February 2005

UPDATE

Solutions for Success

Consultant/Vendor Sales Group

>University of Notre Dame To Get VoIP

SBC Companies recently announced a new contract to deliver a state-of-the-art hosted Voice over IP (VoIP) network to the University of Notre Dame.

The multimillion-dollar, five-year contract calls for SBC companies to replace the university's Centrex-based network with SBC PremierSERV℠ Hosted IP (Internet Protocol) Communications Service. The new hosted VoIP network will serve approximately 7,000 users on the university's main campus and in remote offices scattered across the country.

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Brian Shay, President Cingular® West Region

>Cingular® Is Raising The Bar

Cingular Wireless and AT&T Wireless joined forces on October 26, 2004, to create the nation's biggest wireless carrier with the largest digital voice and data network in the country. The newly combined company, with more than 46 million customers and an extensive nationwide network, offers consumers maximum convenience and flexibility, improved reliability, enhanced call quality and the widest array of new and advanced services.

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Cingular® Wireless racer ready for NASCAR

Kari's Korner

>Happy New Year To Each Of You!

We hope your business and your clients' companies have their Best Year Ever in 2005. The SBC Consultant Vendor Sales Group (CVSG) is dedicated to assist in making this happen through our one-on-one Assistance, Products & Services News Broadcasts, Late-Breaking News Listserver Messages, Seminars and *UPDATE* publications.

In this issue of *UPDATE*, we have the incredible story of Cingular® Wireless becoming the largest digital voice and data network in the country, articles on Security, two on the latest SBC advancements in billing, two on major VoIP announcements plus a bevy of timely articles about our evolving products and services – from Wireless Solutions to Contracts – all designed to help you and your clients excel.

There's no doubt about it, we're in the Telecom business at the right time – so much exciting activity going on – like SBC Companies recently announcing a Residential VoIP launch, a major IPTV deal with Microsoft, an expanded relationship with Yahoo!, the launch of a blog aggregator service and a state-of-the-art VoIP contract with Notre Dame. We want you to understand the leading edge direction SBC companies are taking in VoIP and many other areas. We're working to enable you and your clients to take advantage of our winning solutions. The CVSG is here for you. Your Success is our Mission!

Kari **415.542.4516**
kw6875@sbc.com

At the editorial deadline, there was a reorganization going on in the company. Contact your Liaison Manager for information on UPDATE *stories.*

>SBC FreedomLink℠ Offers Ad-Hoc "Hot Zones" to Downtown USA

Many cities and towns across America have announced plans to offer wireless Internet access in the downtown business district over the last few months. SBC FreedomLink can help by providing a turnkey solution that will not turn into a management burden, a financial liability, or an embarrassing stranded asset. Working with City Councils, Downtown Associations, Redevelopment Trusts, and Convention and Tourism Bureaus, the SBC FreedomLink solution can bring the important benefits of differentiation with business-friendly technology infrastructure and national publicity that attract new customers and new businesses to the area.

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Inside

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CINGULAR IS RAISING THE BAR

Its a new world for wireless customers in America – Cingular is "Raising the Bar," our new tagline. The leadership and employees of this company are committed to improving the wireless experience and giving customers the coverage, the phones, the capabilities and the call clarity they deserve. Cingular is committed to expanding our high-speed Third Generation services to the ever-growing community of mobile data users. And Cingular is laying the foundation to enable rural carriers to bring 3G services to rural America.

Customer Benefits

Cingular has opened access to both the Cingular and AT&T Wireless GSM networks to further improve coverage – especially in building and in more rural areas – allowing customers of both companies to use the new, combined network without roaming charges. The new Cingular network covers over 268 million people and growing, providing wireless voice and data service in the top 100 U.S. markets and 49 states. Customers also have the ability to make unlimited mobile-to-mobile calls to any Cingular or AT&T Wireless customer.

Cingular itself is the result of a merger of major wireless providers, so we know a lot about successfully combining companies, networks and operations. Our employees' experience and expertise are bringing the full benefit of the combined company to our customers.

Cingular and AT&T Wireless customers will benefit from the new company's enhanced spectrum position and combined network assets. This strong combination will pave the way for a true 3G wireless network – UMTS (Universal Mobile Telecommunications System) – to be delivered to customers in major urban and suburban markets across the United States, making possible an even greater range of new and advanced wireless services. A leader in corporate email, Cingular is the most experienced provider of wireless data solutions. Customers will have the widest choice of handsets and devices in the industry and unmatched services for business customers, including high-speed wireless connectivity for PCs and wireless email devices.

The combined company has greatly expanded its global capabilities, offering customers the largest international coverage of any U.S. carrier. Customers can use their "world phones" to make calls on six continents and in more than 100 countries. In addition, GPRS (General Packet Radio Service) data roaming will be available in more than 50 countries for laptops, PDAs and other data devices.

Seamless Transition

Customers of both companies continue to enjoy the benefits of their current phones, rate plans and features, without any service interruption. Customers with questions or looking for more information should log on to www.cingular.com for answers about the new company. We have communicated with customers through advertising, and direct communications channels.

Cingular is committed to making this transition as seamless as possible for customers of AT&T Wireless. Those customers can continue using their existing phones and rate plans – but now have access to the largest digital voice and data network in the country. And it's only going to get better from here – as Cingular adds more capabilities and services that our customers want. By combining the best elements of both companies, Cingular's priority is to provide best-in-class customer service.

