



UPDATE

Solutions for Success

Consultant/Vendor Sales Group
November 2003

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Robin MacGillivray, BCS President, SBC West



Thrilled To Be Back! The Best is Yet To Come...

I'm thrilled to be back at SBC West as President of Business Communications Services. I've met several of you in my previous jobs and know how important it is for us to work closely with Telecom Consultants to help maximize the efficiency and success of many businesses.

Here are just a few of the ways we're continually striving to exceed your expectations in this very challenging year:

- ◆ We've improved our market coverage this year by hiring over 460 new sales professionals.
- ◆ We're exceeding service targets in every channel.
- ◆ We're offering you and your clients more integrated video, wireless, wireline and broadband services than ever before.
- ◆ We're expanding as a national company both inside and outside our traditional 13-state area.
- ◆ We're the nation's leading DSL provider, with over 3 million lines in service.
- ◆ Our Long Distance offerings at incredible prices are very popular with customers.
- ◆ By year's end, we'll have more than 1,000 Wi-Fi hotspots nationwide and we're continuing to develop the most powerful, advanced network for next-generation services.

I'm confident the best is yet to come – for you, for your customers – for all of us.

Our Consultant Liaison Managers are here to assist you. Please call them on 1-800-552-5299 or see their contact information on the back cover of this UPDATE. Thanks for your continued vote of confidence in SBC!

Robin

Robin MacGillivray received a bachelor's degree in Journalism from the University of Southern California. She also earned a master's degree in telecommunication management from the Annenberg School of Communication at USC. Robin, who completed the Stanford Executive Program at Stanford University, has been with the company 24 years, holding leadership positions in Engineering, Operations, Customer Service, Human Resources, Systems, Finance, Marketing and Sales.

SBC CVSG Resources For You

- | | |
|--|-----------------------------------|
| 1. Website: sbc.com/cvsg | 4. Breaking News on CVSG Listserv |
| 2. Bell Advantage (Password-Restricted) | 5. SBC News Broadcasts |
| 3. CVSG Hotline – 1.800.552.5299 | |

(Call your Liaison Manager to get a Password to Bell Advantage or subscribe to Listserv or UPDATE and to attend Broadcasts in person or via the Internet.)

Vice President's Corner



Kari Aguinaldo
CVSG Vice President

Timing Is Everything

In 1963, San Francisco Giants Pitcher Gaylord Perry said, "They'll put a man on the Moon before I ever hit a home run." On July 20, 1969, a few hours after Neil Armstrong

became the first person to set foot on the Moon, Gaylord Perry hit his first home run! Timing is everything. And so it is with telecommunications. It's no coincidence that as SBC Communications gets permission to offer Long Distance service in a state, consumers benefit with more choices and better value. The Los Angeles Times recently published an article showing that since we got in Long Distance, "SBC companies and competitors have blitzed Californians with ads touting ever more elaborate packages that mix traditional local phone service with such lures as fast Internet connections, unlimited long distance and wireless phones... Consumers have responded by snapping up the so-called bundles, getting discounts on DSL or other products if they buy local phone time, or ...cutting costs by picking and choosing among ever-expanding service menus."

SBC Long Distance (where available) provides significant savings to customers who subscribe to packages of services that combine local phone service, calling features and long distance.

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Ron Fischer, SBC



Exciting News on SBC LD, Promotions & Service Offerings

I couldn't start this column without thanking all of you for your involvement in SBC's great success in 2003 – the launch of Long Distance in California. Through August, SBC had well over 1 million Business Access Lines with SBC Long Distance in place and have garnered over 20% Market Share in the areas we serve – all this in a mere 8 months.

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To ensure this great momentum continues, SBC will extend a number of our current promotions and programs through Dec. 31, 2003. These programs include:

- ◆ Small Business Reduced Rate Promotion (rates from \$.032 to \$.036 per minute)
- ◆ Small Business Connections Credit Promotion (combines LD with Access Lines back to SBC)
 - ◆ 6 Months of Credits equal to the Monthly Minimum Commitment of the Small Business Plan selected (1 year term)
 - ◆ 9 Months of Credits equal to the Monthly Minimum Commitment of the Small Business Plan selected (2 year term)
- ◆ Long Distance Private Line Super Saver Promotion:
 - ◆ \$950 DS1 in California or Nevada (1 location must be in SBC territory)
 - ◆ City Pair Pricing – special rates for DS1/DS3 between selected cities around the country
- ◆ Rock My Relay Frame Relay Promotion: Provides 17% – 25% discounts on SBC PremierSERVSM Frame Relay services (Intralata and Interlata).

These programs were so well received by our mutual customers, SBC decided to add some additional plans to add to the fun. Below are a number of additional plans that became available in the Sept/Oct timeframes:

- ◆ Business International SUPER Saver promotion: This promotion waives the \$4.95 monthly recurring charge for 6 months on the International package that guarantees the lowest rates available on calling plans for Small Businesses.
- ◆ Unlimited Long Distance plans have been increased from a maximum of 5 lines to now up to 10 lines (6 – 10 line segment added). This program offers unlimited direct dial domestic LD calling for \$20 per month per line. The program requires selected local business line packages and restriction apply.
- ◆ A special set of programs and promotions have been developed for larger businesses requiring Dedicated Voice Access service (DS1 access to the Long Distance POP). Your account teams will be able to describe and develop these programs for your customers.

As we've reviewed before, SBC has become a national provider of communications services. Recent events highlight this growth:

- ◆ Michigan received approval to offer Long Distance service beginning Sept. 26

- ◆ SBC Telecom is able to provide a number of full service offerings around the country in 30 areas outside SBC territory. These services include:
 - ◆ Local Business Access Lines and features
 - ◆ Primary Rate ISDN Services (PRI)
 - ◆ Integrated Access Service (DS1 with Local, Internet, LD, and Data services)
 - ◆ Dedicated Internet Access (128K and greater)
 - ◆ Full range of Data and VPN services
 - ◆ Long Distance calling plans for all size customers.

Our mutual customers have voted with their communications decisions. They have shown that SBC offers true value for their communications dollar. We are the #1 rated communications company as rated by users in Fortune Magazine – not just once, but 6 years in a row. Our products continue to be the market leader in all markets we serve. Our Long Distance, DSL, and data services lead the tremendous growth. SBC wants to continue to earn your business by providing tremendous value, leading edge products, unmatched reliability, outstanding service, and cost effective solutions.

We want to be the only communication provider you need to recommend to our mutual customers. Again, Thank You for your contribution to our success.

Ron Fischer, Director of Channel Delivery for SBC West, has been in the telecommunications industry for nearly 25 years.

"There is nothing wrong with change, if it is in the right direction."

- Winston Churchill

SBC Privacy Manager® The Caller ID of this Decade

As the battle against unwelcome and annoying calls continues to heat up across the nation, consumers are turning to Do Not Call Lists and other solutions to help filter and eliminate nuisance calls. One such tool that more than 2.3 million consumers are using to regain control of their phones is an increasingly popular SBC service called Privacy Manager®.

While the national Do Not Call List requires registration and a three-month waiting period, upon installation, SBC Privacy Manager works instantly to block unwanted callers from one's home. Additionally, unlike the Do Not Call Registry, the service allows consumers to

Customers can choose from a variety of long distance plans, including buckets of minutes and reduced per-minute rates. In this issue of UPDATE, you can read about our latest products, services and promotions as well as how to be alert for Social Engineering, Spam, Identity Theft and the Top Communications Scams our customers have reported. There's a lot more great news for you, including our new SBC Yahoo! Business Portal, Wi-Fi, Content Delivery Networking, DSL, Multi-Protocol Label Switching, and much more.

We're also delighted to have two new columnists in our evolution of UPDATE: Robin MacGillivray, President of Business Communication Services – SBC West and Carlos Alas from the SBC Contracts Management Group. We have a whole bunch of timely articles from our teammates designed to help you hit a home run for your business as well as your clients'. We look forward to setting you up with the right pitch. Call us on 1.800.552.5299 or see the back cover for Liaison Manager email addresses and phone numbers.

Some Body Cares (SBC), We do. We're here for you!

Kari 415.542.4516
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P.S. For those of you who noticed a name change, I hit a home run and recently got married to Richard Aguinaldo. And there was another name change on our team as Bree got hitched.

pick and choose the calls they wish to take, giving them greater control over incoming calls.

SBC research has shown that Privacy Manager stops or intercepts an average of 50 or more unidentified calls each month or close to 600 calls each year per household—for a potential total of some 1.2 billion filtered or eliminated calls per year among all SBC customers who currently subscribe to the service.

Caller ID lets subscribers see who's calling before they pick up the phone. Privacy Manager is like a security guard that allows only calls with number identification through and intercepts the rest. Please contact your Liaison Manager for further information on this exciting product.



Content Delivery Networking

Content Delivery Networking (CDN) is becoming a frequently heard topic in the corporate networking world and depending

upon who you ask you may receive several different definitions. The concept behind CDN is taking content or applications and distributing them to remote servers in a network in order to avoid home-running all data requests to a centralized data center and adding network delays because of limited bandwidth and/or increased usage. Timely delivery of information to users is the key theme behind CDN. Computer-World reported in their December 10, 2001 issue that CDN technology provides several benefits:

- ◆ Local caching of data reduces the number of application servers and the network bandwidth that companies need to install and manage.
- ◆ Users in remote offices can get faster access to cached content without tying up WAN performance.
- ◆ Application availability can be increased by better balancing user demand for data, and recovery time when systems crash can be lowered.

IT Pro magazine stated large enterprises are moving toward providing CDN infrastructure to reduce bandwidth costs and constraints encountered when corporate information, such as training videos, corporate news feeds, or even HR forms are accessed from multiple remote sites. Placing content servers at some, or all, remote locations means data needs to go only once to each site.

There appears to be some consensus in the benefits derived using CDN solutions that include:

- ◆ Faster download time, higher performance and availability thereby enhancing the end-users experience and translating into greater productivity.
- ◆ Increased use of audio and video applications that were previously much less cost-effective to implement.
- ◆ Improved network performance by offloading origin servers from serving frequently requested content.
- ◆ Reduce server infrastructure and bandwidth required to deliver content
- ◆ Increased availability of popular content through a distributed architecture.

SBC PremierSERVSM Content Delivery Networking

The SBC companies are now offering a CDN solution consisting of Cisco's Content Networking product line CPE sold with SBC DataComm's Support and Network Management services to meet our customers requirements for content delivery. The SBC PremierSERVSM CDN is designed to optimize any size network to dynamically enable faster response times to online requests and decrease network bandwidth congestion, while ensuring a high level of content availability and security.

We offer some unique advantages including:

- ◆ Support infrastructure – Our SBC DataComm engineers are available 24-hours a day, every day, to provide a single point of contact for monitoring, fault detection and customer notification.
- ◆ Guaranteed Service Levels – High-end bundles include SLA's that lead to enhanced customer confidence.
- ◆ Flexibility – Customers have many options, including the ability to match the appropriate Cisco Content Networking CPE products with SBC DataComm's

Support and Monitoring service levels (Basic, Essential and Complete)

- ◆ Total Solution – SBC DataComm can provide both carrier and vendor coordination, in addition to support and monitoring capabilities for all of the customer's CPE.

SBC PremierSERVSM CDN CPE Options Content Switching

- ◆ Cisco CSS11500 Series Content Services Switch (CSS) enables content services such as content-aware load balancing of cache and server farms, e-commerce, overflow services, enhanced security and high availability.
- ◆ Cisco Content Switching Module (CSM) is a Cisco Catalyst 6500 line card that balances client traffic to farms of servers, firewalls, Secure Socket Layer (SSL) devices, or virtual private network (VPN) termination devices. The Cisco CSM provides a high-performance, cost-effective load balancing solution for enterprise and Internet service provider (ISP) networks.

Content Edge Delivery

- ◆ Cisco Content Engine 7300 series is a content services platform for large Service Provider networks that offers premium host services, caching capabilities that reduce WAN bandwidth and optimize Web site performance and provides on-demand content delivery and streaming media services. The CE 7300 series include the 7305 and 7325.
- ◆ Cisco Content Engine 500 series is a content services platform for Enterprise and Service Provider networks that functions as an edge node device in an Enterprise Content Delivery Network (ECDN) system and is responsible for delivery of distributed content to the end-user. It offers caching, ECDN services, and Content Filtering capabilities and provides on demand content-delivery and

Continued on the next page

	SBC PremierSERV SM Data CPE Support Services	SBC PremierSERV SM Network Management
Basic	Phone support only	Monitors the customer's network 24/7/365 and alerts customers of any problems, notifying customer by their preferred method (phone, email, or pager) when an alarm is detected
Essential	In addition to phone support, adds parts replacement: <ul style="list-style-type: none"> a) Essential 8X5 Next Business Day response b) Essential 8X5 Plus Same-day, 4-hour response during business hours only c) Essential 24X7 Same-day, 4-hour response all day and night 	In addition to services included under the Basic level of Network Management, adds: <ul style="list-style-type: none"> ◆ Isolation and resolution of network faults ◆ 24-hour technical assistance ◆ Open and view trouble tickets via web ◆ Weekly router configuration backups ◆ Software support ◆ Coordination with other carriers and vendors on customer's behalf
Complete	Adds on-site maintenance and troubleshooting to any of the 3 above Essential options	In addition to services included under the Essential level of Network Management, adds: <ul style="list-style-type: none"> ◆ Web-based TREND performance reports ◆ Monthly performance summary of managed devices that indicates the current health of the customer's network, including hot spots and capacity notations ◆ Service Level Agreements, when purchased with at least 20 devices

streaming media services. The CE 500 series include the 510 and 565.

