beach, Florida in April. The overwhelming consensus was that the meeting proved to be highly successful with healthy interaction. At the meeting, elections were held for two additional seats for the CopperCom User Group Board, which comprises of 7 member customers of the company and 2 internal members. It was determined that an electronic bulletin board would be designed and implemented. For more information, please send an email to customers@coppercom.com.

Contest Winner

The winner of Palm Competition is Lori Phipps from Marathon Communications, in Washington State. Congratulations to Lori in winning a PalmOne Tungsten E personal organizer.

Previewing What's NEXT

All communications service providers – landline, wireless, cable, satellite and IP – must plan for the future while succeeding today. TELECOM '05 is the place to start.

TELECOM05
WWW.TELECOM05.COM
Conferences: October 23-27 | 2005
Exhibits: October 24-26 | 2005
Venetian Hotel and Convention Center

With an exhibit hall bursting with new technologies; conference partners including ATIS, Deloitte, ITERA, Legg Mason, TMNG and Wiley Rein and Fielding; plus social events designed for networking . . . TELECOM '05 is where the conversations begin and where the groundwork is laid. Just as telecom has moved far beyond basic phone service, you find that the speakers and conferences at TELECOM '05 have moved beyond the confines of traditional telecom and the borders of the United States. For further information, visit www.telecom05.com

GUEST COLUMN

Municipal Broadband Networks Controversy Heating Up

The trend of municipalities offering broadband networks to their respective constituencies is a growing but controversial trend. Several high profile examples,including the cities of Philadelphia and San Francisco, have raised the consciousness of both citizens and lawmakers/regulators. There are compelling arguments on both sides and implications for applications like VoIP.

Municipals argue that they are advocating for both their own economic development and citizens' well being by deploying and operating broadband networks. "Being sure our children and families can compete in the future is a local issue," says Dianah Neff, chief information officer for the City of Philadelphia. In smaller communities, it is much more an issue of basic broadband access. Literally hundreds if not thousands of small communities across the U.S. are either underserved or not served at all with a robust broadband infrastructure. Typically the incumbent provider in these underserved communities are the larger "Bell" companies whose primary attention and investment is devoted to larger cities. These communities argue the same spirit embodied by the independent telco industry for decades - if no one else will serve our community, we will.

Existing service providers and some consumer groups are opposed to the idea of local governments getting into the broadband service business. Service providers argue that governments have unfair competitive advantages like free rights of way, and reduced or no "red tape" costs. Additionally, they argue that the free market, not government intervention, should solve broadband availability problems.

Consumer groups argue that these networks are a waste of taxpayer money and governments should do what they do best (or worst, depending on your perspective) - govern. This controversy has caught the eye of state and national regulators, Congress, and even the Supreme Court. There has been a flurry of legislation on state and national levels. Most recently, Sen. John McCain (R-Arizona) has introduced legislation supporting the right of local governments to develop and run broadband networks. This legislation is in direct opposition to legislation proposed by Rep. Pete Sessions (R-Texas) that would restrict or forbid them from doing the same. Both the Florida and Nebraska legislatures have passed bills restricting municipal broadband networks, and Maine just recently passed a bill authorizing them to do so. We are literally "all over the map" on this issue. The Supreme Court has even weighed in, saying the states have authority in determining whether municipals can provide broadband services. While the various points of view for this argument differ in their method, everyone agrees that broadband availability for all is a desired outcome. This argument certainly has implications for broadband applications like VoIP. For the time being, broadband and VoIP are inextricably tied together. Any movement, private or public sector, to increase the availability and penetration of broad band will certainly impact the growth of VoIP. In a perfect world, underserved municipals and existing broadband providers should find a way to work together in partnership to achieve these admirable goals. They should leverage the strengths of each other to ensure citizens can take advantage of all the benefits broadband has to offer.

Bernardin Arnason
VP, Business Development, NTCA

author: Bernardin Arnason, NTCA

PARTNER HIGHLIGHTS

The Plain Old Telephone Service Gets Smarter-Thanks to SIP

Pannaway is a four-year-old company that delivers end-to-end, converged IP-based voice, video and data access solutions to telecom service providers and emerging Triple Play services providers worldwide. Today, Pannaway is unique in the voice world, providing the only "facilities-based," SIP enabled transport solution for the delivery of carrier-class VoIP services.

This valuable capability enables the delivery of Primary Line VoIP and improves rate / reach for the delivery of multi-media services over copper loops. The company has garnered numerous industry accolades for its patent-pending VoIP technology including Internet Telephony magazine's Product-of-the-Year for 2004, Communications Solutions magazine's, Product-of-the-year for 2004, Xchange magazine's, "10 Hot Technologies" for 2004, Telecommunications magazine's, "10 Coolest Companies" for 2005, and Gartner Group's "Cool Vendors for Network Infrastructure" for 2005. Notable next-generation VoIP features from Pannaway include premise-based dial tone; support for SIP and MGCP; support for traditional POTS features as well as advanced SIP-based calling features; and Primary Line VoIP™ for lifeline POTS with support for CALEA and E 911 calling.

During the development phase of Pannaway's Service Convergence Network architecture, the company quickly recognized that the majority of their IOC customers would not implement VoIP if it meant foregoing the ability to deliver lifeline POTS support, making VoIP suitable for secondary lines only. Working very closely with existing customers, the company architected a solution to deliver the industry's first VoIP offering that is fully lifeline POTS capable, and with support for advanced SIP-based calling features like distinctive ring tones, TV caller ID and time-of-day call forwarding. If electrical power is lost, a relay trips at the customer premise device (CPE), automatically rerouting the phone line directly to an upstream device which is line powered and supports SIP-based dial tone. The Pannaway network continues to deliver phone service including E 911 calling capability to the subscriber without interruption. The caller doesn't lose any of the advanced calling features offered by VoIP and, unlike other industry solutions, the subscriber isn't forced to use a different phone number when in lifeline mode.