Corporate Leadership Named

The new company's key leadership and organizational structure are already in place. Stan Sigman continues to serve as the president and CEO of the new company and Ralph de la Vega continues his current role as chief operating officer. Pete Ritcher is the chief financial officer, Thaddeus Arroyo is the chief information officer and Joaquín Carbonell serves as executive vice president – general counsel. Rick Bradley is executive vice president – human resources, and Marc Lefar is the chief marketing officer. The company continues to be headquartered in Atlanta.

In addition, four regional presidents report to de la Vega. I am honored to be serving the West region. Other regional presidents include LeAnn Priebe for the Central region, Steve Hodges for the Northeast region and Steve Sitton for the Southeast region. Cingular has taken top talent from both companies and brought them together to drive the next wave of innovation and growth in the wireless industry.

Brian Shay is the president of Cingular's West region. In his new role, Shay is responsible for Cingular's operations in 12 Western states, including Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. Shay oversees all financial and operational matters for the markets in his region. With over two decades in wireless telecommunications, Shay formerly served as executive vice president - sales and distribution for AT&T Wireless, where he was responsible for the consumer sales organization, distribution development in all channels and sales operations. Shay developed and directed sales strategy leading the integration of sales initiatives with direct and indirect sales channels, customer relationship management, marketing, wireless network services, finance, and distribution and operations. Shay earned a Bachelor of Arts degree with a major in business from the University of St. Thomas in St. Paul, Minnesota. Shay and his wife and children reside in the Seattle area. Shay will be located at the regional headquarters in Redmond, Washington.

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UNIVERSITY OF NOTRE DAME VoIP

The SBC hosted VoIP service will give the University of Notre Dame faculty and administrative staff a range of productivity-enhancing features, such as a single inbox for voice and e-mail messages, "click-to-call" functionality from computers, and "find me, follow me" call routing options, all accessible via personalized Web pages.

The solution also will provide "plug-and-play" functionality, allowing the University of Notre Dame faculty and staff to move locations, add new phones, or change service quickly and easily.

Users will be able to access the hosted VoIP service and all of its features from any Internet connection, in classrooms or faculty offices, on-location or remotely. This will enable faculty and staff to be contacted and accessible from any location campus-wide.

"We were looking for a VoIP solution that would allow us to grow well into the future by eventually integrating wireline and wireless services," said Dewitt A. Latimer, Ph.D., deputy CIO and Chief Technology Officer for University of Notre Dame. "Like the Centrex service and reliability we have enjoyed from SBC companies over the last two decades, we are confident they will provide us with a reliable, high-quality network that, with the added features provided by a hosted IP Telephony solution, will help us realize substantial new communication efficiencies now and into the future."

SBC companies introduced SBC Premier-SERV HIPCS in November 2003 and offers the service today in 69 metropolitan areas nationwide. The SBC family of companies today is one of the nation's largest providers of IP telephony services for business.

Contributed by Tana Frazier, Associate Director, SBC Channel Delivery

Yahoo Alliance Extended

SBC Communications Inc. and Yahoo! Inc. recently announced a multi-year extension of their industry-leading alliance to provide co-branded DSL and Dial services. The companies also announced plans to extend the SBC Yahoo! customer experience beyond the PC to home television and audio systems, Cingular wireless phones, SBC FreedomLink Wi-Fi and SBC Home Networking equipment. The extended relationship will enable consumers to simplify their lives by allowing them to access personalized entertainment and communications content from almost anywhere, with a consistent user experience across a variety of connected devices.

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SBC FREEDOMLINK OFFERS "HOT ZONES"

An ad-hoc Hot Zone is as simple as stitching together 25 Hot Spots in a concentrated downtown or business district, each hosted by a merchant or a city facility. Users of any single spot can access all of the spots with the same account, so they can "roam" throughout the downtown area with the wireless access. People are most interested in using the Internet in places with comfortable seating, so the merchants that host the hot spots should be prepared to provide this type of environment or they won't enjoy the true benefits of offering the service to their patrons.

One key to successfully driving a Hot Zone effort is to get one or two businesses that are well-recognized to champion the project, so merchants understand they are not going in alone, but joining an esteemed group. Often, a local convention center or other destination can serve as an important anchor for the network, with surrounding merchants recognizing that visitors to the anchor site are likely to visit them on the way in or out, or during breaks. The support of the county or City Council could also be a help, with a city stepping up with 5-10 locations, fewer than 20 additional merchants' locations would be needed to create the Hot Zone.

The argument for deploying an SBC FreedomLink Wi-Fi network is exactly the same argument that a Downtown Association would make for its own activities: Downtown merchants are not competing against each other; they are competing with a hundred other places to eat, shop, and do business. If making the downtown corridor a more attractive destination by improving the communications infrastructure with a micro investment from local businesses leveraging a macro investment by a well-capitalized visionary leader in the telecom industry, the merchants should see the numbers of patrons in the Wi-Fi demographic (young, affluent, technically savvy students and professionals) increase.

A rising tide lifts all boats... For example, the main benefit for a restaurant/café is not at noon, it is at 10:30 or 2:30 when someone spends an hour over a coffee and snack doing email and surfing the web. It is also important in attracting that one new customer who comes in twice a week, the bread and butter of the business. Like any marketing effort, cooperating in building an SBC FreedomLink Hot Zone pays for itself by exposing a business to new customers, adding value for existing customers, and increasing the profitability of the merchant's core business.