- ◆ Cisco Content Engine Network Modules add content engine functionality to the Cisco 2600, 3600 and 3700 series routers.

SBC PremierSERVSM CDN Support & Network Management

In addition to the Cisco CPE options above, customers will choose one level of SBC PremierSERVSM Data CPE Support Service and one level of SBC PremierSERVSM Network Management Service.

SBC PremierSERVSM CDN Bolt-On Options

Customers also have the ability to choose these optional bolt-on services:

- ◆ Premier Technical Support
- ◆ Inbound phone support calls routed to Premier Engineering Group
- ◆ Quarterly, on-day on-site visits
- ◆ Bi-monthly evaluation conference calls
- ◆ Detailed Engineering reports
- ◆ Technology exchange sessions
- ◆ Diagnostic lab simulations for troubleshooting
- ◆ Point-to-point link for immediate response
- ◆ Carrier Coordination
- ◆ Installation
- ◆ Staging
- ◆ Project Management

Summary

SBC PremierSERVSM CDN will enable customers to increase their use of rich media in web and internal applications (CRM, web casting, training), leading to greater network efficiencies, lower network costs and improved network productivity. It's designed to optimize any size network to dynamically enable faster response times to online requests and decrease network bandwidth congestion, while ensuring a high level of content availability and security. Another benefit of this service is that it allows enterprise customers to deploy accelerated, web-based, content-rich E-business solutions including streaming media and knowledge sharing.

The SBC Team can provide a value-added, data management solution through consultative design with the customer on the integration of CDN into their existing network architecture. CPE is fully staged, tested, project managed and monitored 24X7 providing the client with detection, notification and resolution.

For more information, please contact your Liaison Manager at 1-800-552-5299.

Tom David
Liaison Manager
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Wi-Fi Update

It has been awhile since SBC Communications announced the launch of our FreedomLinkSM product and our entry into the Wi-Fi (wireless fidelity) arena. So what's new since the announcement? What are SBC's plans? Here's the latest (as of presstime): FreedomLink's first hot spot was turned up at a Cingular Wireless store in San Antonio on September 16th, according to Mina Emery, SBC Market Development Director for Wi-Fi. "SBC's general strategy with the FreedomLink product is to create a full-fledged broadband experience," Emery said. "Our focus is on three specific 'points of contact' or venues: Wi-Fi access at home; at work and on the road. The strategy is to build hot spots in environments that serve those types of venues."

"To underscore the at home focus, we're currently shipping more than 2000 wireless gateways PER DAY to DSL customers in support of our Home Networking product," said Alyssa Williams, SBC Home Networking Product Manager.

At work, SBC is negotiating with major corporations to install wireless LANs (WLANs). Currently, this involves around 1500 corporate WLAN customers with approximately 3000 corporate locations. On the road, SBC is working with major airports and hotels to create an omnipresent hot spot environment. In airports, the company has plans to deploy hot spots at gate level areas in major airports across SBC's 13-state footprint. SBC also is working with the major hotel chains to provide Wi-Fi access at hotels, in meeting rooms and lobby areas. SBC's focus with its FreedomLink rollout is to provide our customers with a ubiquitous wireless experience. Our ultimate customer service objective is to provide anywhere, anyplace wireless access – anytime!

- Paul Bedell

SBC Aids Wildfire Fight

During recent wildfires in the remote Coyote Canyon area of California's Northern San Diego County, SBC leaped into action enabling far-flung crews of firefighters to better communicate. SBC techs installed two state-of-the-art portable microwave telecom systems, providing voice and data connectivity for the firefighting command center set up by the California Department of Forestry. Using microwave technology, the portable units provided 44 phone lines and DSL broadband service to the command center, helping to carry critical information into and away from the fire's front line.

Paul Bedell, SBC



GigaMAN Launches Enhancements This Quarter

In the Fourth Quarter 2003, SBC is launching GigaMAN enhancements where

multiple new features and options are being made available with the GigaMAN product.

A new vendor platform has been selected to support the GigaMAN product: Nortel's OPTera 5000 series platform. A list of the planned GigaMAN enhancements are as follows:

- ◆ In-band alarming
- ◆ Coarse Wavelength Division Multiplexing (CWDM) capability, to allow for a decreased equipment footprint at the customer demarcation point
- ◆ Three types of route diversity will be offered via tariff: local channel (loop), alternate wire center and inter-wire center diversity
- ◆ Optional (single mode) handoffs at the customer demarcation point
- ◆ Distance extension, allowing for GigaMAN circuits to run ~ 180+ miles end-to-end (actual distance depends on number of splice points in the circuit path and age of optical fiber)
- ◆ Introduction of a 2-Year term payment plan (TPP)
- ◆ Improved Outage Credits
- ◆ Fiber path and equipment protection in Fourth Quarter, 2003. This will allow GigaMAN to appear SONET-like in its function, offering diverse fiber paths end-to-end and 50 millisecond protection switching in the event of a fiber cut or equipment module failure at either end.
- ◆ Central office-based GigaMAN-to-MON Ring interconnection in First Quarter, 2004
- ◆ Power protection option, also to be offered in First Quarter, 2004.

Stay Tuned: Paul will explore these enhancements in our next edition of UPDATE.

Paul Bedell, SBC Associate Director of GigaMAN, can be reached at pb1321@sbc.com. He is an author and teaches at DePaul University.





DSL Data News

We Did It!

The enhanced SBC Yahoo! Business Portal is now available. It is tailored for business customers and

includes customized services, applications and capabilities, many optimized for broadband, which will help your customers improve productivity and become more competitive.

Highlights of the SBC Yahoo! DSL Business Edition:

- ◆ Personalized SBC Yahoo! DSL homepage
- ◆ Customized SBC Yahoo! DSL browser
- ◆ SBC Yahoo! Mail account with 25MB of storage, POP access and email forwarding
- ◆ Ten additional SBC Yahoo! Mail accounts with 10MB of storage each
- ◆ SBC Yahoo! Messenger with high quality web cam capability
- ◆ SBC Yahoo! Photos and Briefcase with 110MB of online storage
- ◆ Firewall software to help shield your computer from unauthorized access
- ◆ Three consumer reports
- ◆ Unlimited nationwide dial-up internet access
- ◆ Choice of two premium services

SBC Yahoo! DSL Premium Services

DSL subscribers can choose one free service from each category below:

Category A – choose 1	Category B – choose 1
<ul style="list-style-type: none"> ◆ Email Marketing Trial* ◆ Premium Business News and Information ◆ SBC Yahoo! Games All-Star package ◆ SBC Yahoo! Photos and Briefcase storage – 150MB extra 	<ul style="list-style-type: none"> ◆ Anti-Virus Software (protects entire PC from harmful viruses) ◆ SBC Yahoo! Mail Extra Storage (50 MB for master) ◆ SBC Yahoo! Photos and Briefcase Storage – 500MB extra ◆ Online Bill Pay ◆ SBC Yahoo! Finance Research Reports ◆ Encyclopedia Britannica

*Additionally, if your customers are looking for more business, they can choose our Email Marketing Trial program at no additional cost. Customers will be able to manage permission-based email lists, use email design templates, measure real-time results.

Unlike other DSL (or Dial) products, SBC Yahoo! products are the only ones that include a unique set of services for small businesses at no additional cost. The new SBC Yahoo! Business Edition also has an upgraded fun and friendly Consumer experience in addition to the new business services and features. Safety and privacy are some of the leading concerns of Internet users today, and as a result, SBC Yahoo! DSL offers powerful new enhancements to make the online experience even more secure. Major new features include:

- ◆ Pop Up Ad Blocking. Integrated into the new SBC Yahoo! browser, this valuable new feature enables members to adjust settings to control the quantity and type of pop-ups they receive, or block them completely.
- ◆ More Complete Anti-virus Protection. Going beyond just e-mail virus protection, users can choose to receive free anti-virus protection for their entire computer.
- ◆ Expanded Parental Controls. Building on one of the most extensive parental controls offerings available, SBC Yahoo! Parental Controls now include settings for kids, teens, mature teens and full access, and are customizable for each sub account. The controls extend beyond Web browsing to also include e-mail, instant messaging and chat.

- ◆ Children can send permission slips to parents requesting access to unauthorized Web sites and parents can manage settings, view usage reports and act upon requests for exceptions from any Web-connected computer.
- ◆ Safety Status Bar. Integrated into the SBC Yahoo! browser for quick access, this useful tool gives members status indications on blocked pop-ups and parental control settings.

Convenient Transition and Installation

The new enhancements and business features are available immediately to new SBC Yahoo! DSL and Dial members. Additionally, current members may immediately update to the new experience or wait until later this year when it will be automatically updated for all members.

Additional New & Improved and “Make DSL work for your Business” email messaging has been sent to business customers to communicate the enhanced value and encourage members to migrate to the new Business Edition.

Current SBC Yahoo! customers will receive emails encouraging them to upgrade. Upgrading to the new portal is required, however the software download (browser) is optional. By the end of year, SBC plans to upgrade all members who have not enhanced their service. All of these members will automatically receive the enhanced portal and will have the option to download the browser software.

Minimum System Requirements for Basic Download

Windows or Mac with Internet Explorer 5.0 and above

256 Color adapter with 800 x 600 resolution

An option for software download is currently available for existing customers: <http://promo.yahoo.com/sbc/dsl/mem/update.html>

If customers would like to take a tour of the SBC Yahoo! product, you can refer them to http://www.sbc.com/sbcyahoo_dsljump/0,,00.html

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Rates at-a-glance for SBC Yahoo! DSL Internet service with enhanced upstream speeds (non-promotional)

Product Name	Speed (downstream x upstream)	Loop Length	Rack Rate
Yahoo! DSL Basic Package	Up to 384Kbps x 128 – 256Kbps	16K ft	\$39.95/mo
Yahoo! DSL Basic – S Package	Up to 384Kbps x 128 – 256Kbps	16K ft	\$54.95/mo
Yahoo! DSL Standard Plus Package	384Kbps – 1536Kbps x 128 – 256Kbps	12K ft	\$49.95/mo
Yahoo! DSL Standard Plus – S Package	384Kbps – 1536Kbps x 128 – 256Kbps	12K ft	\$64.95/mo
Yahoo! DSL Deluxe Package	768Kbps – 1536Kbps x 256 – 384 Kbps	9K ft	\$59.95/mo
Yahoo! DSL Deluxe – S Package	768Kbps – 1536Kbps x 256 – 384 Kbps	9K ft	\$79.95/mo
Yahoo! DSL Symmetric 384 – S Pkg	384 – 416 Kbps x 384 – 416Kbps	12.5K ft	\$119.95/mo
Yahoo! DSL Expert Plus Package	1.5Mbps – 6016Kbps x 384 – 608Kbps	7.5K ft	\$139.95/mo
Yahoo! DSL Expert Plus – S Package	1.5Mbps – 6016Kbps x 384 – 608Kbps	7.5K ft	\$159.95/mo

UPDATE



Selling Below Tariff with Custom Contracts

At SBC, the Contracts Management Group provides sales support throughout the SBC territory as well as for SBC Telecom outside the 13-state territory. The organization is charged with Contract Development, Contract Management and Contract Life Cycle Management. Contracts are an important part of the SBC Sales organization's portfolio of services and are available for qualified business customers. There are many types of contracts that support the various products and services available to the business customer, i.e. Dedicated Internet Access, Data Com, Internet Data Center, and 1-800-Conference among others. In addition, each region has its own nuances with regards to their own regulatory environment and, therefore, their own type of contracts offerings. The most well-known type of contract is the Individual Case Based (ICB) contract, also known as the 96A Custom Contract in California.

The 96A Custom Contract is especially well-known because it has been available for a long time and can be quite comprehensive when applied across a suite of products and services. Other than one time promotional offers for single product offerings, ICB Contracts are the only way for a business customer to be guaranteed below tariff pricing for a group of telecommunications products and services. Understanding how these contracts come together can give you the competitive edge in the marketplace. ICB Contracts can be devised for new services, existing services, or a combination of the two.