Example SIP-based Advanced IP Calling Features

Pannaway's suite of next-generation access products, which include IP DLCs, IP DLSAMs, IP BDLC variants and a comprehensive suite of call provisioning and network management tools, enables telcos to deliver managed broadband voice, video and data services to homes and businesses at a fraction of their historical costs. Pannaway's SCN leverages today's most advanced technologies including SIP, ADSL2+, IP from the customer premise (CPE) to the Central Office (CO) and a powerful end-to-end management system for the provisioning and trouble shooting of residential calling features and ADSL2+.

author: Dale Allaire, Pannaway

pannaway
Redefining Broadband Convergence

Revenue Assurance: Using the NAMS System for the Competitive Edge

Carrier Management Systems, Inc. (CMSI) has been developing network management software for telephone companies for more than 17 years. CMSI is proud to be a strategic alliance partner with CopperCom by providing network solutions targeted specifically for the IOC and CLEC telephone company. Upon successful completion of current interoperability testing at the CopperCom labs, CMSI is poised to start providing revenue assurance in the form of the NAMS Phantom Tracker software that is tailored to the CopperCom CSX switch. CMSI is a leader in the development of network management, revenue maximization and call collection systems. In 1982, Paul Bilberry, president of CMSI, started Action Telecom – one of the first IXC's in Texas. Realizing how vulnerable his network was to fraudulent activity by outside sources and billing inconsistencies, NAMS (Network Analysis Management System) was created in 1988 to protect his own network from these anomalies. NAMS was eventually positioned to increase efficiency for other telephone companies by automating normally tedious and laborious tasks such as data collection and search, network design and engineering and fraud prevention. Over the last three years, application development has been focused on revenue assurance to stop revenue leakage and ensure revenue maximization. CMSI's solutions are applicable to a wide range of legacy equipment through next-generation networks including both wireline and wireless providers. The NAMS system comprises an entire suite of software products that assist in network management, capacity planning, and customer care and revenue assurance such as the AMA/CDR Call Collector & Mediation, AMA/CDR Search & Reporting, Traffic & Engineering, Net Plan, Operations and Network Alarming, Fraud Detection & Alarming, Tande Transit Usage Statements & Reporting, and the Phantom Tracker ™ to identify "phantom traffic." Phantom Traffic is probably the hottest topic in the industry today. Phantom traffic is telephone traffic that terminates at local exchange carrier switches lacking information needed for billing (i.e. does not have information that identifies the originating carrier from which it came.) It is estimated that up to 20 percent of terminating traffic cannot be billed for this reason. This is costing IOC's and CLEC's throughout the industry millions of dollars in lost access revenue. CMSI's Phantom Tracker™ software includes EAS, IntraLATA Toll, Common Toll, and feature group Phantom Usage reporting and detects call laundering on many different types of trunk groups. A major source of abuse within the network is EAS terminations. Oddly enough, it appears the abuse is one-way and stems from the large ILEC's. Phantom Tracker quickly and accurately identifies long distance traffic that is terminating over those EAS trunks. Breaking calls down by LATA / MTA jurisdiction so that Common Toll and IntraLATA toll groups can be monitored, Phantom Tracker™ is also a very valuable tool for companies involved in establishing interconnection agreements as it accurately identifies traffic volumes from specific companies in both the wireline and wireless markets.

author: Paul Bilberry, CMSI

Carrier Management Systems, Inc.
NAMS 2000 Centralized

Check Out Las Vegas!

Unique in all the world is the famous spa in the high dessert. Unique, in that it is a city of cultural pursuit, educational aspiration, natural phenomenon, man-made engineering marvels, recreational areas and home to the world's most respected gambling casinos, resort hotels and lavish, star-studded entertainment. During TELECOM '05 in October, why not check out a few of the many attractions Las Vegas has to offer. Here's a taste to wet your appetite.

UP AND COMING EVENTS

2005 August

August 10-12
Martin Group - 4th Annual Technology Conference
Marriott City Center , Minneapolis, MN

August 24-25
MTA Annual Meeting (Montana)
KwaTaqNut Resort, Polson, MT

September 2005

Sept 11-14
TANE Annual Convention
Balsams Grand Hotel, Dixville Notch, NH

Sept 19-22
VON Fall 2005
Boston Convention Center, Boston, MA

Sept 21-23
TAM (Michigan) 2005 Annual Conference
Ritz Carlton, Dearborn MI

October 2005

Oct 9-12
CompTel/Ascent Convention
Orlando World Center Marriott, Orlando, FL

Oct 10-12
WSTA Fall Conference & Exhibits
Regency Suites, Green Bay, WI

Oct 12-14
NYSTA/PTA Fall Conference
Binghamton Regency Hotel, Binghamton, NY

Oct 16-18
MATSS 2005
Hyatt Regency Hotel, Kansas City, MO

Oct 18-20
KTA-TTA Fall Conference and Supplier Showcase
Hotel Sheraton, Nashville, TN

Oct 26-27
USTA Telecom 2005
Venetian Hotal, Las Vegas, NV

Titanic: The Artifact Exhibition

March 25th - October 31st at Tropicana Hotel

Although the "ship of dreams" met its demise nearly a century ago, the spirit of the Titanic and its passengers live on through "Titanic: The Artifact Exhibition." Since then, many items from the wreckage have been recovered and this 25,000-square-foot exhibit features over 400 items from the Titanic, including a massive piece of the ship itself.

Elton John in Concert

October 16th - 23rd at Caesers Palace

One of the biggest pop superstars of our time, as a singer/songwriter, Elton soon revealed he could craft Beatlesque pop and pound out rockers with equal aplomb. He could dip into soul and disco, as well as classic pop balladry and even progressive rock. His dynamic charisma and flamboyant stage shows make him one of the most popular recording artists around. Now you have an opportunity to witness this star performer in person.

Mystere by Cirque Du Soleil

Throughout October at Treasure Island

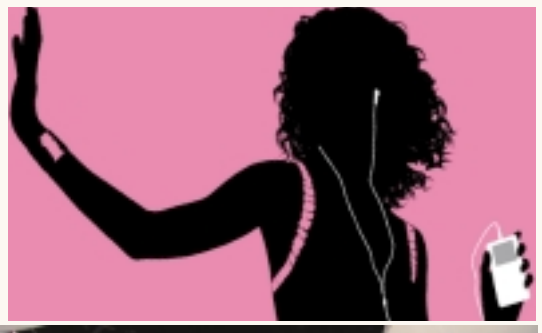
Looking for some stimulation? Cirque du Soleil will satisfy with more than you could ever imagine at Mystère! Adventure into an entirely different world where fantasies are played out in vivid color right before your very eyes. Come, be part of the dream! Described by the press as "one of the most innovative and exciting shows to be seen anywhere." If you're looking for a show, this one's a "must see."