– Douglas Ireland

Douglas Ireland, Senior Account Manager for SBC FreedomLink Venue Acquisition, earned his Masters in Network Engineering in Barcelona, Spain. He can be reached at 415.537.8073 or Douglas.Ireland@sbc.com

>Other SBC FreedomLink News

72 Million California State Parks Visitors Get SBC FreedomLink Access

As one of the most popular tourist destinations in the United States, the California State Parks' attract nearly 100 million visitors each year. SBC FreedomLink has reached a non-exclusive, experimental agreement with the state to offer high speed wireless Internet access to these visitors, including free access to the wealth of educational resources available on the California State Parks websites. Visitors will now be able to send their digital vacation photos; keep in contact with friends, family, and colleagues via email; and learn more about the park system and its natural resources while enjoying the wonderful beaches, lakes, and forests in California. Initial deployment will focus on providing access at RV parks and Marinas, as well as numerous visitors centers. As part of the agreement, Parks employees will get FreedomLink access, providing an important new communications resource for the park system.

– Douglas Ireland

Bank of the West Contract

SBC Communications Inc. recently announced a new long distance and data networking services contract, expanding its relationship with San Francisco-based Bank of the West, the third-largest commercial bank headquartered in the West, with 300 branches located in six states.

Under the terms of the $1.7 million contract, SBC Companies will provide long distance voice services, including outbound and toll-free calling, to 125 Bank of the West branches and administrative centers throughout California, and SBC PremierSERV Frame Relay and SBC PremierSERV ATM services to an additional 35 locations throughout California and Nevada.

The contract enhances an existing relationship in which SBC Companies currently provide Bank of the West with network solutions and related hardware for local, voice, and data services for more than 300 branches in California, Oregon, Washington, Idaho, Nevada, and New Mexico.

"We were looking for a strategic long-term provider that we could rely on for creative solutions that meet our business needs," said Donald Duggan, executive vice president, Information Technology, Bank of the West. "By working with SBC companies, we are able to consolidate and optimize our telecommunications services in our branches and administrative centers, allowing for more efficient operations and reduced costs."

>SBC Labs Joins Organization Developing Standardized VoIP Infrastructure

SBC Laboratories, the applied research organization of SBC Communications Inc., recently announced its participation in a newly formed organization focused on development of technology that will enable different Voice over IP (VoIP) service platforms to operate more seamlessly with each other, and with traditional circuit-switched telecommunications services.

The new organization, Country Code 1 ENUM Limited Liability Company (CC1 ENUM LLC), consists of several leading North American telecommunications and Internet companies. The organization will work to promote development of consistent, standards-based ENUM technology throughout North America.

In coming years, ENUM technology is expected to deliver a range of benefits for telecommunications customers by associating traditional telephone numbers with Internet domain names.

A key benefit of ENUM technology would be to enable the use of a single telephone number to access a range of communications services, potentially allowing users to consolidate the multiple phone numbers and e-mail addresses used for communications today. For example, the user of an ENUM-enabled device could use one phone number to contact an individual, and immediately see what communications options, such as voice, fax, or e-mail, can be accepted by the recipient.

A second potential benefit is interoperability of VoIP networks. Today, most VoIP users can utilize fully IP-based communications only in situations where the call recipient is a customer of the same VoIP provider or platform; all other calls must transition back and forth from the public switched telephone network. ENUM technology could potentially enable VoIP users from multiple platforms to communicate over IP connections from end to end.

"ENUM technology will play a vital role in the continued growth and development of VoIP," said Keith Cambron, president and CEO, SBC Laboratories. "It is critically important that ENUM technology is developed in a consistent, standards-based manner. We look forward to working with CC1 ENUM LLC to ensure that is the case." Other founding CC1 ENUM LLC members include AT&T, MCI, Sprint, and Verizon.

"If It Isn't Happening, Make It Happen!"

Data with David

The SBC Companies are moving forward to increase their share of the enterprise market and become major players in this $100 billion national market. With our nationwide voice and data and national backbone networks, we're aggressively pursuing new revenue growth opportunities. Our objective is very simple: We want to be the only communications company our customers will ever want to use. This means having an advanced IP-based network, the right video, wireline, wireless and broadband products, and the right cost structure so we can be competitive.

SBC PremierSERV℠ is our national brand for data and video products and services. This article summarizes our SBC PremierSERV brand services so you'll understand the scope and breadth of our products. I've categorized them into four areas: IP Based Services, Internet Data Center, Data Services, and Managed and Consulting Services. I hope you find this information useful and will recommend these services to your clients.

IP Based Services

SBC PremierSERV℠ Hosted IP Communication Service (HIPCS)

SBC PremierSERV Hosted IP Communication Service (HIPCS) is a fully-hosted Voice over IP (VoIP) information service that combines IP connectivity with Internet access to provide you with many communication features and functionality. SBC PremierSERV HIPCS gives you flexible control and self-management features without the capital outlay – and potential management challenges – of a traditional premises-based voice system.

Through your IP connectivity and Internet web browser, HIPCS provides you with a personalized web portal, real-time interaction, and specialty applications. These applications include "click to email," "click to dial," "find me/follow me" features, and additional productivity features like unified messaging and conferencing capabilities.