The answers to some of the following questions should give you a good idea of what an ICB Contract entails. Using California as an example, we'll answer a few questions about ICB Contracts. Keep in mind that each of the SBC regions will have their own applicable regulatory guidelines.

1. What exactly is an ICB Custom Contract or 96A Contract and where does the term 96A come from?

An ICB Custom Contract is sometimes based on discounted pricing that is considered on a case-by-case basis and offered to a customer in exchange for a specified term and volume commitment for otherwise tariffed telecommunications services. In California, for example, ICB Custom Contracts, otherwise

known as 96A Contracts, are sanctioned by the California Public Utilities Commission (CPUC). The 96A Contract permits SBC California to enter into these discount type of arrangements with customers. The term 96A arose out of the CPUC General Order decision number (GO 96A), which gives SBC California the authorization to enter into such agreements. These agreements must be filed with the CPUC and are subject to the Commission's approval and issuance of an Effective Date.

ICB contracts are usually comprised of two documents: the Master Agreement and at least one Addendum. The Master Agreement states the general terms and conditions under which SBC may contract with customers, and the Addenda provide specific customer information with regards to pricing, quantities, length of term, and the product mix involved.

2. What types of ICB Contracts are there?

There are some basic types of ICB Contracts: Minimum Quantity, Minimum Revenue and Total Billed Revenue contracts. Each one of these contract types fits particular customers best depending on their situation and the product mix involved in the contract. The Minimum Annual Commitment (MAC) will be based on the type of contract that applies to the customer's unique situation.

- ◆ Minimum Quantity Contracts – typically used when there is no variable product such as HICAP or GigaMAN only.
- ◆ Minimum Revenue Contracts – typically used when there is a variable product involved such as Usage, i.e. HICAP, Primary Rate ISDN and Usage.
- ◆ Total Billed Revenue Contracts – typically used when there are an assortment of products involved as well as products not eligible for discount, but which can be counted as contributing to the Minimum Annual Commitment, i.e. HICAP, Primary Rate ISDN, Usage plus contributory products (FCC Tariffed Products or 1MBs).

3. How do you know which type of ICB Contract best fits a customer and how flexible are ICB Contracts?

The Customer's product mix and business objectives will usually help determine the type of contract that best suits their needs. For example, a customer wishing to only commit to contracting for their Centrex Service will have a Minimum Quantity Contract. In contrast, a customer contracting for Centrex Service and Usage as well as contributory products will have a Total Billed Revenue Contract. Ultimately the type of contract is determined by the Customer, the Account Team, ICB Pricing and the Contract Developer.

ICB Contracts are designed to be flexible. In addition to the Minimum Annual Commitment, which can usually be set in the 90% range for Minimum Revenue and Total Billed Revenue Contracts, ICB Contracts can also have flexible terms and conditions. Examples of these in SBC West would be the alternate technology clause and downsizing clause, both of which can be included in the terms. (Note – alter tech & downsizing are specific to CA region only)

4. How do you qualify a customer for an ICB Contract?

The usual criteria for developing an ICB Contract for a customer is the customer's willingness to contractually commit their telecommunications services to a specified term and volume in exchange for discount pricing. A typical contract term would be three years. There may also be a minimum revenue requirement in certain SBC regions. In California, for example, the customer must also meet the minimum criteria of \$30,000.00 in annualized revenue in order to qualify. The typical ICB Contract customer is in a growth mode and adding new services, moving locations, looking to lock in discounts on existing services, or bringing services back to the SBC network. The benefits of entering into an ICB Custom Contract for a customer range from discounted pricing over the term and ramp up periods for new installations to amortization of Non-Recurring Charges (NRCs) for new services, if applicable. These types of items can all be negotiated.

5. How is a customer qualified? How is the contract created and how long will it take?

The following outline suggests possible steps to follow in putting an ICB Contract together for a customer.

- ◆ Assess the customer's network needs for Access and Usage and determine the customers desired term length.
- ◆ Submit an ICB Pricing Request through the Account Team with stated objectives, i.e. amortization of NRCs for new services, ramp up periods, etc.
- ◆ Present pricing to customer for approval (Have them verify quantities and prices)
- ◆ Gather required information, i.e. Customer's legal name, state of incorporation, etc.
- ◆ Request contract from Contract Development Team
- ◆ Negotiate terms and conditions
- ◆ Secure customer signature of executable documents
- ◆ Estimate approximately one month for this process barring any unusual situation

Once the contract is signed by both parties the Regulatory time clock starts ticking with regards to filing the contract with the CPUC and receiving an Effective Date. (See question 7)

6. What if a customer wants to negotiate terms and conditions?

Negotiating terms and conditions is part of the contract process. At SBC, the Contract Developer will negotiate any requests for changes to terms and conditions directly with the customer. If necessary, the Contract Developer will also facilitate any discussion between the customer and SBC's Legal Department.

7. How is a contract filed with the California Public Utilities Commission (CPUC)?

There are different ways to file ICB Contracts with the CPUC. A filing can either be Express or Customer Specific. The type of filing will usually be dictated by the Customer's specific product mix and needs. For example, an Express filing is based on State Wide Average Price Floors and takes 14 calendar days to be reviewed by the CPUC and receive an Effective Date. The Express filing is the most popular method because of its simplicity and shorter approval time frame. By contrast, a Customer Specific filing is based on Individual Pricing and takes 40 calendar days to be reviewed and receive an Effective Date by the CPUC. Once a contract is approved, the CPUC issues an Advice Letter and Effective Date.

8. What happens once a customer signs the contract?

The customer will always sign two original contracts, a Customer Copy and a SBC Copy. These two original contracts must be returned to SBC for counter-signature. Once countersigned by SBC the contracts are filed with the CPUC within approximately one week. Once filed with the CPUC, Express filings receive an Effective Date from the CPUC within 14 calendar days, whereas, Customer Specific filings receive an Effective Date within 40 calendar days from the filing date.

9. How does the contract get implemented?

Implementation of the contract is part of the contract process at SBC. An implementation package is developed for each contract and the Implementation Manager coordinates a meeting of the Sales Support Manager and Billing Representative once the CPUC issues an Effective Date. In this meeting the Implementation Manager reviews contract pricing as well as terms and conditions in order to ensure compliance and that the orders are processed accordingly. Products and services are rated at contract prices based on the Effective Date of the contract.

10. How is the billing under contract verified?

After a full billing cycle there is a bill review to ensure that the contract is billing properly.

Sample List of Products and Services Eligible For Discounts

(Sample List may vary by Region)

HICAP
Primary Rate ISDN (PRI)
SuperTrunk
DS3
SONET Ring and Access Service
GigaMAN@Service
DS3X3 Service
OC3c Service
OC3 Broadband Circuit Service
Message Telecommunications Service:
Zones 1,2,3, Local Toll, Calling Cards,
Custom 8 Service
Centrex Service

Sample Products Not Eligible for Discounts (but may be contributory)

(Sample List may vary by Region)

1MB (Measured Business Lines)
Basic Rate ISDN
FCC Tariffed Products

The world of contracts is constantly evolving along with business, technology and customer needs. Some newer types of contracts are Master Service Agreements and Master Discount Agreements, which may span all of SBC's territories. These are complex contracts that will be covered in future articles. Keeping in mind that contracts in different parts of SBC's territories will have different regulatory guidelines. The best way to proceed should you have any additional questions about Custom Contracts is to contact your Consultant Liaison Manager listed in the back of this publication or by calling 1.800.552.5299. Your Consultant Liaison Manager will have access to the internal SBC resources necessary to answer your questions.

Carlos R. Alas, Jr. is an Associate Director in Contract Development for SBC California. He has been with SBC for nine years and has previously held positions as Account Manager and Executive Briefing Center Manager in San Francisco. He holds an MBA in International Management.

*"Winners expect to win in advance."
— Dennis Connor*

Webwatch

In this issue of UPDATE, we feature several Security Websites. UPDATE Columnist Nancy Grover, Regional Manager – SBC Corporate Information Security, said these four websites offer different types of security information that may be helpful to UPDATE readers:

SBC DISH Network To Debut

SBC Communications & EchoStar Communications Corporation have announced a first-of-its-kind partnership that will give SBC companies the ability to aggressively market co-branded SBC DISH Network multichannel television service as a fully integrated part of their bundled services in early 2004.

The partnership will provide SBC Communications with an exclusive telecom partnership for single-family residences throughout the SBC 13-state traditional service area, where it provides service to more than 56 million access lines. The co-branded SBC DISH Network satellite television service will offer SBC customers access to hundreds of popular, all-digital television channels, including movies, sports, news, music, international and high-definition TV programming. SBC companies will market the TV service in bundles that may include local telephony, long distance (where available), wireless and DSL Internet Service.

This new agreement furthers the SBC next-generation bundling strategy, allowing the company to offer the full spectrum of television, wireline, wireless and broadband services. Key elements of this partnership, include:

- ◆ **A Unified Customer Experience:** SBC companies will manage customer relationships for SBC DISH Network service. Customers will seamlessly place their order, arrange for installation and activate their service with a single phone call.
- ◆ **Single Bill:** SBC DISH Network customers will be billed for their television services on a single SBC bill with other SBC voice and data services.
- ◆ **Bundling Flexibility:** The partnership gives SBC companies significant flexibility in bundling the co-branded service, providing customers more options and greater value.

"Consumers have waited a long time for true one-stop shopping with single-source customer care and billing for TV, wireline, wireless and Internet service and now it's finally here," said Ed Whitacre Jr., SBC Chairman and CEO.

In a separate transaction, SBC also has agreed to make a \$500 million investment in EchoStar in the form of convertible debt.

www.securityfocus.com – Good stories, lots of IT type security issues.

www.nipc.gov – This security site is managed by the FBI and contains a lot of Homeland Security information.

www.pchell.com – Good resource for PC users.

www.information-security.org/news.htm – Security news stories from around the World.



Watch Out For Social Engineering

Introduction

The news media pay attention when computer viruses spring up several times a year. The virus/worm infections in August made the news for almost a week as they disrupted computer networks and sent people crazy E-mail messages.

A little less attention is given every time Microsoft announces a newly discovered software vulnerability that some hacker or virus writer may exploit.

This article is about an information security threat that receives almost no media attention: the art of manipulating you into revealing information that you want to safeguard or into doing something that will help someone you wouldn't normally help.

Social Engineering is people deceiving other people in order to gain information or to get something done.

Social Engineering Demo at a Hacker Conference

Every year in Las Vegas, hackers, information security professionals and law enforcement gather together at a conference called DEFCON. The hackers started this conference; the others come to learn and to observe. One traditional session every year is a social engineering demonstration.

A hacker panel tells the audience a secret known about some business. It might just be a non-published phone number to a modem on a mainframe computer or the CEO's FedEx account number.

A panel member calls that business trying to get someone to reveal that same secret. Everyone in the conference room hears the call over the speakers. The business will be a large business, with the person answering the call more likely to be a lower level employee. Normally the demonstration takes 5 to 10 minutes and succeeds in the first or second attempt.

A Typical Process

A social engineer uses guile, social skills and whatever information he already knows to persuade you that he has a legitimate right or need to get information or to get you to do what he wants.

One common example has someone calling you claiming to be a system administrator on your network who needs to

know your password in order to troubleshoot a problem. Even a real system administrator shouldn't ask for your password. Many fast talkers have gotten passwords just that easily.

The social engineer pretends to be some legitimate or authorized party, and baffles, confuses or intimidates the victim or taps the victims desire to be helpful.

CitiCorp Checking Account E-mail

Just before all the viruses hit the Internet in August, I got an E-mail at home that appeared to be from CitiCorp. There was a legitimate appearing E-mail letterhead and background. It looked very professional and authentic. The graphics and logos aroused no suspicion. I should know. I'm in the business of information security.

The message said that CitiCorp needed some information urgently so that my checking account would not be canceled. Although I do have a CitiCorp credit card, I don't have a CitiCorp checking account. I thought that the message might be referring to the checks that credit card issuers occasionally send out to card holders, but I didn't want or need the checks, and I didn't reply. I forgot about the whole thing.

A week later someone at work sent me an E-mail asking if I had heard that CitiCorp was calling the E-mail circulating around the Internet a fraudulent attempt to get personal financial information, probably to enable Identity Theft. I hadn't even suspected that.

The next day I saw the same information reported in a news article. This was the week that all the viruses and worms hit. The E-mail deception didn't get ten percent of the media attention that the viruses got, but which is more worrying to you, having a computer virus that current anti-virus software can defeat quickly or having some thief get your checking account number and creating personal and financial havoc that can take months to clean up?