CONTEST

Spot The Difference

Enter Draw to Win Mini iPods

Simply circle the six (6) differences between the images below and you could be one of the lucky winners of a mini iPod.



Will you be deploying next generation technology during the next 12 months? YES ☐ NO ☐

What are the 3 biggest drivers affecting that decision?

1) .....

2) .....

3) .....

Name.....

Company: .....

Title: .....

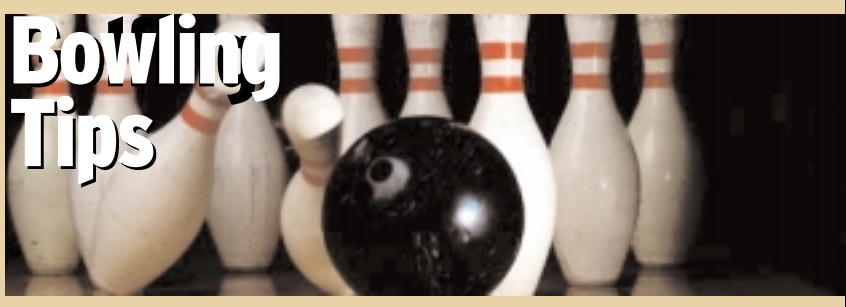
Contact Number: .....

Replies to be submitted by September 30 , 2005. The winner will be notified and high-lighted in the next issue.

Please send your replies to:
The Marketing Department
CopperCom
3600 FAU Boulevard
Boca Raton, FL 33431
or Fax to: 561.322.4044

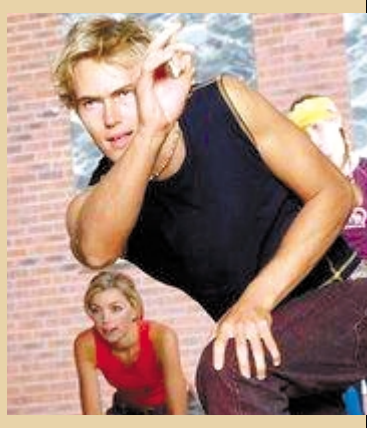
SPORTING TIPS

Bowling Tips



Weight of the Bowling Ball :
Go with the heaviest weight that is comfortable! Obviously, you want to be able to comfortably launch the ball without hurting or straining your back at all, so do not buy one that is too heavy to lift. On the other hand, you will have more control over a ball that is not too light for you.

The Correct Bowling Stride:
If you are right handed, step with your right foot first as you go down the lane. End with your left foot as you release the ball. This will assure proper balance. If this is taking time to get used to, walk it slowly and release the ball. Practice at home with an imaginary ball. Eventually, you will get it, and it will be worth the practice. Some people report a higher score of 10 pins or more just by using a proper stride.



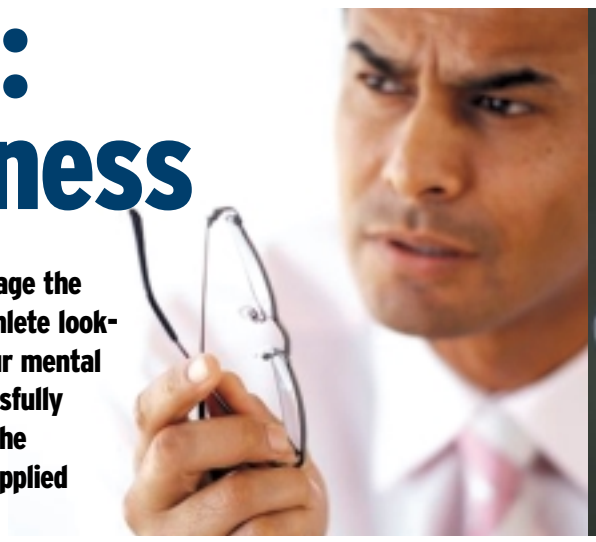
Improving your Aim:
As you are looking at the pins, before you start your stride, take aim. On the first ball, when all ten pins are lined up. Many people look at the arrows painted on the lane rather than looking at the pins. There is a set of arrows painted on the lane beyond where you release the ball. Look at the closest set of arrows and pick one. Tell yourself that you just have to get the ball to the desired arrow. Some people choose the middle arrow; while others choose one to the left or right. It will depend on how straight your ball is and whether it curves.

Mental Toughness: In Sport and Business

Author Dr. Robert Heller
Psychologist and Performance Enhancement Specialist

Based in Boca Raton, Florida, he is the author of numerous articles in the sports and business world, including "Managing Your Stress" and "Mental Toughness."

Whether you are a weekend warrior trying to manage the pressure of a putt for a birdie or a "corporate" athlete looking to close a sale or manage a difficult client, your mental and emotional skills usually determine how successfully you perform. In this article, we consider a few of the key mental and emotional strategies that can be applied on the field and in the corporate setting.



All training starts with an assessment of the client's goals, strengths, weaknesses and underlying limitations. Self-doubt, insecurity, fearing failure and disapproval from others are common roadblocks to success. If these are present to any significant degree, they need to be addressed for specific mental skills training to be maximally effective. The ability to stay calm under pressure and to handle adversity is the hallmark of peak performers. Learning how to quiet the mind and to be clear headed in difficult situations. These are the people who you want to be at bat with 2 outs in the 9th inning and the winning run at the plate. They are confident, focused, determined and poised.

Goal setting is a very important mental skill. Mentally tough people are excellent on focusing on "process" goals rather than outcome goals.

They have learned how to block out unwanted thoughts, distractions and fears.