SBC PremierSERV HIPCS offers "on-net" and "off-net" calling options. On-net calls originate from and terminate at a HIPCS station, and are not carried on the Public Switched Telephone Network (PSTN). Off-net calls originate from an HIPCS station and are carried, at least in part, over the PSTN.

SBC PremierSERV Hosted IP Communication Service uses VoIP "softswitch" technology to transmit your calls over a fully-managed tier-one IP network. You can access the HIPCS service and all its features from any Internet connection, on location or remotely. Access can be through a web browser, and IP telephone or a traditional telephone set with a compatible adapter.

SBC PremierSERV℠ Internet Protocol – Virtual Private Network

SBC PremierSERV IP-VPN is an Internet protocol (IP)-based secure inter-connectivity service that uses the latest customer premise equipment encryption technologies to provide secure data communication with varying levels of managed support. SBC PremierSERV IP-VPN goes beyond the basic virtual private network (VPN) technology by offering a variety of options – with equipment and managed services – to best suit your customers' needs.

Our IP-VPN uses our IP backbone, the public Internet, and Tier 1 collaborators to safely and quickly move your data. Data is encrypted before it is sent and decrypted at its destination.

SBC PremierSERV℠ Network-based Virtual Private Network (NVPN)

SBC PremierSERV Network-based Virtual Private Network (NVPN) is an overlay to the SBC national backbone that uses Cisco Systems routers and Multiprotocol Label Switching (MPLS) technology to deliver highly differentiated network services. SBC PremierSERV NVPN provides you with a simple, secure option based on your individual applications. It also provides private and secure wide area network (WAN) services over an Internet protocol (IP) backbone.

Internet Data Center

SBC PremierSERV℠ Content Delivery Networking

SBC PremierSERV Content Delivery Networking (CDN) is a combination of equipment and managed network services that help optimize the performance of content-rich network applications such as web-portal or streaming media applications. CDN accelerates content delivery to provide maximum availability and provides the intelligence necessary to efficiently manage and distribute that content. CDN adds a layer of intelligence to your IP infrastructure to help optimize web site performance, deliver content efficiently, ensure content availability and security, and scale web sites and content-delivery systems.

SBC PremierSERV℠ Data Center Hosting

SBC PremierSERV Data Center Hosting is an equipment housing service that offers on-site technical support in a fault-tolerant, secure environment. SBC PremierSERV Data Center Hosting lets you control your hardware; and if you choose, we can manage and monitor your equipment for you. We provide reliable and cost-effective collocation, maintenance, and technical services.

SBC PremierSERV℠ Dedicated Hosting

SBC PremierSERV Dedicated Hosting is a web hosting service that offers complete solutions with high-performance servers and on-site technical support. SBC PremierSERV Dedicated Hosting lets you administer and provide your specific content and application software. However, we manage and monitor your service for you. It's designed for businesses that want the power of a dedicated server at an affordable price.

SBC PremierSERV℠ Advanced Hosting

SBC PremierSERV Advanced Hosting is a web hosting service that offers complete solutions with high-performance servers and on-site technical support. SBC PremierSERV Advanced Hosting lets you administer and provide your specific content and application software. However, we manage and monitor your service for you. It's designed for businesses that have mission critical websites and need in-depth operating system management.

SBC PremierSERV℠ Dedicated Internet Access

SBC PremierSERV Dedicated Internet Access is a high-speed, digital, dedicated connection that provides Internet access that's always available. It gives you three levels of support and management to choose from – Complete, Essential, and Basic. These solutions allow you to select the speed, transport, security, and monitoring options that will best meet your needs.

Data Services

SBC PremierSERV℠ Asynchronous Transfer Mode (ATM) Service

SBC PremierSERV Asynchronous Transfer Mode (ATM) Service is a nationwide data service that provides high-speed performance and exceptional reliability by integrating data across multiple applications. SBC PremierSERV ATM Service provides – efficiently and economically – the performance of leased lines with the flexibility and connectivity of local area networks anywhere in the United States.

SBC PremierSERV℠ Frame Relay Service

SBC PremierSERV Frame Relay Service is a nationwide data service that provides high-speed performance and exceptional reliability through the use of advanced packet switching technology and extremely reliable digital transmission facilities. SBC PremierSERV Frame Relay Service provides the performance of leased lines with the flexibility and connectivity of local area networks anywhere in the United States. We also offer International Frame Relay service to 70 countries.

SBC PremierSERV℠ Frame Relay AdVantage and AdVantage Plus

SBC PremierSERV Frame Relay AdVantage and AdVantage Plus are options of SBC

PremierSERV Frame Relay Service that let you link multiple sites quickly and economically into a Wide Area Network (WAN). SBC PremierSERV Frame Relay AdVantage and AdVantage Plus allow you to purchase a complete solution rather than buying individual components or services. Each SBC PremierSERV Frame Relay AdVantage and AdVantage Plus package includes the frame relay transport from 56 kbps to 1.5 Mbps, the router equipment you need, installation, and network maintenance. SBC PremierSERV Frame Relay AdVantage and AdVantage Plus let you create a WAN without purchasing unnecessary equipment.

SBC PremierSERV℠ T1 Integrated Access Solutions

SBC PremierSERV T1 Integrated Access Solutions is a complete solution that allows you to combine – over a T1 access line – local service, Dedicated Internet Access, Frame Relay, and CPE. SBC PremierSERV T1 Integrated Access Solutions offers you a menu of services you can tailor to fit your communication needs. It allows you to combine the services you already use in a package for potential cost savings and increased efficiency.