How Social Engineers Work

We've all been lied to at one time or another. We've all been fooled by someone. I was fooled by the CitiCorp message, even if I didn't become a victim. You can't always know that you're being conned, but you can try to maintain a little bit of doubt when someone wants something from you. Here are some of the ways social engineers get what they want.

Friendliness

If people are nice to us we're more likely to let our guards down. At work we often have to talk to strangers. We have to make fast decisions about people. Social engineers

exploit this split second of judgment. They are prepared for you; you are not expecting them. Social engineers often seem to be the nicest people you would ever want to know. Of course you want to help them out.

If the social engineer calls you again, you may suddenly have a friendly working relationship with the bad guy. After several calls you no longer have to ask for trust. The two parties speak to each other on a first name basis, and may even chat about families or the vacations. A social engineer draws on that relationship whenever she needs.

It's difficult to know when friendliness is faked. This is a very effective if people can pull it off. Most friendly people seem to be genuine, and we don't want to cut them off because of the few bad apples.

Urgency

Urgency is a great tool for manipulating some people, especially if it's combined with timing. If the phone rings 5 minutes before you want to leave for home on a Friday afternoon, you're already hoping it's a short call. If the caller claims to need help in an emergency, you face a conflict. You want to go home. The temptation is to cut corners and do whatever you have to do to get the person off the phone. The caller knows that.

Another time to be wary of this is on a weekend or late at night when you would have to call your boss or colleague at home to get advice or approval.

It's a good idea to be suspicious of any last minute urgency, especially if it's unexpected. The social engineer will resist any attempts to slow the process down, but that's what you have to do. Do something unexpected or ask for more information before you can make a decision to assist. Think about whether the request would even be appropriate during normal business hours. Is there any way you can verify the urgency or identify the caller? You may have to act against your own desire to head home. It's a tough call when someone is pressuring you on the phone.

Intimidation

There are many forms of intimidation, some can be pretty subtle. A social engineer claims to call on behalf of a VIP who needs some information or some database change ASAP. Perhaps it's for some regulatory requirement or for an important customer. The intimidation is implied, not actually stated. The VIP may get angry or complain to your boss. That creates pressure on you to comply.

If you hesitate or don't take the bait, the social engineer may tell you that the VIP has already threatened anyone who screws this up. Just ratchet up the anxiety a bit more.

If you still don't comply the social engineer may become self-righteously angry with you. I won't take the fall for this alone.

The social engineer may go as far as she can to tilt the decision in her favor. Just as with the person using urgency as a lever, you have to slow the process down and find ways to check out the story. Tell the caller that you need to check with the VIP or the VIP's assistant, or your own boss. If the VIP really needed something urgently you would more likely hear it from your boss or from some intermediary who you know. VIP's tend to talk to other VIP's and send the message down stream that way.

Expertise

Social engineers often know a whole lot about you and your business before they get communicate with you. If they don't know a lot, they may know just enough to persuade you. Some call several people looking for an accumulation of innocent information such as the phone number to the mail room or the name of the supervisor. Using each bit of information they are able to get more innocent information from the next person they call. After a while they are able to use all that innocent information to seem like an employee or client and to pry free some sensitive or confidential information.

One scenario had a person calling an executive's secretary, pretending to be the mail room clerk, claiming that a Fed Ex package was missing the VP's account number and just asking for the FedEx account number. Then the social engineer called another VP's secretary. He claimed to be an employee at a remote location and to need an important business document. He gave the secretary the other VP's FedEx number and asked to have it shipped that day.

Other social engineers research your business and learn whatever they can. When they start talking to you, anything they already know can make them seem legitimate. Don't overlook the small mistakes the person may make. Ask yourself whether a legitimate caller would have made that mistake. Would the mail room normally call you? Would the mail room normally have the account number in a file or on a database?

Small Favors

The social engineer may ask for something that seems inconsequential. Maybe they ask for your name and e-mail address so they can send you something to review. Then they call someone else in a different department and pretend to be you. (A tiny bit of identity theft) They ask that person to fax over an employee phone list or an organization chart. Then they call a third party and

pretend to be the second party's boss. Little bits of information can lead to bigger and bigger scores. Sometimes the aggregate is enough and they never need the big score.

Countering Social Engineering

By its nature it's difficult to counteract social engineering. It's sneaky and deceptive. It's manipulative. You don't see it coming. The social engineer may have a lot of practice and may already know what weaknesses to exploit. Having a suspicious nature may not be enough to protect yourself, but being too eager to be helpful to be liked puts you at a disadvantage. Still there are some things that can help you.

Policies and Procedures

In any security plan, policy always comes up as a starting point. The one policy that may be most effective with social engineering is giving yourself and your employees the right to say "No" to people. With all the urgency and subtle intimidation, everyone needs to know that it's OK not to comply or to ask for more time. If you find that you or your employees make bad decisions and say no at the wrong time, you can always try to learn from your mistakes.

Security will always be somewhere between risk and reward. As will the right thing to do.

If a caller asks you for something, ask for a call-back number. A lot of social engineers do not want to give a number, or they won't give you a legitimate number. They may have claimed to be calling from another department in your company or from a client company or a certain location, but the return number has the wrong area code or prefix.

Documenting procedures and routines gives everyone a sense of how things are supposed to happen. Certainly the social engineer may try to exploit that, but he may be easier to identify if he does not do what he is supposed to do. The social engineer will try to fast talk around proper procedure, but that involves more conversation and more opportunity to detect deceit. The fast talk will have to be consistent with the initial lie.

Training and Awareness

There isn't much training in counteracting social engineering. There are stories and articles that you can read and pass around. Hopefully this article will be one of them. The more you understand the problem and the more you keep the problem in the back of your head, the more likely you are to keep a bit suspicious.

Keep the risks in mind. What seems like a small favor or small piece of information could be a part of a lot bigger picture.

Final Words

It would be great if there were some software to protect you from social engineering, but the skills involved are low tech, old fashioned, social skills.

- ◆ Think critically
- ◆ Ask questions of the caller
- ◆ Keep in mind that urgency and timing are strong tools in manipulation
- ◆ Insist on more time before you can comply
- ◆ Read the few news items you find
- ◆ Pay attention to the little mistakes the caller makes
- ◆ Don't feel you always have to fix someone else's problem

Jerry Hinek is a Senior Business Security Manager for SBC Services. He earned an MBA in Information Management and is a Certified Information Systems Security Professional.

"We must always change, renew, rejuvenate ourselves; otherwise we harden." –

Johann von Goethe

*Continued from page 4
DSL DATA NEWS*

The More Your Customers Buy, the More They Save...

Our best prices just got even better! Now your customers can enjoy an enhanced broadband experience with SBC Yahoo! DSL for as low as \$26.95 when they purchase our bundles and commit to a 12-month term. It's true, the more they buy, the more they save! When customers purchase our bundles that include voice packages, SBC Yahoo! DSL, SBC Yahoo! Dial, Shared Web Hosting, Online Office, Dedicated Internet, Cingular and SBC Long Distance, they can appreciate additional discounts. Keep looking for direct mail drops and listening for radio ads.

SBC Yahoo! DSL Stands & Delivers!

SBC is leading the nation in providing DSL high-speed Internet Service. We have over 3 million DSL subscribers with service available to more than 32 million customer locations. To date we have nearly 1,990 Remote Terminals (RTs) with over 11,770 Distribution Areas (DAs) ready for service, in ASI West and SBC California and Nevada. For more information, to qualify your customers for SBC Yahoo! DSL Internet Service, as well as to order the service for your clients, contact the Unique Services Center South Consultant Queue at 1-866-234-4DSL (4375).

Cassandra Jessie-Johnson is Associate Director, Business Processes Team, SBC Sales Operations-Central

UPDATE



Spam – Friend or Foe

What is Spam?

Spam is most often defined as unsolicited email. However, if a long-lost high school sweetheart discovers your email address and sends you a message, this would hardly be considered spam, even though it was unsolicited. Real spam, therefore, is generally characterized as email advertising for a product sent to a mailing list or newsgroup. Many email marketers even go so far as to require that unsolicited messages be fraudulent, deceptive or objectionable before it can be considered spam.

Here's one school of thought as to the origin of the term, spam: some claim the term comes from the Monty Python song, Spam, spam, spam, spam, spam, spam, spam, spam, lovely spam, wonderful spam... Like the song, spam is an endless repetition of useless text.

Who are the Spammers?

Millions receive dozens of unsolicited commercial emails every day. Some users see spam as a minor irritant, while others are so inundated with spam they feel forced to change their email addresses.

The email that fills your inbox on a daily basis is most likely the result of a group of 150 spammers who are capable of generating hundreds of millions of emails each day. This relatively small group is responsible for more than 95% of all unwanted email. With a setup of just four computers and a high speed Internet line, a spammer can send out 10 million emails a day. It's cheap to send out all that email, and only a return of one quarter of 1% is required for the spammer to make money. That small return on investment makes the spammer happy, the vendor happy, and hopefully, satisfies the purchaser as well. It's just the other 99.75% of the user base that is unhappy.

As users become more and more fed-up with the quantity of spam in their inboxes, ISP's and the government have begun to crack down on spammers. To continue to get their messages out, spammers are resorting to working with virus writers and hackers. Trojan Horses are being placed on home and university computers around the Internet, making them unwitting accomplices to the spam campaigns. It is estimated that 6 to 7 billion spam messages are now launched through hacked computers daily, making it very difficult to trace back to the spammer.

How did these people get my email address?

It is often impossible to determine how a spammer acquires a user's email address. It could be the result of an activity the user was engaged in, or possibly the user gave his/her email address to the wrong person. But mostly, the user is simply targeted randomly. Some of the methods used for gathering email addresses are:

Email addresses harvested from public web sites – When an address is posted onto a public web site, it can potentially be viewed by millions of users. Spam lists are developed using address-harvesting programs that surf thousands of web sites, collecting any email addresses encountered. The more popular a web site is, the greater the likelihood that an address-harvesting program will be used to scour it.

Email addresses harvested from USENET postings – When a user includes his or her email address in the heading of a USENET message, that address can be harvested and used to send spam.

Email address harvested from chat rooms – Spammers can harvest email addresses in real-time by joining a chat rooms and scanning the room for all users present. This is a very quick and easy way to harvest known-good user accounts.

Email addresses harvested through attacks – A brute force attack on a mail server can result in a tremendous amount of spam, even if an address hasn't been shared anywhere. Alert network administrators can sometimes block these attacks, but a significant amount of spam can still result. Spammers also use dictionary attacks, in which the attacker sends email to all the words in the dictionary, or attacks in which email is sent to common surnames and first initials (such as jsmith@domain.com or bjones@domain.net). For individual Internet users, there is little that can be done to avoid spam resulting from these attacks.

The cost of Spam

Armed with lists of email addresses, spammers send billions of email messages daily, not only inconveniencing millions of users, but also imposing huge costs on ISP's. Spam not only clogs up inboxes, it also ties up valuable computer space, and puts companies at risk for computer viruses. Spam is the electronic equivalent of telemarketing, constantly interrupting workers, and taking their focus away from business.

Each year spam costs each individual user between \$30 – \$50 and companies \$730 in lost productivity. The average worker spends 15 hours a year clearing unwanted email. In addition to wasting people's time,

spam uses up network bandwidth. Because the Internet is public, there is very little that can be done to prevent spam, just as it is impossible to prevent junk mail from being delivered to our homes. However, some online services have begun instituting policies to prevent spamming at the insistence of their subscribers.

Avoiding Spam

Unfortunately, there is no way to get rid of spam completely, but there are things that can be done to control it.

Use your delete key – The best way to deal with spam is just to ignore it. If an unsolicited email arrives in your email box, just hit the delete key.

Protect your address – Avoid putting your email address on a public web site.

Diversify – Use multiple email addresses, using one exclusively for filling out web forms or posting to newsgroups, and another as your primary email.

Read carefully – When given the opportunity, opt-out at every chance, letting companies know you don't want them sharing your email address. If you don't want to receive email from a web site, don't give them your email address unless they offer you the option of declining to receive additional email from them. Pay particular attention to options discussing how your address will be used.

Complain – If you suspect that a web site has violated its privacy policy, you can report it to the Federal Trade Commission.

Never respond to a Spam email – For the spammer, one hit among thousands of mailings is enough to justify the practice. Instead, if you want the advertised product, go directly to the site offering the product, and check it out there.

Use a filter – Many ISP's and free email services now provide spam filtering. Filters are not perfect, but they can cut down on the amount of spam a user receives.

Never respond with the word remove – This is just a trick and announces to the sender that a human is at your email address. If you reply, your address is placed on more lists and you receive more spam. In addition, don't be fooled by phrases such as to be removed from this list, click here.