Often times, what separates the good from the great are not so much physical skills in sport or technical skills in business, but underlying attitudes and beliefs and core values associated with excellence. Champions love success but keep a healthy balance for the things that are important in life. They work hard but find time to unwind, relax and enjoy family and friends. They hate losing, but they never fear it. They view difficult situations as challenges to be overcome rather than to shy away from. They take reasonable risks and learn from mistakes and failures. Mentally tough individuals care what others think but aren't controlled by it. They are willing to make difficult decisions and stand up for what they believe. They don't base their self worth solely on what they accomplish, or what others think about them. This allows them to be good team players. They don't need to be the star, they assist others where and when they can so that the team succeeds. When they goof up, they accept their fallibility and the blame without making excuses or looking for scapegoats.

Imagery is another key mental skill shared by top athletes and business executives. They literally have a "vision" or picture in their mind as to how they want to perform in specific situations. Goal setting is a very important mental skill.

Mentally tough people are excellent on focusing on "process" goals rather than outcome goals. In golf, the great Tiger Woods after winning another major tournament when asked about what his goals were for the future didn't reply in terms of money, ranking, future titles or records, rather he answered, " I hope I can improve my play by 10% each year I continue to be on the tour."

In summary, mental skills can lead to peak performers both on and off the field.

In this section we'll be regularly featuring many of our customers' outside sporting interests and will help to address many of the problems that they encounter in their pursuit of excellence. In this issue, we look at tips in bowling and tennis.

Tennis Tips

Remember the Basics

There are five principles to remember and the most important is to hit the ball into play. Afterwards you need to learn to place the ball either cross court or down the line. Your next goal should be to hit with depth to pin your opponents back and on the defensive. Developing spin on your groundstrokes for control and to create angles follows. The last element is power, but don't look to introduce power before you have mastered direction, depth and spin.

How to Hit a Drive Volley:

Usually played around the service line area off a falling ball. It should be struck in front of the body around shoulder height; the lower you let it drop, the harder it is to play. It's quite easy to learn because it's just an abridged version of a ground stroke, but the timing can be a little tricky at first. It's best to aim cross court to give yourself more margin for error.

Getting Ready for the Lob:

Many club-level players find it difficult to play against the lob because they position themselves too close to the net. To counter this you should take up a ready position roughly halfway between the service line and the net and try to anticipate when your opponent is most likely to lob. For example, they might not be able to hit an agressive backhand pass, leaving the lob as their only option. So you know if you approch to their backhand, not to charge in too close.

The Influence of BRANDING

Consider some of the world's great brands; Coca Cola, General Electric, Ford and Microsoft. All are powerful names that are recognized and aggressively managed as potent business tools. Their corporate leadership understands that a powerful corporate brand can weather crises more easily, slow market share erosion and rally employees. Powerful brands influence customer preference and strengthen the bottom line, yet for many companies, the brand remains an uncultivated business asset.

Branding, very much a buzzword today, is often confused with "corporate identity" or "corporate image." They actually have different meanings: Corporate Identity refers to a company's name, logo, its visual expression or its "look." Corporate image is the public's perception of a company, whether that perception is intended or not. Corporate branding, by contrast, is a business process, one that is planned, strategically focused and integrated throughout the organization. Branding establishes the direction, leadership, clarity of purpose, inspiration and energy for the company's most important asset, its corporate brand.

Would a re-appraisal of your brand pay dividends in the future? Managing your corporate brand isn't just a communication issue, it is a leadership issue. Effective and strategic support of a corporate brand can make it easier for your company to do business, provide critical market differentia tion and have a direct effect on financial performance.

Today, you must clearly communicate your story to a host of audiences, including customers, investors, prospective customers, suppliers and not forgetting, employees! A strong, relevant brand can help you connect with all your key audiences. A brand with high recognition and a favorable reputation can have far-reaching business benefits, internally and externally.

What does your corporate brand say to your customers? What does it mean to your employees? Would you get the same answer? Would it even be the one you expected?

Thoughts on BRANDING to ponder

- Branding is not about getting your targets to choose you over your competition. Branding is about getting your prospects to see you as the only solution to their problem.
- If the branding is wrong, so is everything else.
- Advertising grabs their minds, branding grabs their hearts. Build from your strengths. If you can't articulate it, neither can anyone else.
- The stronger your brand, the less susceptible you are to pricing issues and competition.
- On the web, if you don't get them on the first page, you don't get them at all.
- Advertising is not branding. Branding is branding. Advertising raises awareness of the brand you create.
- Just because you've heard about it doesn't mean it's well branded. Branding and awareness is not the same thing.
- The smaller your budget is, the stronger your brand must be.

author: Jeremy Phillips

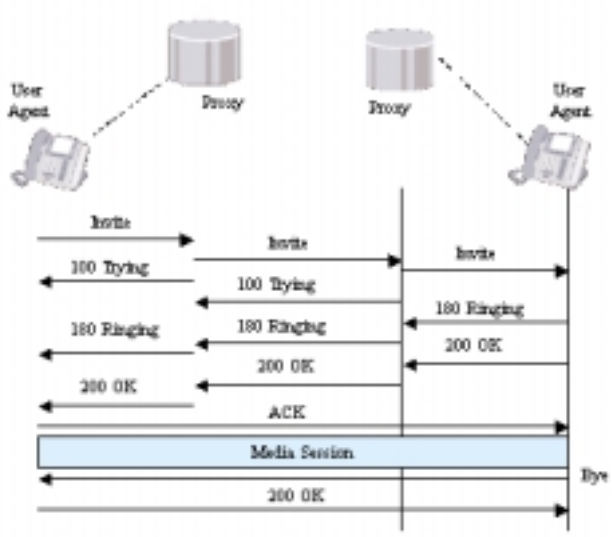
FEATURED QUESTION

Why SIP?

NGN was lacking a flexible communications protocol for establishing a session or, using TDM terminology, setting up a call, between subscribers, independent of the media associated with the call.

Existing protocols targeted to specific media (SS7, X.25, etc.), lacked the flexibility to adapt and satisfy the needs of the other media or meet the anticipated needs of future multimedia services. Today, the benefits of NGN are expected to materialize as the capabilities of the new Session Initiation Protocol (SIP) are fully exploited.