With SBC PremierSERV T1 Integrated Access Solutions, we offer wireline services over a channelized DS1 facility. You pick from a menu of products and SBC Companies configure them over DS0 channels. SBC PremierSERV T1 Integrated Access Solutions includes a CSU/DSU, 1/0 Multiplexer, channel bank, and a router.

SBC PremierSERV℠ Wireless LAN

SBC PremierSERV Wireless LAN is a local area networking service that provides all the services of traditional LAN technologies, while minimizing the need for wired connections. SBC PremierSERV Wireless LAN works with, or in place of, a wired LAN in an office, campus, or home.

Instead of using twisted pair wire or similar technology, wireless LANs use radio frequencies to transmit data between PCs or other network devices. Since a wireless network uses less hardware than traditional LANs, we can more easily configure, install, and monitor your equipment. We work with you to determine the best SBC PremierSERV Wireless LAN solution for your business.

Managed and Consulting Services

SBC PremierSERV℠ Consulting Services

SBC PremierSERV Consulting Services are a variety of networking and security infrastructure solutions that focus on the development of architectural frameworks for both your technology and organizational needs. SBC PremierSERV Consulting Services is provided by Callisma, Inc. and delivers concept through implementation and management, in conjunction with the suite of SBC PremierSERV Solutions. SBC PremierSERV Consulting Services helps you make the most of your company's network investment. Highly trained SBC consultants can assess your network for optimum performance, consult with your IT team, and design changes that will improve your network today and prepare for tomorrow.

SBC PremierSERV℠ IP Telephony ADvantage

SBC PremierSERV IP Telephony Advantage is a portfolio of managed services for Voice over IP (VoIP) solutions that provides a single source for managing your IP telephony network 24 hours a day and 365 days a year. SBC PremierSERV IP Telephony Advantage delivers the behind-the-scenes operations necessary to keep your IP telephony (IPT) platform working and reliable knowing that we are constantly monitoring and managing your system's performance. Applications include extending voice functions and features to remote locations, keeping your "road warriors" in the loop through unified messaging.

We offer two levels of SBC PremierSERV IP Telephony Advantage: Essential and Complete. The Essential solution offers you a single point of contact for integrated fault management, remote diagnostics, trouble isolation, and resolution support. For a greater level of service, the SBC PremierSERV IP Telephony Advantage Complete solution provides all the services of the Essential solution with proactive analysis of your hardware platform, operating system, and applications.

SBC PremierSERV℠ Managed Care IPT (IP Telephony)

SBC PremierSERV Managed Care IPT (IP Telephony) is a complete outsourcing solution provided by SBC DataComm that offers a suite of fully integrated, value-added solutions for your communication needs. SBC PremierSERV Managed Care IPT delivers complete management of your communications tailored to meet your specific technology, financial service, and performance needs. You can choose to implement only one solution set, or you can combine them to get comprehensive management of all your voice equipment, lines, systems, and services. Options include Billing and Payables Services, Network Optimization, Operations Management, Performance Management and Project Management.

Our Integrated Service Center (ISC) supports all our SBC PremierSERV Managed Care services. The ISC provides the most advanced network and systems support capabilities in the industry. Operating 24 hours a day, the ISC delivers single point of contact support and management for SBC PremierSERV Managed Care customers.

SBC PremierSERV℠ Managed Care Voice and Data

SBC PremierSERV Managed Care Voice and Data is a complete outsourcing solution provided by SBC DataComm that offers a suite of fully integrated, value-added solutions for your communication needs. SBC PremierSERV Managed Care Voice and Data delivers complete management of your communications with two solution sets: SBC PremierSERV Managed Care-Voice and SBC PremierSERV Managed Care-Carriers.

SBC PremierSERV Managed Care delivers a selection of standard service modules and elements, packaged to meet your unique needs for both customer premises equipment (CPE) and carrier services. You can choose to implement only one solution set, or you can combine them to get comprehensive management of all your voice equipment, lines, systems, and services.

SBC PremierSERV℠ Managed Optical CPE Solutions

SBC PremierSERV Managed Optical CPE Solutions is a managed offering from SBC DataComm that combines optical CPE with design, installation, monitoring, and maintenance services. It offers levels of assistance and support designed to optimize your network's level of availability and performance.

SBC PremierSERV Managed Optical CPE Solutions offers CPE from world-class manufacturers. Manufacturers include CIENA Corporation, Cisco Systems, Nortel Networks, and Terabeam Corporation.

We've teamed with CIENA Corporation for affordable and reliable data and storage extension. CIENA's CN 2000 Storage Extension Platform enables SONET to carry your storage and Gigabit Ethernet traffic.

We have teamed with Cisco and Nortel for the equipment that will provide SONET and Dense Wavelength Division Multiplexing (DWDM) connectivity over a private fiber network. The SBC PremierSERV Managed Optical Solution can design, deliver, and manage optical networks of any size and complexity.

For a cost-effective, quickly deployable alternative to dark fiber, we have teamed with Terabeam Corporation to offer optical CPE wireless solutions for Ethernet and SONET networks. Terabeam's products feature the high frequency millimeter wave (MMW) systems, which provide a high-bandwidth point-to-point wireless solutions for businesses needing up to Gigabit Ethernet or OC-12 SONET bandwidth.