Poetic Justice

Self-described Spam King, Alan Ralsky recently got a taste of his own medicine, and it was all the result of a well-organized campaign by the anti-spam community. Alan Ralsky didn't find it funny.

Ralsky, one of the most prolific spammers, was sued by Verizon for \$37 million in

2001 because they claim Ralsky twice brought their email system to a crawl due to the unprecedented amount of spam he was sending to their company.

In an interview last year, Ralsky bragged about his new palatial home, calling it the house that spam built. His new home contains a control center (20 computers and a T1) which many believe is the single largest spam operation in the world.

After the interview, 300 anti-spammers went into action, gleefully posting Ralsky's home address on the Internet and encouraging all anti-spammers to sign him up for every catalog and advertising campaign they could find. Since then, Ralsky has been inundated with thousands upon thousands of ads, catalogs, and brochures delivered to him everyday by the U.S. Postal Service.

"These people are out of their minds," Ralsky said, "They're harassing me." He also complained that he now has to sort through tons of mail just to get to his real mail.

Several tons of snail mail spam every day might just annoy him as much as his spam annoys me, wrote one of the anti-spammers.

Ralsky is indeed annoyed, as is probably his mail carrier. Ralsky says he's asked his attorney to sue the anti-spammers.

Nancy Grover, Regional Manager – SBC Corporate Information Security, is responsible for the company's critical systems, including the core network and the Network Operating Centers. She is a Certified Information Systems Security Professional.

"Constant kindness can accomplish much. As the sun makes ice melt, kindness causes misunderstanding, mistrust, and hostility to evaporate."

– Albert Schweitzer

SBC California Unveils New Unlimited Calling Offer

SBC California announced a new unlimited calling plan that gives Golden State consumers the freedom to ring anywhere in the domestic United States, without worrying about time limits. The new calling bundle gives customers unlimited SBC local and long distance service and custom calling features with prices starting at \$41.95 a month – all on one monthly bill. Subscribers can take advantage of an additional savings on the SBC Long Distance International SaverPlus® plan, giving callers great low rates around the globe and an even more streamlined phone bill.

Cingular Wireless News Section

Exciting New Device For Wireless-Wireline Integration

Cingular Wireless and its parent companies – SBC Communications & Bell South – recently introduced FastForward™ – one of the wireless industry's first devices to marry the convenience of wireless service with the value of a wireline phone. The patented FastForward device – which works exclusively with Cingular Wireless service – was available Oct. 1. This unique device – designed as a cradle to hold a wireless phone – simply plugs into an electrical outlet. When the Cingular Wireless phone is cradled, calls to the wireless phone are forwarded to a designated landline phone, while the wireless phone's battery is automatically recharged. Cingular customers with a FastForward device can get unlimited incoming wireless calls (minutes) forwarded to their landline phone in the local calling area – without the minutes counting against their monthly wireless calling plan for just \$2.99 per month plus the cost of the device. The service is free to SBC residential local phone company customers who receive a single bill for Cingular wireless and landline services and BellSouth customers who sign up for a combined bill and two other features. The new FastForward device can be purchased as a stand-alone item at

all Cingular Wireless retail locations for just \$39.99. For Cingular and its parent companies, this is part of a larger initiative to create a new category of products that simplify the calling process and change how people communicate.

More Info Available to Wireless Customers

SBC's Wireless Directory Assistance Centers are not only providing phone numbers but details on airports, movie listings & reviews, stock quotes, driving directions, sports scores, weather and much more. A new DA center opened this year in Lombard, IL., joining centers in Connecticut and Ohio, with another launching in San Antonio. All are managed by SBC Operator Services or SBC SNET Operator Services.

Network Construction

Cingular is spending more than \$2.6 billion to deploy GSM technology across its network. This technology will mean clearer calls, faster data speeds and access to handsets with cameras and data capabilities. Cingular continues to build out its network and work with other carriers to significantly expand GSM coverage across the country. Cingular has signed a contract with NextWave Communications to buy \$1.4 billion in additional spectrum – almost all of it in existing markets so we can provide new and better products and service.

SBC Long Distance Introduces First Middle East Calling Plan

As an upward trend on calls to the Middle East continues, SBC Long Distance has announced a new plan to meet this need.

Middle East 60, available for \$19.95 per month, allows consumers to call the region for as little as 33 cents per minute when all 60 minutes in the plan are used and just 32 cents per minute for calls over 60 minutes. This new international "block of time" plan covers direct-dialed calls from the U.S. to countries including Oman, Syria, Bahrain, Israel, Jordan, Kuwait, Lebanon, Palestinian Authority, Saudi Arabia, Turkey, United Arab Emirates, Iran, Qatar and Yemen.

The introduction of Middle East 60 continues to bolster the company's international calling portfolio. SBC Long Distance recently lowered its rates to more than 200 countries and announced its best-ever rates to Mexico, including Mexico 500 for \$44.95 a month, with a per minute rate as low as 9 cents when all minutes are used, and just 9 cents per minute for calls over 500 minutes. Additionally, new calling plans such as Canada Plus provides unlim-

ited direct-dialed calls to Canada in conjunction with the SBC Long Distance unlimited domestic calling plan, National Connections. Unlike competitor plans, SBC Long Distance international plans do not impose time and day restrictions.

"By introducing new plans and expanding existing packages in international calling, we provide our customers with more choice and better values for international long distance," said Michael Grasso, executive director of consumer marketing at SBC Long Distance.

SBC Long Distance recommends that consumers consider their calling frequency and the countries covered when evaluating international plans. Consumers who place frequent international calls to Israel and Palestine may also realize savings with International SaverPlus, which allows greatly discounted per minute rates for a low monthly fee.

To subscribe to any of SBC Long Distance's international calling plans, consumers also must sign up for a domestic interstate SBC Long Distance plan. For more information about SBC Long Distance calling plans, consumers can visit www.sbc.com or call 1-877-PICK-SBC.



The Importance of HIPAA

(Note: As we were going to press, HIPAA guidelines required compliance to Standardized Electronic Transactions & Code

Sets by Oct. 16, 2003, with exceptions. Dr. Kohli takes a look at the significance of HIPAA, which impacts thousands of businesses.)

The Health Insurance Portability and Accountability Act of 1996 (HIPAA), signed by President Clinton on July 21, 1996, has the following general objectives:

- ◆ Guarantee health insurance coverage of employees
- ◆ Protect the health information of individuals against access without consent or authorization
- ◆ Introduce and implement administrative simplifications in order to augment effectiveness and efficiency of the health care system in the United States
- ◆ Reduce health care fraud and abuse.

In this article we discuss the following aspects of HIPAA:

- ◆ Overview
- ◆ Electronic Transactions Standards
- ◆ HIPAA Implementation
- ◆ Privacy Standards
- ◆ HIPAA Success

Overview

Today, health plans, hospitals, pharmacies, doctors and other health care entities use a wide array of systems to process and track health care bills and other information. Hospitals and doctor's offices treat patients with many different types of health insurance and must spend time and money ensuring that each claim contains the format, codes and other details required by each insurer. Similarly, health plans spend time and money to ensure their systems can handle transactions from various health care providers and clearinghouses. In our complex health care system, about 400 different formats exist today for health care claims.

To improve the efficiency and effectiveness of the health care system, the Health Insurance Portability and Accountability Act (HIPAA) of 1996 included a series of administrative simplification provisions that required the Department of Health and Human Services (HHS) to adopt national standards for electronic health care transactions. By ensuring consistency throughout the industry, these national standards will make it easier for health plans, doctors, hospitals and other health care providers to

process claims and other transactions electronically. The law also requires the adoption of security and privacy standards in order to protect personal health information. HHS has issued the following major regulations:

- ◆ Electronic health care transactions (final rule issued);
- ◆ Health information privacy (final rule issued);
- ◆ Unique identifier for employers (final rule issued);
- ◆ Security requirements (final rule issued);
- ◆ Unique identifier for providers (proposed rule issued; final rule in development);
- ◆ Unique identifier for health plans (proposed rule in development); and
- ◆ Enforcement procedures (proposed rule in development).

As required by HIPAA, HHS has adopted standards for the following administrative and financial health care transactions:

1. Health claims and equivalent encounter information.
2. Enrollment and non-enrollment in a health plan.
3. Eligibility for a health plan.
4. Health care payment and remittance advice.
5. Health plan premium payments.
6. Health claim status.
7. Referral certification and authorization.
8. Coordination of benefits.

National standards for electronic health care transactions will encourage electronic commerce in the health care industry and ultimately simplify the processes involved. By promoting the greater use of electronic transactions and the elimination of inefficient paper forms, these standards are expected to provide a net savings to the health care industry of \$29.9 billion over 10 years.

Electronic Transaction Standards

In August 2000, HHS issued final electronic transaction standards to streamline the processing of health care claims, reduce the volume of paperwork and provide better service for providers, insurers and patients. HHS adopted modifications to some of those standards in final regulations published on Feb. 20, 2003. Overall, the new standards establish standard data content, codes and formats for submitting electronic claims and other administrative health care transactions. For example, about 400 different formats exist today for health care claims. All health care providers will be able to use the electronic format to bill for their services, and all health plans will be required to accept these standard electronic claims, referral authorizations and other transactions.

Transaction Sets

The Accredited Standards Committee (ASC) X12 has developed nine (9) electronic formatting standards for the exchange of all types of health care business information. The transactions sets are as follows:

- Health care or equivalent encounter information
Health Care Claim (837)
- Enrollment and disenrollment in a health plan
Benefit Enrollment and Maintenance (834)
- Eligibility for a health plan
Health Care Eligibility/Benefit Inquiry (270)
Health Care Eligibility/Benefit Information (271)
- Claim Payment
Health Care Claim Payment/Advice (835)
- Health Claim Status
Health Care Claim Status Request (276)
Health Care Claim Status Notification (277)
- Referral certification and authorization
Health Care Service Review Information (278)
Payroll Deducted/other group premiums (820)

Code Sets

HIPAA requires the standardization of the reporting of medical procedures with industry established and maintained codes. These are the codes used by the health care providers to identify what procedures, services and diagnoses pertain to that encounter. This will eliminate the use of government and commercial proprietary medical codes sets. The codes sets that have been approved for use by HIPAA are:

- International Classification of Diseases, 9th Edition, Clinical Modification
CD-9CM
- Common Procedural Terminology, 4th Edition
CPT-4
- Health Care Finance Administration Common Procedural Coding System
HCPCS
- National Drug Codes
NDC
- Current Dental Terminology
CDT

HIPAA Implementation

The Electronic Transactions Standard applies to all of the types of business that are performed daily to provide proper healthcare. These include:

- ◆ Health claims, claim status, plan eligibility, enrollment and disenrollment, payments for care and premiums, coordination of benefits and other related transactions.
- ◆ All health providers, clearinghouses and plans that will transmit health related information electronically.
- ◆ Clearinghouse transmissions to providers and health plans, this also includes transmissions to and from other clearinghouses.

Health care transactions include transmissions which use all types of media including Internet, dial-up lines and private networks. Every health care company faces unprecedented pressures from within and externally to comply with the newest HIPAA regulations. With an ever increasing cost of health care, the deployment of state-of-the-art technology can help companies to save money and gain competitive advantage. The following is an example of how companies are developing technological solutions for the health care industry:

Privacy Standards

Security and privacy standards can promote higher quality care by assuring consumers that their personal health information will be protected from inappropriate uses and disclosures.

In December 2000, HHS issued a final rule to protect the confidentiality of medical records and other personal health information. The rule limits the use and release of individually identifiable health information; gives patients the right to access their medical records; restricts most disclosure of health information to the minimum needed for the intended purpose; and establishes safeguards and restrictions regarding disclosure of records for certain public responsibilities, such as public health, research and law enforcement. Improper uses or disclosures under the rule are subject to criminal and civil sanctions prescribed in HIPAA.

Patients' rights – Under HIPAA, patients have the right to:

- ◆ Obtain a copy of their medical records, and correct or add to them. These

include the patient's legal medical record and billing records, and may include other records such as research records.

- ◆ Control the release of their medical information (with certain limitations) through authorization.
- ◆ Request restrictions on certain uses or disclosure of their medical information.
- ◆ Request a list naming all outside parties with whom their medical information has been shared and describing why the information was shared. This is known as an accounting of disclosures.
- ◆ Request that health-care providers communicate with them in a certain way or at a certain location (such as a P.O. Box).

HIPAA Success

HHS is continuing to develop other proposed standards, including a national health plan identifier and additional electronic transaction standards. In addition, HHS is developing regulations related to enforcement of the adopted standards. The success of a family of complex HIPAA regulations will depend on a number of factors such as:

- ◆ To follow the spirit and letter of HIPAA regulations by all involved
- ◆ To provide appropriate level of training for all participants in the health care delivery
- ◆ To bring the weight of the enforcement law to minimize fraudulent activities
- ◆ To deploy technological solutions towards e-commerce in medicine.