SIP is a peer-to-peer signaling protocol defined for setting up, managing and terminating any type of call across IP-based packet networks. SIP defines two basic entities, User Agents and Proxy Servers. The former consists of software implemented in customer equipment such as IP phones, conference or messaging systems, PCs, etc., and are responsible for initiating and terminating a session. For example, a user agent may be john.taylor@coppercom.com or 15613224000. Proxy Servers are responsible for routing SIP messages from the originating user agent to the destination user agent and thus, set up the session. Proxy Servers may also perform a variety of additional functions such as, upgrade user agent addresses, modify addresses of user agents when setting up a call, or even maintain control and participate in the call. Terms such as Redirect Server, Registrar and Back-to-back User Agent refer to proxies with some of those specific capabilities.



To bridge the IP and the TDM networks, SIP requires the use of a "gateway," a device which is able to translate SIP signaling into TDM signaling such as the SS7 signaling Furthermore, SIP provides significant flexibility to make available to IP phone subscribers the variety of features and services available to TDM subscribers. Indeed, numerous SIP related standards, which address some of these specific services needs, have been adopted by the IETF. For example, call transfer, third party call control, conference calls, overlap signaling, can be implemented using SIP as the session protocol. SIP is also very useful in interfacing telephony and web pages, hence allowing new sources of revenues for service providers.

The simplicity of SIP makes it extremely attractive. The diagram below shows how SIP establishes a session between two IP phone subscribers. SIP is a request-response protocol that extends the HyperText Transfer Protocol (HTTP), the language of the World Wide Web pages.

SIP "rides" on top of the IP transport layers, and therefore UDP, TCP or SCTP are used for the transport of SIP messages. And SIP leaves it to other protocols to address areas such as QoS, security, etc., associated with the session.

Ultimately, by bridging classic telephony services and the Internet, SIP is the best session protocol capable of both merging all dedicated networks and opening the door to a new set of multimedia services and capabilities now possible with the NGN.

NEXT GENERATION PROTOCOLS

A History of Gateway Control Protocols

In the early days of softswitching there was much debate about the architecture of the network and of switches in the network.

Once all the talking was over, it was generally agreed that the separation of the "hardware/line card" portion of a central office switch (i.e., the "media gateway") from the Call Agent/Feature was required. The Media Gateway provides an end-to-end path for digitized voice, as well as interfaces to the PSTN and IP networks. The Call Agent supports call routing, security, billing, signaling and all the other customer and operational functions. This architecture also requires the use of a protocol for the two formerly combined functions (in legacy switches) but now separate (in softswitches) to communicate. Likewise, it was established that Access Equipment in the network (like Broadband Loop Carriers) would need a protocol to allow that equipment to be told what to do by the feature server in the central office.

That's how the definition of a "Media Gateway Control Protocol" began. Simply put, the protocol allows the control of a gateway by a Call Agent Function. Control can mean something as simple as, "In order to complete a call – connect Port A to Port B."

MGCP, MEGACO / H.248 are examples of Media Gateway Control Protocols and we will examine how they are related and where they came from.

Where did MGCP come from?

As early as 1998, attendees of the SS7 session at the 42nd Internet Engineering Task Force (IETF) meeting held in Chicago, realized that a signaling and control protocol was needed in order to easily integrate emerging voice over IP network equipment with the Public Switched Telephone Network (PSTN). There were nearly 200 people at that working group meeting from companies ranging from chip companies to carriers, to vendors, to ISPs. They were beginning to converge on an "agreed standard." One which would ultimately became known as Request for Comment (RFC) 2705 – MGCP (Media Gateway Control Protocol). Key contributors included Ike Elliot from Level-3, who had been working on this issue. He suggested Internet Protocol Device Control (IPDC), which was a suite of protocols handling functions like backhaul, connection control, media control, and device management. Others from Bellcore suggested variants or modifications like Simple Gateway Control Protocol (SGCP). Additional standards groups such as the European Telecommunications Standards Institute (ETSI) and the International Telecommunications Union (ITU) brought other proposals into discussion. MGCP became the fusion of the IPDC and SGCP concepts.

The following proposal emerged:

a) Have a working group specifically focusing on device control signaling (i.e., IPDC, SGCP, and resource control)

b) All groups should work from a common document on architecture & requirements, including performance requirements and quality of service.

Simply put, the protocol allows the control of a gateway by a Call Agent Function.

Where did H.248 and MEGACO come from?

As the IETF continued the development of MGCP, a competing protocol, MDCP, offered by the ITU solved some of the MGCP shortcomings. MDCP was getting more acceptance by the ITU, than the IETF protocol. With the push by the ITU for more changes, the IETF began working on a compromise protocol called MEGACO that resulted in a first draft in March '99. From this draft the ITU developed the standard H.248. Eventually a consensus was reached between the ITU and IETF with the H.248 and MEGACO (RFC 3015) becoming a single protocol known under both names Further, a new MGCP revision (RFC 3435) later arrived replacing the original RFC 2705.