SBC PremierSERV℠ Managed National Remote Access Solution

SBC PremierSERV Managed National Remote Access Solution (MNRAS) is a package of broadband transport and basic network management that gives your employees' access to your company LAN anywhere in the country. At the same time, you receive a single point of contact for management and

technical support. SBC PremierSERV MNRAS supports Digital Subscriber Line (DSL) transport technology and analog dial-up. If DSL is unavailable, you may choose ISDN and IDSL technology (where available).

SBC PremierSERV℠ Network Management

SBC PremierSERV Network Management is a set of support solutions that provides you a single point of contact to outsource some or all of your network support functions. SBC PremierSERV Network Management lets us actively manage, monitor, and assume responsibility for your network to ensure that it is reliable, available, efficient, and that it successfully performs your critical operations.

SBC DataComm provides a one-stop shop to manage most pieces of your network, including SNMP-MIB II-compliant devices. This includes routers, CSU/DSUs, LAN switches, LAN hubs, AVVID Call Manager for Voice over IP, etc. You are not confined to working only with equipment we supply. If you have equipment supplied by other vendors, we can coordinate with them to make sure that SBC PremierSERV Network Management solution supports their customer premise equipment (CPE).

SBC PremierSERV℠ Security Services

SBC PremierSERV Security Services is a suite of security services from SBC DataComm that offers several cost-effective options to address security issues for your entire network. SBC PremierSERV Security Services extend your security monitoring capabilities to include security audit, monitoring, attack recognition, control over employee Internet access, virus scanning, and incident response.

SBC PremierSERV Security Services allows you to choose the security options that fit your organization. Available services include: Security Customer Premises Equipment (CPE), Vulnerability Scanning, Firewall Administration, Enhanced Firewall Administration, Standalone Intrusion Detection Service, Monitoring with Intrusion Detection, Content Filtering, Virus Scanning, and Security Application Support.

SBC PremierSERV℠ Installation

SBC PremierSERV Installation is a professional service offered by SBC DataComm that combines a well-trained, well-equipped integration team with a highly skilled support organization to seamlessly install and integrate your new network, while your IT staff concentrates on your daily requirements. SBC PremierSERV Installation addresses the wide array of complications that inevitably result when you introduce new elements into an existing network.

SBC PremierSERV℠ Rapid Assessment

SBC PremierSERV Rapid Assessment is an SBC Advanced Enterprise Solutions (AES) engagement that analyzes your data network infrastructure and its readiness to support IP Telephony. Your data network must be able to support the expected demands of Voice over IP traffic concurrent with the data demands. Rapid Assessment helps by enabling you and your network staff to consult with SBC engineers to assess your current network situation.

With the Rapid Assessment analysis, SBC AES engineers help you determine whether your network is ready for a VoIP implementation before it is actually deployed. This helps you make informed, cost-effective planning decisions around ensuring the readiness of your network infrastructure. In this way, Rapid Assessment helps you determine your future return on investment and assess your total cost of ownership.

SBC PremierSERV℠ Staging

SBC PremierSERV Staging is a network integration service offered by SBC DataComm that helps reduce the risk and complexity of deploying multi-site technologies by staging components before implementation. SBC PremierSERV Staging combines technical expertise, consistent and scalable processes, and superior logistics to pre-configure and test each component before you implement your new or expanded network.

SBC PremierSERV Staging services focus on the hardware, firmware, and software components of your network infrastructure. SBC PremierSERV Staging assists your installers and IT staffs' efforts by assuring networking components arrive preconfigured and tested, where and when you need them.

SBC PremierSERV℠ Structured Cabling Solutions (SCS)

SBC PremierSERV Structured Cabling Solutions (SCS) is a foundation of network facilities that carries your voice, data, video, and VoIP traffic. SBC PremierSERV Structured Cabling Solutions (SCS) connects your communication devices to your Local Area Network, Campus Area Network, Wide Area Network, or even a Metropolitan Area Network.

SBC PremierSERV Structured Cabling Solutions uses traditional copper and fiber optic cabling from industry-leading manufacturers. SBC DataComm design engineers work with customers and the SBC sales team to assess their current infrastructure. Then, they plan the most suitable infrastructure to meet the customer's future needs. Once the engineers establish an effective cable distribution plan, they work with the SBC DataComm Structured Cabling Team to implement and maintain the solution.

SBC PremierSERV℠ Data CPE Support Services

SBC PremierSERV Data CPE Support Services is a maintenance solution offered by SBC DataComm that augments your internal resources by bringing the best multi-vendor knowledge in the industry to resolve your day-to-day performance issues, and provide the latest software upgrades and hardware replacement logistics. SBC PremierSERV Data CPE Support Services offers Complete, Essential, and Basic levels of assistance and support designed to optimize your network's level of availability and performance. SBC PremierSERV Data CPE Support Services includes both proactive and reactive solutions to your network service requirements.

SBC PremierSERV℠ Video CPE Support Services

SBC PremierSERV Video CPE Support Services is a suite of maintenance services provided by SBC DataComm that offers support for installed videoconferencing systems, video network infrastructure equipment, and associated peripheral equipment such as monitors and extra cameras. SBC PremierSERV Video CPE Support Services provides technical support when your system isn't working correctly, when your system needs software updates, or when you are considering additional purchases for your system. SBC PremierSERV Video CPE Support Services offers levels of assistance and support designed to optimize your video equipment's performance.