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Sterling Information Broker – An Emerging Technological Solution

Avoid cardiac arrest. Communication is the lifeblood of your healthcare business, and the Sterling Information Broker is the heart of your e-commerce system. The Sterling Information Broker Service is extensively utilized throughout the pharmaceutical industry by manufacturers, wholesalers and retail pharmacies for efficient supply chain management for many transactions including purchase orders, invoices, charge-backs, and others. With Sterling Information Broker's newest capabilities of EDI over the Internet and the Bridge service, you can extend your trading community quickly and easily with electronic communication to any size of company, in most any format they may be using. As it pumps data through our electronic trading network, Sterling Information Broker guarantees circulation and delivery of your business transactions around the clock – while supporting legacy protocols and data formats. A secure, highly reliable service, Sterling Information Broker provides you with a range of Internet capabilities, including the newest transport options such as EDI-to-XML translation services. And it's integrated with diverse on-ramps, gateways, and exchanges.

Sterling Information Broker is part of a suite of e-commerce products offered by Sterling Commerce.

UPDATE

Be Wary Of Identity Theft, SBC Warns Customers

SBC has warned consumers to be wary of phone calls or e-mails asking for personal information – it could be an identity theft scam. Recent reports indicate that some offenders are using the national Do Not Call list as an excuse to gather personal information from unsuspecting people.

SBC has reports of attempted identity theft by people claiming to be our service representatives. They call to confirm participation in the National "Do Not Call" List and ask for personal information - birthdate, Social Security Number, mother's maiden name.

SBC does not call customers for this information. Identity theft, or illegally assuming someone else's identity, is one of the fastest-spreading forms of fraud. Offenders steal credit card, social security and other personal information, often to establish a new line of credit. Unauthorized opening of a phone account is

a common type of identity theft, because criminals know that credit card companies and banks often demand a utility account to prove identification and residency.

SBC is committed to helping customers avoid fraud and identity theft, and works directly with customers who have fallen victim to such practices to help resolve their claims.

Tips for Safeguarding Your Personal Information

Here are some tips to help you protect your personal information and credit status:

Be cautious. Ask questions. Fraudulent callers may claim to represent a legitimate company. If you are told, via e-mail, that your account will be shut off with little or no notice, be wary. If you are concerned for any reason, contact a service representative at the number in your monthly bill or in your phone directory.

Protect your identity. Be careful about disclosing personal information over the

phone. SBC never asks for a complete Social Security number to identify or confirm account information. Avoid e-mailing personal or financial information, and only use secure Web sites. Save or shred credit card receipts and utility bills, as they often contain account information.

Carefully read all communications from utility and credit companies. Ensure that you understand communications from these companies. Confirm reported changes to addresses and services listed for your accounts. If your statement is late by more than a week, call your billing company or bank to confirm the billing address, balances, and services on your account.

Know your information. Check your credit reports once a year from all three of the major credit reporting agencies. By understanding your credit report and confirming the information contained, you will be better prepared to identify possible fraud early.



MPLS: A Business Perspective Technology Overview

Q: What is MPLS?

- a) A protocol that guarantees QoS across IP networks
- b) A switching technique that offers brand new benefits not found in technologies such as Frame Relay and ATM
- c) A common method for enterprise customers to better manage their IP intranets
- d) A technique for increasing the packet forwarding rate of routers

If you selected any of these answers then please keep reading for this column will help to dispel those, and some other, common misconceptions about what MPLS is and does. MPLS (Multi-Protocol Label Switching) can provide a myriad of benefits to network operators, and therefore ultimately to network customers, but the main benefits are not those listed in our quiz answers.

Background

Before delving into any further technical detail, let's quickly consider three important facts. First and perhaps most obvious is the following:

IP is the network protocol of choice for every data application and increasingly for other media applications such as voice, image, and video as well. It is here with a vengeance, it is here to stay, and no other network protocol threatens to unseat it in the foreseeable future.

Next:

MPLS adds some very worthwhile capabilities to the IP world but does not, in and of itself, give networks any capabilities that cannot already be achieved through some other, existing, mechanisms.

And finally:

No one will invest in any new technology unless it provides solid business benefits. Investing in technology because it is what the engineers want isn't enough; the accountants have to like it as well.

In some of the crazier days gone by some people lost sight of that last point but in our current economic climes (and I would venture to say for a long time to come) we're not going to see any more deployments of technology for technology's sake.

Let's put these facts together and use them as a context for our discussion of MPLS.

The world of networking has evolved, and continues to evolve, from many different ways of meeting various application requirements. The many manufacturers of networking gear often worked to try to promote their own closed and proprietary approaches. In the last dozen years or so we have seen a huge shift away from that approach to one in which almost all serious market players now work in pursuit of solutions that conform to open and agreed-upon standards. Gone (or nearly gone) are Internet Protocol Exchange (IPX), User Datagram Protocol (UDP), and Systems Network Architecture (SNA) path control, to name but a few. All the companies that invested heavily in bringing those protocols to market (Novell, Apple, and IBM) are now fully in support of IP as the single platform for true networking interoperability. And, as I said before, this is not only for data, but for practically every conceivable communications application. To that list of historically computing-centric companies we could certainly add Lucent, Nortel, Cisco, Juniper, and on and on – and they would all line up together in support of IP.

The problem is that IP is not ideally suited – by itself – to meet every conceivable communications need. I don't want to take time with a lengthy discussion of IP's pros and cons, but we should note that IP's basic nature is to provide very flexible, dynamic routing of packets from a source machine to a destination machine. It accomplishes this admirably by being connectionless, that is, there are no pre-defined paths between that source, or sender, and the destination, or receiver. It is this very lack of pre-determined paths that enables IP-based networks and the Internet in general, to withstand change and even damage to nodes and links and yet still dynamically deliver traffic where it's supposed to go.

There are other technologies that have been developed over the years that don't share IP's flexibility or ubiquity but that do provide certain levels of service that IP typically has not. Great examples of these would be Frame Relay and ATM. Again, without going into unnecessary detail here, these two technologies both share a characteristic which can enable them to deliver traffic from an origin to a destination with predictable performance, especially as relates to timing and delay. These benefits are of less importance in a pure data application (think business transactions) but are of great interest when we would like to deliver applications like voice or video. These applications require consistency when it comes to delay in order for the telephony or video users not to experi-

ence choppiness, interruptions, and other unpleasant effects.

An obvious question at this point could be, why not simply use Frame Relay or ATM instead of IP? The answer is that Frame Relay and ATM do not provide an end-to-end addressing and routing capability. Basically, Frame Relay and ATM exist as part of the wide area network (usually carrier networks) where their particular benefits and capabilities can be exploited and put to best use. Unfortunately, this doesn't extend all the way to the ends of the network, e.g., to the laptop in front of me, or the video conference unit in front of you, or the rows and rows of servers sitting in a data center somewhere. But, what protocol does exist in all those places? IP. For many years now, the layer 2 protocols such as Frame Relay and ATM, as well as LAN protocols like Ethernet, have worked in concert with the layer 3 protocol – IP – to provide a complete networking solution.

So, now let's ask another question: does it continue to be necessary to have layer 2 protocols and layer 3 protocols or could we, perhaps, consolidate into a single layer that provided all of the benefits previously provided at 2 (or even more) layers?

Enter MPLS. MPLS can provide many of the benefits that we have always associated with a connection-oriented technology, but in an IP environment. We are still a long way from eliminating Frame Relay or ATM but MPLS plays a key role on the migration path to the future.

MPLS Overview

MPLS is not new but rather is the new Internet Engineering Task Force (IETF) standards based incarnation of something that began back in the mid-1990s as several proprietary schemes. Included among MPLS' ancestors would be Ipsilon's IP switching, Cisco's tag switching, and similar efforts from other manufacturers. In those earlier days one of the chief objectives was to provide an IP packet forwarding mechanism that could occur at substantially higher speeds.

If we were to go back and look at the specifications for pure IP (layer 3) routers at that time we would have found maximum packet forwarding speeds in the several hundred thousand per second range. That would have contrasted with ATM cell switching speeds, for example, of several million per second.

How is it that an ATM switch could forward cells at such dramatically higher rates than an IP router? There are several reasons but the most significant was that

an ATM switch, being part of a connection-oriented system, only had to deal with path setup decisions once, when the virtual path/ virtual circuit was established. From that point on cells were simply forwarded – very fast – along that pre-determined path. IP routers, by contrast, being the essential components of a connection-less system, had to make individual routing decisions for each and every packet that passed through them.^[i]

MPLS can be viewed as providing a connection-oriented structure on top of the connection-less IP network – let's take a look at how it works.

It's important to distinguish between an MPLS domain and the entire IP network. In a typical scenario, the IP network will extend from end user devices (both clients and servers) all the way to the far end devices. Included in this complete end to end configuration are both customer networks and carrier networks. The MPLS domain will, in most instances, exist just as part of the carrier's network. Think of the MPLS domain as being inside the carrier's cloud, but not part of the customers' networks.

At the edges of the MPLS domain there are special routers called Label Edge Routers or LERs. These LERs form the boundary between the MPLS domain and the rest of the network outside the domain. Normal IP routing occurs outside the domain – it is within the domain that interesting things occur.

Simplifying somewhat, the LERs place a label at the front of each incoming packet which will cause the packets to flow across particular paths that have been defined. Which path gets selected is a function of a variety of possible criteria including incoming port number, destination address, type of service field from the IP header, and others. The point to note here is that there may be several different paths available from any given origin to any destination. The various paths may differ in terms of the levels of service they will provide; some paths may be optimal for minimizing delay, whereas other paths may be optimal for maximizing throughput. In this way, MPLS will cause traffic that has different quality of service (QoS) requirements to take whichever path will best meet those needs. This is very different from plain IP routing in which, typically, the shortest path is chosen regardless of performance.

At the destination end of this path (known as the Label Switched Path or LSP) the special label is removed and the packets continue on to their destination via normal routing mechanisms.

MPLS Benefits

Traffic Engineering

An MPLS enabled network permits traffic engineering which is the placement of traffic where the network resources are that can meet the traffic's needs. Through a series of additional supporting protocols^[ii] a variety of LSPs can exist that are designed to provide differing service to different types of traffic.

The network operator benefits by having greater control over the resource usage within their network and at the same time the end users benefit by being able to receive the different qualities of service that their different applications require. True QoS requires more than just MPLS, but this provides a foundation for that capability.

Note that traffic engineering is, in some sense, the opposite of network engineering: in traffic engineering the traffic is placed where the resources are; in network engineering the network resources are placed where the traffic is.

Virtual Private Networks

Because traffic is forwarded by MPLS label, rather than by IP address, the traffic belonging to one path is effectively segregated from traffic on other paths. Even though the traffic may not be encrypted, there is a level of protection built-in, similar to that achieved with layer 2 networks like Frame Relay and ATM. Again, MPLS by itself does not create an immediate VPN capability, but it forms an excellent foundation for one.

Multiple Service Delivery and Migration

So far in this article we have focused on the notion of using MPLS to encapsulate IP packets directly for forwarding across the domain. In fact, MPLS has no specific requirement that the incoming traffic be native IP packets (thus the Multi-Protocol, or MP, part of MPLS.) Given this protocol-agnostic nature, the MPLS domain can be used to carry almost any kind of traffic.

A carrier's cloud may, in fact, be an MPLS/IP core but the edge interfaces to this cloud could be Frame Relay or Ethernet. So, for example, a customer could have native Ethernet interfaces to their carrier's network which, using MPLS, would carry Ethernet frames. To this customer the network appears to be a native-LAN transport network.

This allows the carrier to provision a single core network and yet still carry whatever type of traffic its customers are presenting.

Summary

Network providers have for several years recognized the need to build and develop IP-based networks in order to meet their

customers' growing demands for data services, Internet access and, increasingly, voice and video transport as well. The data transport needs of customers today include both traditional wide area services as well as newer native LAN services. Meanwhile, many of these network providers have also made substantial investments in other wide area technologies such as Frame Relay and ATM.

MPLS provides the foundation for carriers to build very high speed (optically based), very flexible IP core networks that can meet all of these needs in a consolidated fashion. There are significant advantages in terms of network deployment and management which ultimately result in superior services to the customer at a lower cost to the operator.

For further information check out the MPLS Resource Center (<http://www.mplsresource.com>)

[i] While it is true that increased packet forwarding speed was an early motivator for the development of MPLS and its proprietary predecessors, this is no longer a factor. Advances in ASIC and other chip technologies enable today's IP routers to function at wire speeds.