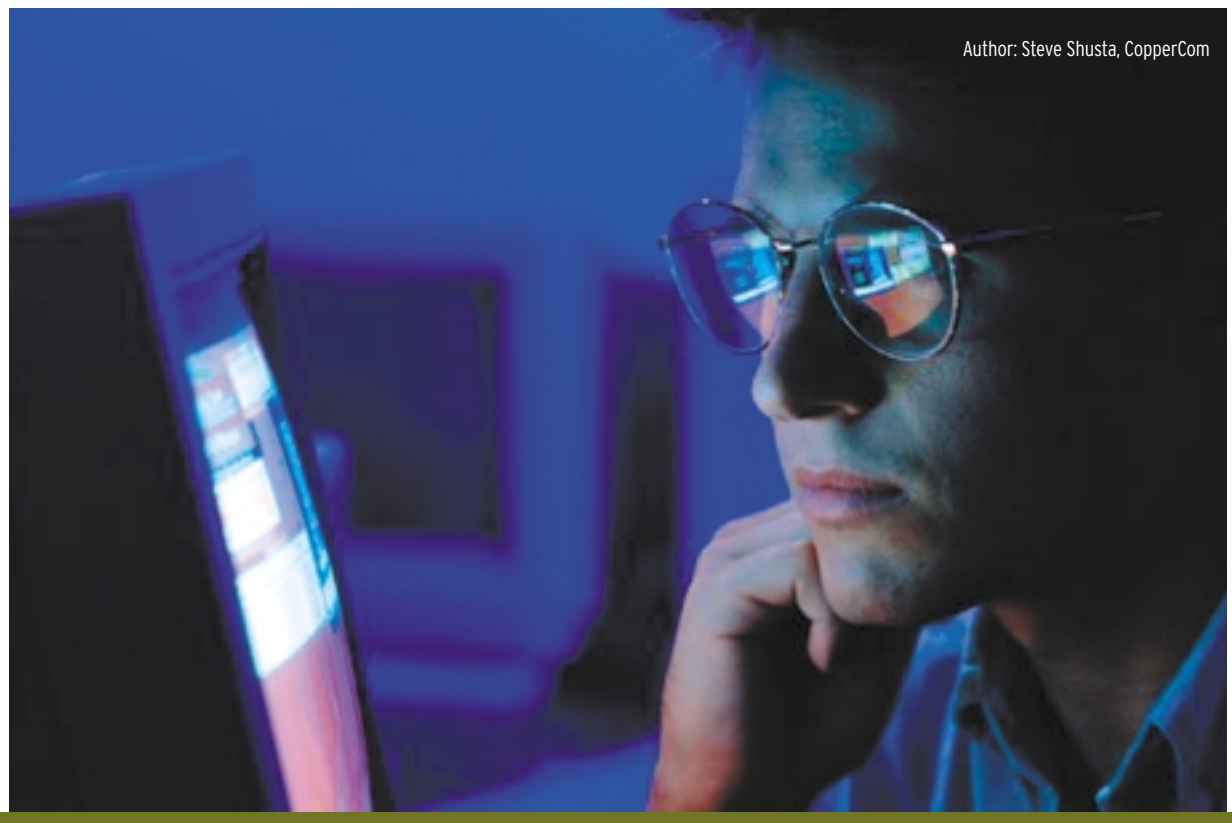
What are the differences between them?

With the brief history provided above, it should be evident that the protocols would be very similar. The protocols have matching or complimentary commands; both use (Session Description Protocol) SDP for negotiating media sessions; both support real-time delivery of digit maps between MGC and MG; and both protocols may be extended to support additional signaling needs (example: Line and CAS signaling packages).

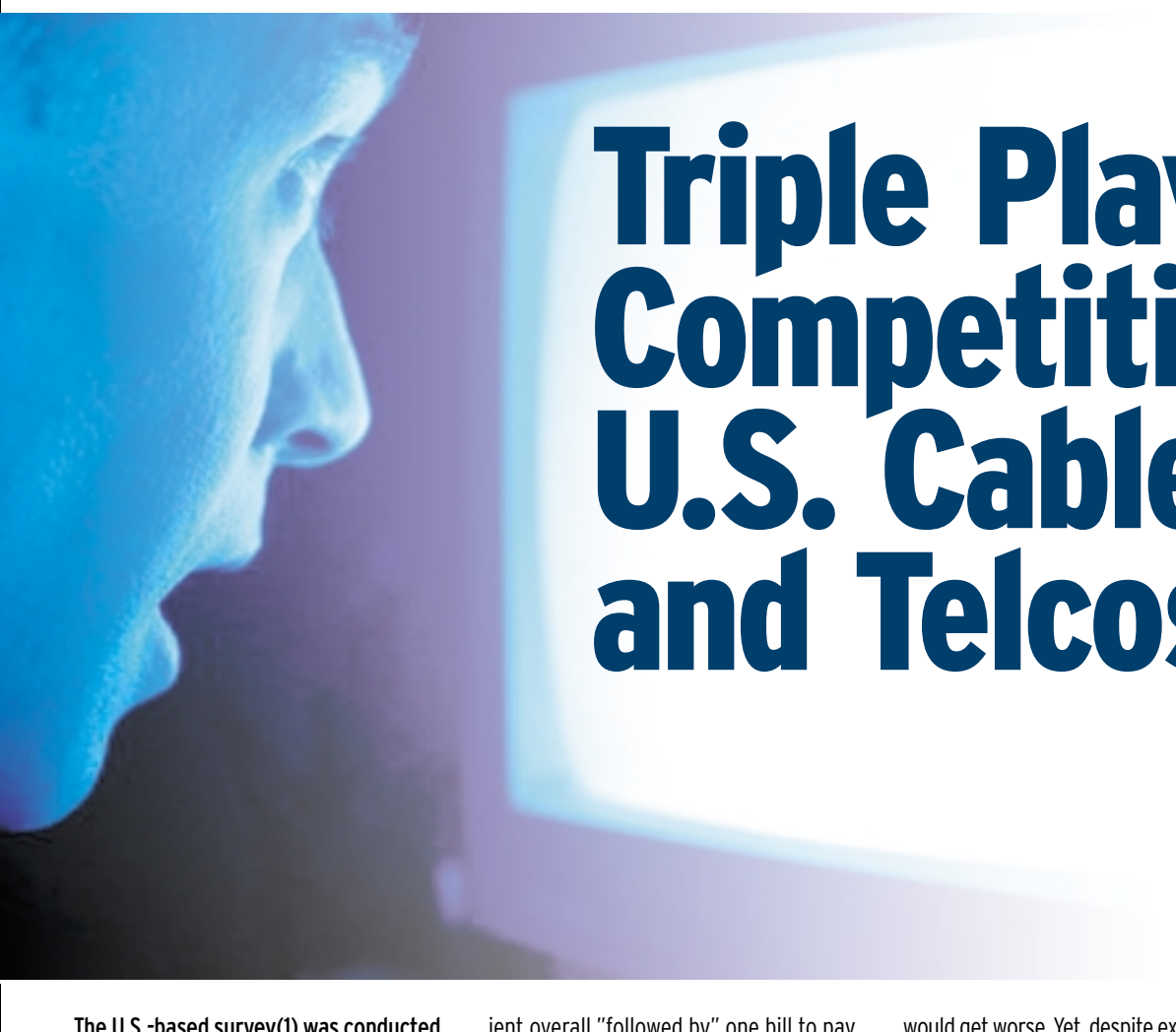
Differences between the protocols exist but are not limited to MG startup handling, MGC Failure handling, MG Switchover handling, methods of extensibility, security and most significantly connection management.