SBC PremierSERV℠ Voice CPE Support Services

SBC PremierSERV Voice CPE Support Services is a suite of maintenance packages that allows you to custom-tailor the maintenance solution for your business. SBC PremierSERV Voice CPE Support Services let you maximize the performance and reliability of your voice network by selecting exactly the maintenance features you need. We offer you a single point of contact for support of your multi-vendor data CPE network environment as well as Carrier Coordination to resolve circuit-related issues.

Summary

SBC Companies provide everything from web hosting and content storage delivery to fast packet services for voice and data. Whether your client is a large enterprise business or a small local business, SBC Companies have the products and services to meet their business applications.

Please call your Consultant Liaison Manager if you would like more information about any of these products and services.

Tom David is a Consultant Liaison Manager.
He can be reached at td1898@sbc.com

Tom

>Helping Customers Stay Secure As Voice Moves To Internet

As customers move from traditional circuit-switched networks to new, Internet-based ones, they're confronting security issues that SBC family of companies is committed to help them address.

Traditional voice networks are secure for many reasons, the most important of which is their architecture. "They make closed, point-to-point connections, with much of the intelligence built into the network, not the phones at either end," said Keith Cambron, president and CEO of SBC Labs. "This makes it nearly impossible to break into the voice network, or tamper with it in a way that will harm customers."

With Voice over IP, communication travels over a shared network, whether its a corporate IP network or the Internet. These networks are a mesh – more open and more dynamic. Calls take one of any number of paths to reach their destinations. The network relies on intelligence at both ends of the transmission to manage the session or call, and uses procedures designed to provide security, authentication and authorization.

Here are just a few of the ways we help secure our customers communications:

- Design security into our networks and applications, rather than adding it later as an afterthought.
- Route traffic over SBC-managed networks, not the Internet, to ensure quality and security.
- Establish accountability for security – and be very clear about what we can and will do. A free or cut-rate service may look good on paper, but often is no bargain, especially when companies want to meet service guarantees for quality and security.
- Test every supplier solution to ensure that it meets voice quality and security standards.

Small Businesses Benefit On Mexican Border

SBC Long Distance has announced an innovative MEXICO SISTER CITIES Program designed to drastically reduce International Long Distance Costs for Small Businesses in seven US Cities bordering Mexico.

At only 6-cents per minute, the new program provides the lowest international rate ever offered to Small Businesses in designated cities in Texas and California by SBC Long Distance for cross-border calls.

The Business International SuperSaver-Mexico Sister Cities Plan is available for $5.95 per month as an add-on to a number of popular SBC Long Distance Domestic Calling Plans.

>Harness The Power Of IP

SBC Communications recently announced SBC Unified Communications℠, a new service that harnesses the power of IP (Internet Protocol) to enable customers to gather all of their message services into one easy-to-use system. Rather than check multiple places for messages, customers with SBC Unified Communications can take control of multiple message sources by accessing them through a single gateway. The new service is a milestone in the company's emergence as a leader in IP technology. SBC Unified Communications is the first product of its kind available from a major telecommunications provider, giving customers greater control over their communications and increasing personal and business productivity. Voice messages, faxes and e-mails are integrated into a common mailbox, allowing consumers and small businesses to retrieve, forward and reply to messages via phone, or online – much like they handle e-mail today. The integrated message mailbox is accessible anywhere Internet access is available or via any phone.

SBC companies are committed to leading the industry in IP technologies. The company also unveiled in June plans to build a next-generation fiber optic-based network – pending regulatory clarity and successful completion of market trials – that would enable integrated digital TV, full-featured VoIP services, and super-high-speed broadband services for consumers and small business.

Features and Capabilities

With SBC Unified Communications, subscribers will no longer have to miss important messages or spend valuable time checking multiple mailboxes. SBC Unified Communications gathers different types of messages in one place and makes them accessible from any place the customer happens to be. Additionally, SBC Unified Communications offers the following features:

- Cingular Wireless integration. SBC Unified Communications completely integrates with Cingular Wireless, so customers can access wireless messages from the same portal as wireline, e-mail, and fax messages.
- Integrated message center. SBC Unified Communications' integrated message center allows subscribers to view wireless and wireline voice-mails, e-mail, and fax subject lines all in one inbox. SBC Unified Communications uses an e-mail-like interface, allowing for prioritization of messages and better organization.
- Here, there, anywhere. The latest text-to-speech technology reads e-mails over the phone. Users can listen to voice-mails over their computers (which also allows for prioritization of voice-mails). Customers can "untie" from the fax machine by checking fax message headers from the phone, and view and print them through the computer.
- Message indicators. When customers receive a new e-mail, voice-mail or fax, a message indicator alert can be sent to their online mailbox, and wireless and wireline phones (if the customer activates the message indicator alerts). Once messages are checked on one device, the message indicators on the others are updated in real time.
- Pager notification. For customers who want to be notified immediately about incoming messages, they can activate the pager function, which sends a notification of a new message to their pagers or wireless phones.
- Online storage. SBC Unified Communications comes with 50 MB of storage for consumers and 100 MB for businesses, and customers can purchase up to 150 MB of additional storage space in 50 MB increments.
- Separate mailboxes. Users can establish four shared SBC Unified Communications mailboxes under one platform, allowing business colleagues and families to keep their messages separate, each owning a mailbox with separate security codes.
- Distribution lists. Customers can establish as many as 15 distribution lists, each with up to 25 entries. These entries can be telephone numbers or e-mail addresses.