[ii] Label Distribution Protocols and routing protocols are required in order to setup and maintain all the tables necessary for the proper operation of an MPLS domain. Their complete operation is beyond the scope of this article.

Mark Fei, founder of Fei Communications Group, LLC., has been training CEOs and other leaders in the Telecom World for nearly 20 years. He provides his observations and insights as a regular UPDATE columnist. He can be reached at www.feicom-group.com

Opinions expressed by columnists in UPDATE are not necessarily those of the SBC companies.

SBC Executive News

Bill Huber has been named President – Network Services for SBC West.

Mike Hamilton has been named President – Global Markets (West), SBC Operations.

Frank Jules has been named President – Global Markets (East), SBC Operations.

Bill Lane has been named Vice President – Advanced Enterprise Solutions (AES, SBC Operations).

Steve Welch has been named the new Senior Executive Vice President – Sales & Customer experience, SBC Operations.

Zeke Robertson has been named Executive Vice President – Standardization, SBC Operations.

Cathy Coughlin has been named President – Business Communications Services, SBC Midwest.

George Contopoulos has been named Senior Vice President – SBC Dish Network.

Top Communication Scams

The federal government estimates that:

- ◆ Americans lose \$40 billion each year to telemarketing fraud according to the Federal Trade Commission*, among other government organizations.
- ◆ There are thousands of fraudulent telemarketing operations calling American consumers everyday.

In an effort to educate consumers, SBC Communications has released its list of the most commonly reported cases of telecommunications scams and threats by SBC customers, as well as tips to prevent being harmed by deceptive and illegal schemes.

Most Frequent Consumer-Reported Scams or Threats

Deceptive Sales Practices: In a year of turmoil within the communications industry, some telecommunications providers turned to deceptive marketing schemes to improve their bottom lines. Customers have thousands of calls from deceptive telemarketers across the 13-state region, claiming, among other things, that:

- ◆ SBC (or one of its former regional brands) was going out of business or merging with a new company, requiring customers to switch providers.
- ◆ Telemarketers wrongly claiming to be representatives or agents of SBC, misleading customers to make changes in providers.
- ◆ Con consumers to agree to something not adequately explained or understood.

Slamming: The unauthorized switching of phone service providers, slamming often results from deceptive sales practices.

Typical slamming tactics by telecommunications marketers include:

- ◆ Gaining signatures for prize drawings or other legitimate-sounding reasons without making it clear that the signature will be used to switch the customer's telephone service;
- ◆ Sending checks to customers without adequate explanation that when the check is cashed, the customer's local and/or long-distance provider will be switched.

Identity Theft: One of the most rapidly spreading frauds, this involves illegally using someone else's identity for such purposes as establishing new lines of credit or obtaining services. This is usually done by illegally acquiring a person's credit card or social security number, or other sensitive personal information. Experts on this criminal activity agree that the unauthorized opening of a phone account is a common type of identity theft – criminals

know that credit card companies and banks will often demand documentation of a utility account to prove identification and residency. Many times, identity thieves gain access to this type of information from discarded credit card and utility bills or personal checks.

809 Area Code Callback Scam: This ongoing scam encourages unsuspecting victims to respond to pages or voice mail messages from the 809 area code in the Caribbean. Consumers are generally unaware that the resulting long distance charges are similar to those for calls to 1-900 numbers.

Internet Scams: Customers may unintentionally incur international long-distance charges by clicking on pop-up ads, e-mails or downloading entertainment content through an interactive session. While the origin of the charges is unclear, it appears that users are redirected to an international number, whether or not they are aware that an international call was placed through their modem.

E-mail Viruses: Internet users were hit hard this year with a handful of Internet worms, most notably Klez and Bugbear, both responsible for rapidly spreading through the Internet, emailing themselves to other computers, disabling firewalls and antivirus software, setting up "backdoors" for future attacks and recording users' keystrokes. Worms can potentially expose bank account information, credit card numbers, user names, passwords and computer files.

Consumer Tips to Help Prevent Being Harmed by Scams

Be cautious. Fraudulent callers may misrepresent themselves as a technician of SBC or representative of another phone company. If you are in doubt, ask for the caller's name, number and supervisor and/or call your local SBC business office; the number is on your monthly bill or in your phone directory.

Protect Your Identity. Be careful about disclosing personal information over the phone. Credit card numbers and social security numbers can be used by thieves to "steal" your identity. Save or shred your credit card receipts and utility bills, as they often also contain your account information.

Protect your personal computer. Consider using virus removal tools. It's a good idea to install virus protection software or update existing software's virus definitions. Within SBC this is handled by IT/Security. Additionally, use caution with unexpected e-mail attachments; change passwords every 90 days and back up important computer files on an external storage device.

Ask questions first. When receiving a call with an offer to switch your phone service to a new provider, be sure to ask questions that will help to identify the company, and what services it will provide you, especially during service outages, including:

- ◆ What products/services does your company offer?
- ◆ Do you have a Web site with information about your company?
- ◆ What is a contact number for a service representative?
- ◆ What is the price of the service?
- ◆ Who will handle customer installation and/or repairs during outages?
- ◆ What service(s) am I changing? Confirm.
- ◆ Will I be charged a fee for switching services?
- ◆ What is your name and ID number?
- ◆ Will an independent third-party verify my order?

Carefully read your telephone bill. Make sure you only receive charges from your provider of choice. Ensure you thoroughly understand charges listed on your phone bill and have chosen to do business with the listed provider billing for those charges. If your local service is changed, you will receive a final bill from the former provider and a notice concerning your service disconnection.

Be suspicious of alleged changes in your service. Some customers have reported receiving calls or mailings from companies alleging that they bill or provide services on behalf of SBC, a tactic presumably used to slam customers. A fact sheet detailing specific false claims anti sales pitches customers recently have reported to SBC is available.

Return calls to familiar numbers. As a general rule, return pages and voicemail messages only from familiar or recognizable area codes. You may call your directory assistance or long-distance operator to check on the area code location (there may be a charge for this call).

Consumers and businesses should contest any charges imposed by the company who slammed them. The Federal Communications Commission and most states have rules which penalize the unauthorized carrier and protect customers who are victims of slamming, provided the customer files a slamming complaint. Consumers can file a slamming complaint by contacting the company they authorized to carry their local or long distance service, their state public utilities commission or the FCC.

*Federal Trade Commission (<http://www.ftc.gov/bcp/online/pubs/tmarkg/ditch.htm>), Facts for Consumers, "Ditch the Pitch: Hanging Up on Telephone Hucksters"

SBC Urges Consumers To Maintain Corded Phone Line For Security And Safety In The Event Of A Power Outage

In the aftermath of the nation's worst blackout that impacted millions of consumers in the Northeast and upper Midwest the senior vice president of SBC Network Services urged consumers to maintain at least one corded landline telephone in their homes and businesses to ensure reliable voice and data communications during a disaster.

"The nation's telecommunications networks held up well during the recent blackout, and impacted consumers who relied upon corded, wire line phones maintained vital voice connections with their loved ones," said Angie Wiskocil, senior vice president – network services. "Those who depended upon cordless phones requiring electricity could not make or receive calls."

Wiskocil stressed the importance of maintaining at least one corded phone for use anytime electricity is lost due to a storm, or other causes.

Additionally, as many affected by the blackout discovered, the telecommunications network also would continue to support DSL or Internet dial-up for battery-powered computers, another vital communications link in the event of a disaster.

Reliable, Redundant Network Designed to Provide Uninterrupted Service

"Unlike wireless and cordless telephones, standard corded phones are connected directly through a wall jack to our highly reliable network and are not dependent upon the external electrical power grid to operate," she said. We have designed our telecommunications infrastructure and power organization to minimize the effect of a commercial power outage so that customers can continue to receive phone service during a loss of commercially provided power."

SBC's Investment in its Power Systems

Annually, the company invests hundreds of millions of dollars upgrading its network and power systems. By investing significantly in its power infrastructure, the company is able to incorporate several levels of redundancy through battery and generator back-up systems to help customers receive service during power outages.

Under normal circumstances, the SBC network receives power from local electric utilities to run the company's sophisticated computers and network equipment that provide telecommunications service to customers across its 13-state region.

In the event of a temporary loss of commercial power, the company's network automatically switches to a battery back-up system located within its central offices. If commercial power to the central office is not immediately restored, an emergency back-up generator will be engaged. Power is then transferred seamlessly between the battery back-up system and the emergency generator, which is designed to run continuously until power is restored.

"Our customers depend upon our network, especially during crises," Wiskocil added.

"That's why we have engineered redundancy for power and connectivity into our networks across our 13-state territory."

While Wiskocil said electronic cordless phones offer many benefits to consumers, they require electricity to operate. And, after a couple of hours of use, many cell phones also require electricity to recharge their batteries.

"Considering how inexpensive corded phones are and the number of wall jacks most people have in their homes today, it just makes sense to maintain a simple corded phone in a bedroom, den or kitchen," she said. In a catastrophic event, it is extremely reassuring to be able to call family or friends to let them know you're OK. It's even more rewarding to answer a call from your children to hear them say they're safe and sound.

Customers must also prepare to stay connected

Wiskocil said SBC also has prepared a series of practical consumer tips. On its Web site at SBC Vital Connections in the event of an emergency.

The company offers several emergency preparedness strategies and alternatives so customers can continue to make and receive calls during blackouts:

- ◆ **Make sure at least one telephone is available that does not require an electrical outlet.** Cordless phones, while convenient, don't work in power outages. Customers should always have a standard, non-electrically powered telephone on hand to quickly plug into a telephone jack during a power outage.
- ◆ **Don't count on answering machines during an outage.** Answering machines depend on electricity and will not operate during a loss of power. (SBC voice mail customers can continue to receive messages and leave messages for other users.)
- ◆ **Know who to call.** Make a prioritized list of essential family, friends and neighbors whom you may need to call. Also, be sure to have easy access to emergency phone numbers such as local hospitals, personal doctors and insurance agents.

- ◆ **Charge your cellular phone.** Phone service can be interrupted during severe weather due to downed or damaged phone lines and underground cable cuts. Because they are wireless, cellular phones can serve as alternative means of communication. So, keep them charged up.

ADSB Telecommunications Reaches Agreement With Belgian State on Belgacom IPO

ADSB Telecommunications B.V. (SBC Communications directly owns 35 percent) announced that it has entered into an agreement with the Belgian State and Belgacom S.A. to proceed with the preparations for a potential Initial Public Offering ("IPO") of Belgacom S.A., the leading provider of telecommunications services in Belgium.

ADSB owns 50 percent less one share of Belgacom and is a consortium of SBC Communications, TDC A/S (33 percent ownership), Singapore Telecommunications (27 percent) and a group of Belgian financial investors (5 percent). Also, SBC owns 41.6 percent of TDC.

As a part of the agreement, ADSB will have the exclusive right from Jan. 1, 2004 until July 31, 2005, subject to certain restrictions, to sell shares in an initial public equity offering of Belgacom. As a condition to the IPO and related transactions and subject to enabling legislation, Belgacom will transfer to the Belgian State the significant liabilities related to its statutory pension plan, proceeds from the sale of pension assets and cash sufficient to fully fund the obligations. This transfer is valued at 5.0 billion and is expected to occur prior to Dec. 31, 2003. The transfer, along with certain other transactions contemplated as part of the IPO, are expected to result in a one-time charge to the equity income of ADSB of between 275 million and 375 million, determined on a U.S. GAAP basis.

Additionally, the agreement calls for Belgacom to offer to buy back from ADSB before year end 2003 approximately 6 percent of the Belgacom shares ADSB holds (representing approximately 3 percent of the Belgacom shares outstanding).

This does not constitute an offer of securities for sale in the United States, Belgium or elsewhere. Any securities offered will not be and have not been registered under the U.S. Securities Act of 1933 and may not be offered or sold in the United States or to U.S. persons absent registration or an applicable exemption from the registration requirements.

SBC Online Move Center To Take The Stress Out Of Moving

New Interactive Web Site Provides Advice, Resources To Guide Consumers Through The Moving Process;

SBC companies have launched a new interactive online resource, the SBC Move Center, to simplify the moving experience for consumers and provide a seamless ordering process for new phone connections.

Through a partnership with Monster-moving.com, the SBC Move Center (www.sbc.com/move) is packed with resources to assist consumers with the routine and often time-consuming tasks associated with a move - everything from finding a real estate agent and getting mortgage quotes, to booking a moving van and setting up phone service and other utilities in a new home - all with a visit to a single Web site location. Through the site, movers can also send electronic notifications to friends and family with new contact information.