The conclusion

The conclusion is that work on key underpinnings for Voice over IP have been going on since the mid to late 1990's and the fruits of that work are now beginning to emerge. Softswitch vendors are comfortable that signaling protocols like MGCP and H.248 have been accepted and are being built into access gateways and trunking gateways. Access vendors are working with softswitch vendors to ensure that interoperability is complete since some access vendors chose MGCP and some chose H.248.



Author: Steve Shusta, CopperCom



Triple Play Heats-Up Competition Between U.S. Cable Providers and Telcos

A 2005 survey among U.S. broadband subscribers indicates that desire for triple play services from one service provider is likely to increase competition between cable providers and telecommunications companies.

The U.S.-based survey(1) was conducted by independent market research firm Insight Express, on behalf of SupportSoft Inc., a provider of Real-Time Service Management (RTSM ™) software. Cable broadband and DSL subscribers were interviewed about the customer service they receive from their current service provider, and their desire for combined voice, video and high-speed data services from a single provider.

82% of broadband users surveyed expressed interest in receiving triple play services from one provider. Of those interested in receiving all three services from one provider, the reason most often cited was that it would be "more convenient overall "followed by" one bill to pay for all three services," indicating that convenience is a key factor in switching providers to receive combined voice, video and high-speed data services.

When asked about whether they felt customer service would change if they received triple play services from one provider, 37% thought it would "improve" or "improve significantly," while 17.5% thought it would get worse. Yet, despite expectations for improved customer service with triple play delivery from a single service provider, both cable and DSL high-speed data customers expect problems when installing VoIP or IPTV. A full 68% of cable broadband customers anticipate some sort of issue when installing VoIP, while 60% of DSL subscribers expect to encounter problems during IPTV installation.

Further, more than two-thirds of broadband users are unsure or wrong about how VoIP and IPTV services will be installed. These results suggest that service providers should consider customer service as a competitive advantage to attract and retain new customers by ensuring problem-free installation and ongoing, reliable service.

"The survey findings indicate that there is an opportunity for both DSL and cable providers to gain competitive advantage by meeting or exceeding customer expectations for triple play service and convenience, starting at the point of installation," said Chris Grejtak, senior vice president of products and marketing for SupportSoft. "More than just a competitive advantage, customer service is a critical requirement in combined IP-based voice, video and high-speed data delivery."

-SOURCE: June 2005 CRM Today

CopperCom's View

Triple play is an important offering for many service providers for a primary reason: Bundling, bundling voice, data and video into a packaged service offering leads to service stickiness and helps the local service provider brand themselves as the communications hub of their community. CopperCom has worked with many carriers on delivering services like caller ID to the TV, a popular offering, by leveraging the flexibility of the CopperCom CSX next-gen switch.

CopperCom Selected by Iowa Telecom for Next-Generation Switching

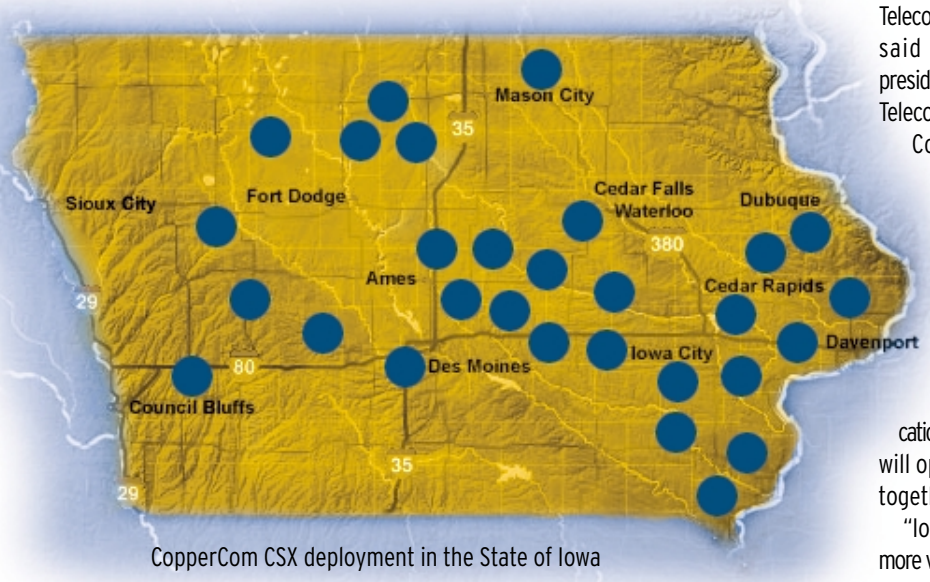
CopperCom has announced a large, multi-year, general purchase agreement with Iowa Telecom (NYSE: IWA). CopperCom Converged Switching eXchange (CSX®) next-generation switches will replace some of Iowa Telecom's legacy switches.

The deployment of equipment will be a part of Connect Rural Iowa, a multi-year, multimillion-dollar initiative announced last year by Iowa Telecom.

The agreement also represents a move into the Tier-1 carrier space by CopperCom. Deployment begins immediately.

The CopperCom CSX next-gen switch will enable Iowa Telecom to provide revenue-generating, next-generation services to its business and residential customers. Key to Iowa Telecom's decision to choose CopperCom's CSX is the softswitch's ability to be deployed in a highly redundant packet-based host remote configuration. Iowa Telecom, the largest local telephone company serving rural Iowa, offers local and long-distance telephone service, Internet and broadband access. The carrier serves over 265,000 access lines in 440 communities with 294 telephone exchanges across the state.

Iowa Telecom purchased its network from GTE five years ago, and immediately began to implement plans to improve the quality and reliability of telephone service as well as provide extensive high-speed Internet services throughout its service area. Replacing legacy switches is an element of the ongoing evolution of Iowa Telecom's network.



CopperCom CSX deployment in the State of Iowa

"CopperCom is a valued partner in our plans to prepare the Iowa Telecom network for the future," said Dennis Kilburg, vice president of engineering at Iowa Telecom. "We evaluated many vendors, and CopperCom best met our needs. CopperCom's product reputation, product performance and commitment to service and partnership spoke for themselves."

Kilburg added that Iowa Telecom especially appreciated CopperCom's rigorous interoperability testing, which ensures that two or more communication systems within Iowa Telecom's network will operate effectively when connected together.

"Iowa Telecom is one of the larger and more visionary IOCs in the nation," said Michael J. Myers, president and CEO of CopperCom. "We believe our track record of replacing nearly all legacy switch types, combined with the field performance of our switch and our strong financial standing as part of a $25 billion company, gave Iowa Telecom great confidence. CopperCom looks forward to working in partnership with Iowa Telecom to achieve its vision of providing more advanced voice and data services to the citizens of Iowa."

"CopperCom's ongoing success in serving the IOC market is highlighted by this major win," said Kevin Mitchell, directing analyst, Infonetics Research. "Iowa Telecom is one of the largest independent carriers and its selection of the CopperCom CSX clearly indicates that its field performance, scalability and legacy feature sets are second to none."

CopperCom Names SoftSwitch and VoIP Visionary As CTO

Manuel Vexler
Coppercom's incoming CTO

IPCC Executive and SIP Forum Service Providers Working Group Chair Manuel Vexler brings years of expertise in SIP, VoIP and converged IP services to CopperCom

CopperCom announced that Manuel Vexler has joined the company as chief technology officer. Well known for his expertise in Voice over Internet Protocol (VoIP) and converged packet services, Vexler brings more than 25 years of experience in networking and telecommunications to his role as the company's top technology strategist. In his new role, Vexler will work with the CopperCom team to further the technology vision for CopperCom's next-generation softswitch products in support of service providers.

Vexler joins CopperCom from the IPCC (previously known as the International Softswitch Consortium), the industry's technology forum working to advance Voice over Internet Protocol (VoIP) over broadband cable, wireless, and wireline. As vice president of marketing at IPCC, Vexler led marketing and strategy development, as well as advised on technology and architectural issues. For the last three years, Vexler also chaired the SIP Forum Service Providers Working Group.

IP Multimedia Dominates SuperComm 2005

Plasma TV Winner Mike Miller
North Dakota Telephone Company

With a record number of attendees, SUPERCOMM 2005 was an impressive venue for the discussion of trends, issues, products and the communications industry.

According to Telephony Online, SUPERCOMM 2005 was the "trade show where convergence finally moved beyond buzzword status." Here's a quick overview of some key trends:

- **Video:** Applications of video stole the show, as nearly every exhibitor showed some type of video capability.
- **Triple-Play Deployments:** Examples of residential services deployments were also rampant, indicating that residential Triple-Play services are catching on.
- **IP Multimedia Sub-Systems (IMS):** If there was any buzzword this year, it was IMS, referring to the service infrastructure based on the Session Initiation Protocol (SIP). IMS defines a generic architecture that will offer VoIP and other multimedia services within both wireline and wireless applications.

Significant New Business Wins

At Supercomm 2005, CopperCom announced 3 significant deals with major telecommunication companies; Upper Peninsula Telephone Company, Ringgold Telephone Company and British Telecom Conferencing.

Upper Peninsula Telephone Company, Inc. (UPTC) have been able to seamlessly migrate its host-remote networks to next-generation IP communications by deploying a Converged Switching eXchange (CSX®) next-generation switch. Upper Peninsula Telephone serves more than 7,200 customers in both the Upper and Lower Peninsulas of Michigan. With plans to replace up to 17 legacy switches, the initial installation calls for deployment of the CopperCom CSX into seven locations in a host-remote configuration. The host-remote configuration will allow Upper Peninsula Telephone to offer its customers a full set of residential CLASS, Business Services and IP Services.

Ringgold Telephone Company (RTC), a nearly 100-year old local exchange carrier in Northwest Georgia, has deployed CopperCom's Converged Switching eXchange (CSX®) next-generation switch. The CopperCom softswitch enables RTC to provide revenue-generating next-generation voice, data and video services to its 14,000 subscribers. RTC, established in 1912, has consistently improved and deployed the latest and most affordable technology in its network, and its dedication to customer service is well-known throughout its service area.

British Telecom (BT) Conferencing Inc. has selected the CopperCom CSX® next-generation switch to add sophisticated Class 4 call routing and trunking, as well as advanced calling features to its high-volume conferencing services. BT Conferencing, the U.S.-based subsidiary of BT Retail, BT's consumer and business-facing organization, is one of the industry's most progressive and fastest growing providers of audio, Web and video conferencing services.

CopperCom Launches Corporate Video

CopperCom has produced a video that provides a comprehensive outline of the company, its products and market perception. For further information, please email info@coppercom.com.

COPPERCOM CONNECTIONS

SUMMER 2005

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IN THE SPOTLIGHT

Name: Mark Coleman **Position:** Project Manager

Job Role at CopperCom? Manage the deployment of CSX Certification and Commissioning services.

Why I joined CopperCom? I was a trial and field support manager for Proxim Corporation. CopperCom gave me the opportunity to get back into the fast moving and familiar world of telecom.

What three things would you like to take onto a desert island?
My PC, cell phone, and the latest PIN number for the next conference call.

Favorite films?
Man with Two Brains because of Steve Martin and a very clever plot.

Worst Film?
Joe and the Volcano. Should have been funny, but ended up rather silly. Tom Hanks certainly improved following that film.

Favorite food?
I truly enjoy cooking and fancy myself a chef of sorts. Favorite food, anything I make, mostly Mediterranean, and beef dishes.

Favorite drink?
Beer

Favorite vacation destination?
Anyplace with my wife and family.

Favorite pastimes?
Watching my sons playing the sport of the moment, my daughter dancing. Fishing, golfing, Dad stuff, with the exception of mowing the yard.

Who would you most like to invite to dinner?
Steve Martin. He has talent going way back - he even wrote for the "Smothers Brothers Show."

If you would like to make contact with CopperCom to discuss your next-generation switching needs, please contact the sales department at 561.322.4000 or info@coppercom.com