A recent SBC poll found that 24 percent of Americans worry most about handling all the small details involved in a move. "The SBC Move Center is a great solution for those who feel both overwhelmed and strapped for time when planning a move," said Ty Robertson, director, SBC E-Channel. "With a few clicks of a mouse, busy con-

sumers can quickly get online to book electricity or gas services, set up local, long distance and wireless phone services, as well as Internet service in their new homes - all at their convenience, 24 hours a day, seven days a week."

More than 40 million wired Americans - one-third of all Internet users - went online last year to search for houses or apartments, according to Pew Internet & American Life Project. The SBC Move Center will help guide consumers through every stage of a move with free online resources, including:

- ◆ **Your New City and Home:** Organize "To-Do's" before, during and after a move with the site's interactive Mover Planner. The Real Estate Agent Matcher identifies the best realtor for one's needs and offers a cash reward when a home is purchased or sold (average check \$550). Comparison tools help movers create a profile report, complete with statistics on a city's population, cost of living and neighborhood crime statistics. The site's salary calculator enables consumers to research how their salary measures up in a new city.
- ◆ **Mortgage and Insurance:** Find free mortgage quotes from hundreds of lenders and evaluate insurance provider options to shop for the best deals. Consumers can research more than 120 loan programs and calculate mortgage payments with the site's payment calculator tool. The site helps potential

home-buyers kick off the mortgage pre-qualification process and offers a Mortgage 101 primer and printable Mortgage Glossary to guide novice buyers through the financial process of securing a loan. Articles and advice about auto, homeowners and life insurance provide additional resources for movers.

- ◆ **Moving In:** Compile price quotes from moving companies, truck rentals and storage facilities and book services online. Consumers can save time by ordering or transferring utilities such as gas and electric, telephone, dial-up or DSL Internet online at one's convenience. Register at the Address Changer site and have automatic change of address notifications sent to the post office, credit card companies and other billing companies.
- ◆ **After the Move:** Visit the site's Home Service Center to get estimates and book service visits for appliance repair and carpet cleaning, as well as maid and pest control services. Save time and money with articles and advice on home improvement and repair. Update family and friends with new address information by sending electronic, personalized virtual postcards from the Free Movers' Greeting Card site.

For additional information about the SBC Move Center, visit www.sbc.com/move or contact your liaison manager.

FCC Issues Guidance On Wireless-To-Wireless Local Number Portability

On October 7, the Federal Communications Commission (FCC) released an Order offering guidance to the industry on the implementation of wireless local number portability (WLNP). WLNP enables a consumer to change wireless service providers within a given location and keep the same phone number. Wireless carriers are required to make WLNP available to consumers in the top 100 Metropolitan Statistical Areas (MSAs) starting November 24, 2003. Order solely addresses issues related to the implementation of wireless-to-wireless porting; the FCC plans to address pending issues related to wireline-to-wireless number portability at a later date.

The Order addresses and clarifies the following WLNP implementation issues:

First, the FCC held that wireless customers who port their numbers should have the same flexibility to switch carriers that non-porting customers have currently, even if they have not settled their account with the

old carrier. Thus, while wireless carriers may include and enforce credit requirements, early termination fees, and similar contractual provisions in their customer agreements, carriers may not refuse to port numbers upon receipt of a valid request from the customer's new carrier.

Second, the FCC held that wireless-to-wireless porting does not require the wireless carrier receiving the number to be directly interconnected with the wireless carrier that gives up the number or to have numbering resources in the rate center associated with the ported number. Although wireless carriers may voluntarily negotiate interconnection agreements with one another, such agreements are not required for wireless-to-wireless porting. In cases where wireless carriers cannot reach an agreement on the terms and conditions of porting, they must port numbers upon receipt of a valid request, with no conditions.

Third, the FCC encouraged wireless carriers to complete simple ports within the industry-established porting interval of two and a half hours from the time the customer requests service from the new carrier. Although the

Commission did not propose to adopt the industry standard as a mandatory rule, it found no evidence that the standard was technically infeasible, and stated that it would reexamine the issue if it received numerous consumer complaints about the length of the wireless porting process.

Who We Are

SBC Communications Inc. (www.sbc.com) is one of the World's leading data, voice and Internet Services Providers. Through its World-Class Networks, SBC companies provide a full range of voice, data, networking and e-business services, as well as directory advertising and publishing. A Fortune 30 company, SBC is America's leading provider of high-speed DSL Internet Access services and one of the nation's leading Internet Service Providers. SBC companies currently serve 57 million access lines nationwide. Also, SBC companies own 60% of America's second-largest wireless company - Cingular Wireless, which serves over 22 million wireless customers. Internationally, SBC companies have telecommunications investments in 22 countries.

Sterling Commerce Earns World-Class Customer Support Certification

Sterling Commerce has announced that its customer support organization has achieved the Support Center Practices (SCP) certification for the delivery of world-class customer support. Sterling Commerce received the certification after an extensive audit of its three support centers located in Dublin, Ohio, Ann Arbor, Mich. and Dallas.

The Sterling Commerce support centers handle global product and services requests 24 hours a day. SCP certification quantifies the effectiveness of technology support operations based upon a stringent set of performance standards that represent best practices in the industry.

“We participated in the rigorous requirements necessary to achieve SCP certification as a way to validate that our support centers provide consistent, exceptional support, and because it provides a benchmark to strive for even higher levels of performance,” said Sam Starr, president and CEO, Sterling Commerce.

SCP certification is an internationally recognized standard developed by the Service and Support Professionals Association (SSPA) and a consortium of leading technology companies, together with Service Strategies Corporation. The program quantifies the effectiveness of support, establishes a foundation to build on existing quality processes, and provides a clear focus on measurable results. SCP Certification requires comprehensive on-site audits to confirm that companies meet the requirements of more than 100 business elements defined in the program. Certified organizations must demonstrate their continued commitment to high performance standards through annual re-certification audits.

“By passing the rigorous requirements necessary to achieve SCP certification, Sterling Commerce has made it clear they are committed to delivering world-class support to their customers,” said Steve Brand, SCP Auditor. “During the SCP certification audit, Sterling Commerce demonstrated a clear commitment to customer satisfaction and continuous improvement.”

“We continue to make significant investments in our support technology, training and our people, because we believe excellent customer support is a cornerstone for customer satisfaction,” Starr said.

Sterling Commerce joins the ranks of leading technology companies that have

achieved the sought-after SCP certification, including Best Software, Lawson Software, McKesson, Rockwell Automation, Lockheed Martin, Nokia, PeopleSoft, and Xerox among others. Currently, more than 200 technology support organizations around the world participate in the SCP program.

About Support Center Practices (SCP) Certification

The Support Center Practices (SCP) Certification program was developed to address service quality issues that affect the rapidly growing technology support industry. The SSPA and forty of its member companies created the program along with Service Strategies Corporation. These companies contributed their insight and perspective into defining the key elements required for delivering World Class support. The SSPA represents over 22,000 service executives in over 2,500 support centers worldwide. SSPA gives service and support professionals opportunities to share ideas, discuss developing trends and network with their peers. For more information about SSPA, visit <http://www.theSSPA.com>. Service Strategies Corporation is responsible for administering the SCP Certification program and conducting on-site certification audits. For more information about SCP Certification, contact Service Strategies Corporation at 858.674.4864, e-mail info@servicestrategies.com or visit <http://www.spcertification.com/>.

About Sterling Commerce

Sterling Commerce, a wholly owned subsidiary of SBC Communications Inc., is one of the world's largest providers of business integration solutions. For Global 5000 companies and their customers, suppliers and partners, Sterling Commerce software and services help maximize business performance and improve business metrics through integration of applications, external partner systems and people. With more than 25 years of experience serving more than 30,000 customers in a vast range of industries, Sterling Commerce is a recognized pioneer in electronic commerce through its longstanding expertise in EDI. Today, as customers explore new ways to improve business performance via the Internet, Sterling Commerce continues to innovate its software and services to further the global adoption of e-commerce while offering its customers strategic solutions that leverage existing technology. For more information, visit www.sterlingcommerce.com.

SBC Laboratories Inc.

For SBC companies to maintain their leadership position, they must continually pursue technology research and development. That's the driving force behind SBC Laboratories, the research and development division of SBC Communications. Founded in 1988, SBC Labs provides technology consulting and expertise to the SBC Communications family of companies, exploring new ways to turn leading-edge technologies into real-life solutions for businesses and consumers.

SBC's business units rely on SBC Laboratories to provide creative technology solutions that are necessary to gain a competitive advantage in the marketplace. With labs in two of the country's leading high-tech centers – Austin, Texas, and Pleasanton, Calif. – SBC Laboratories collaborates with other technology industry leaders and premier universities and assists with internal and customer field trials.

SBC Laboratories focuses its research and development efforts on the following key areas:

- ◆ **Broadband Internet.** Studying new technologies that support Internet transport and delivery systems and widespread data connectivity to help businesses and consumers communicate smarter and faster.
- ◆ **Network Services.** Transforming telecommunications network services to increase user convenience, productivity and effectiveness, as well as researching new convergence network architectures and products and services.
- ◆ **Enterprise Information Technology.** Researching new products and services for network management, operational support systems, customer care, information infrastructure security, and information technology to support businesses as they enter new markets, develop new products and services and improve operations.
- ◆ **Wireless Systems.** Developing technology to improve and expand SBC's cellular, PCS and other wireless communications services.

“If you build relationships on trust, you can trust the relationships you build.” –

Dorothy Madden

1-800-CONFERENCE Suite of Conferencing and Collaboration Services Offer Outstanding Travel Alternatives & Savings For Businesses

Business Travel is increasingly time-consuming and costly, with the average traveler now spending an estimated \$500 a day or more.

That's why over half of business travel managers surveyed say their companies rely on travel alternatives – tools such as teleconferencing (81 percent), video conferencing (70 percent), and web conferencing (58 percent).⁽¹⁾

These business tools from the SBC family of companies can help you accomplish more work in less time at a fraction of the cost.

- ◆ **Audio Conferencing** offers every enhanced capability you need, including broadcast/listen only, digital tape replay, and electronic polling.
- ◆ **Video Conferencing** enables you to connect single or multiple locations in a single video conference, with crisp images, clear sound, and easy set-up.
- ◆ **ConferenceNOW®**, SBC on-demand Audio and Web Conferencing Service, lets participants view slides, text, spreadsheets, web pages, and snapshots of open windows on your PC while participating in an Audio Conference.

So before you schedule your next business trip, check out www.1800conference.com or call 1-800-CONFERENCE® (1-800-266-3373).

⁽¹⁾ Study conducted by Runzheimer International and the Association of Corporate Travel Executives, July 2003.

All SBC 1-800-CONFERENCE services are provided under an arrangement between SBC Long Distance and Conference Plus, Inc. (CPI), and interLATA services, when applicable, are provided by certificated carriers through Conference Plus, Inc. InterLATA and other services provided by certificated carriers will be listed separately on your bill. SBC, the SBC logo, 1-800-CONFERENCE® and ConferenceNOW® are registered trademarks of SBC Knowledge Ventures, L.P. All other trademarks belong to their respective owners.

Toni Warbyla, Associate Director, 1-800-CONFERENCE

Service During The Power Outage

As a major Power Outage hit dozens of US cities and parts of Canada in August, SBC's Communications Network served customers without an interruption across the 13 states. Some SBC telephone switching offices affected by power outages in Connecticut, parts of Michigan and Northern Ohio, operated on backup power. SBC's sophisticated network monitoring centers closely examine our systems 24 hours a day, 7 days a week, 365 days a year. For over 125 years, SBC has been helping customers communicate in times of crisis and we are fully prepared to provide the highest levels of Network Security for all of our customers.

Finding Success with SBC SMART Yellow Pages & SMARTpages.com

SBC SMART Yellow Pages published more than 880 directory titles in 14 states and offer one of the most-used online Internet yellow pages, SMARTpages.com. Our directories reach over 37 million households, serve about 1 million customers and are used more than 3.8 billion times a year. SMARTpages.com receives more than 145 million annual visits and growing!

Ninety out of every 100 SBC SMART Yellow Pages users make a purchase, according to company officials. On the Internet, 70 out of every 100 SMARTpages.com users contact or visit a business.

It's a Fact!

- ◆ Industry studies suggest for every \$1 invested in Yellow Pages, \$14 in sales revenue and \$4 in profit is generated.
- ◆ Yellow Pages influence more buyers than any other medium and expands the reach of other media.
- ◆ Yellow Pages users spend 25% more than the average consumer, and in some cases, it's even more.
- ◆ Yellow Pages usage is as strong as ever: At least 57% of adults refer to the Yellow Pages every week.

SBC SMART Yellow Pages are 100% recyclable and contain an average of 40% post-consumer waste.

SBC SMART Yellow Pages offices:
 WEST: 1-800-848-8000
 SOUTHWEST: 1-800-792-2665
 MIDWEST: 1-800-346-4377
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**Thank You for reading
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