Residential subscribers to the All Distance service, which provides unlimited direct-dial domestic voice long distance and local calling, can replace the standard voice-mail service with SBC Unified Communications for an additional $3 per month, for a total of $51.95 per month. Pricing for SBC Unified Communications for residential customers when purchased as an a la carte voice messaging service in California and Nevada is $10.95 per month, and $12.95 per month in other SBC states.

For residential customers without Cingular Wireless service, SBC companies offer SBC Unified Communications Lite℠, a service that incorporates all the features of the standard service, except wireless integration. Pricing for SBC Unified Communications Lite is $1 when purchased with an All Distance package, or for residential customers, when purchased a la carte, the price ranges from $7.95 to $10.95 per month depending on the state.

"It's impossible to wring your hands and roll up your sleeves at the same time."

General Tommy Franks

Caprice de Lorm

>SBC Wireless Solutions

We all know that wireless is big. It is in demand and the demand is growing. So are the applications and the technology.

For you to be successful as a consultant, you need to provide solutions that enable your customers to be productive – wherever it is that they do business. The same is true for our company. Our goal is to provide business customers access to their telecom services anytime, anywhere. We want to be the provider of choice for both wireline and wireless solutions.

Wireless Demand and Usage Trends

The changes in the wireless arena are due to both industry trends and evolution of the network. Customers are demanding a more pervasive solution – they want access to voice and data anywhere, anytime. Clients are becoming bigger users of wireless and are looking for increased capabilities, mobility, access and speed.

High-end forecasts predict over 10M wireless business users by 2007. This represents approximately five times as many users as in place today. The wireless data opportunity for growth is forecasted to be approximately 17% for 2005 & 19% for 2006. The research also indicates that the future focus for wireless is more data-centric, including applications such as wireless LAN and Internet/Intranet access.

There is a shift from wireline to wireless spending. The Telecommunications Industry Association reports that in 2003 wireless spending exceeded wireline spending in the U.S. for the first time ever. Research also shows that mobility is inherent in many businesses. Per an In-Stat report, businesses with up to 99 employees show that an average of 43% of their employees are mobile (out of the office at least 20% of the time). Besides the growing demand for wireless applications, businesses want a bundled solution and combined billing. When asked about the desire for one provider and one bill for both wireless and wireline, In-Stat research found that 37% – 50% of customers found this to be either a very or extremely appealing option for their business.

Cingular® Wireless Network Evolution

In addition to the growth in demand, the growth in speed and application potential increases as the wireless network continues to evolve. Increased throughput enables both the ability to download information faster and to increase complexity of applications.

Cingular's wireless network is the foundation of SBC's wireless offerings for our customers. There are various types of wireless transport technologies. Cingular's network is based on the GSM platform. Today, Cingular's network enables ubiquitous coverage via EDGE (Enhanced Data Rates for Global Evolution). This technology supports a typical throughput of 70-135 kbps, which supports applications such as web browsing, games, emails with attachments, and wireless PDA.

The next step in Cingular's network evolution is to Universal Mobile Telecommunications System (UMTS). Applications over this platform include more audio and video streaming abilities or multimedia messaging over the wireless network. In the future, the UMTS based-network will evolve to the High Speed Downlink Packet Access (HSDPA) platform for even faster throughput.

Because Cingular is using the GSM network evolution, devices are compatible with the prevailing worldwide standard and users are able to roam internationally for voice as well as data needs. The "new Cingular" will have coverage in the top 100 markets and the fastest nationwide high speed data network.

SBC Wireless Solutions

SBC strategy is simple – provide business customers access to voice & data services anytime, anywhere. SBC's goal is to provide solutions that ensure customers have a consistent, easy, and convenient experience when accessing their services at home, at work, and on-the-road. This can include a complete wireless or a combination of a wireless-wireline solution.

SBC's wireless solutions enable you to design applications to meet the unique needs of your clients. Our wireless portfolio includes voice solutions, data solutions, Wi-Fi solutions, integrated voice and data applications, and wireless VPN solutions. Wi-Fi solutions include public access, private networks and hot spot applications. We also offer both standalone and bundled applications.

SBC's voice solutions include a number of Cingular®GSM Nation wireless voice calling plans designed to support a variety of customer needs. There are several individual plans available, including the option of having up to four participants sharing the plan minutes for an additional per person charge. There are also various options available for the handsets, which range in both cost and functionality.

Our wireless voice offerings, and many of our other wireless solutions, provide the potential for customers to receive additional discounts. The discounts range from 10% to 20% and may be available when a customer opts for combined billing of their wireline and wireless services or subscribes to a qualifying wireline voice package and combined billing. These solutions provide for additional savings while offering a single bill solution for both their wireline and wireless expenses. Your Consultant Liaison Manager can work with you to identify if your client can take advantage of these discounts with their wireless voice or data application.

SBC's wireless data strategy includes solutions that support the mobility of your clients, whether in the office or on the road. SBC Freedomlink℠ Wi-Fi enables customers to use Wi-Fi enabled laptop computers and personal digital assistants to wirelessly connect to the Internet and corporate networks at speeds 50 to 100 times faster than dial-up. Cingular Data Connect provides coverage where Wi-Fi is not available. This solution provides wireless connectivity at speeds higher than with conventional dial-up. Cingular Data Connect offers average speeds of 85-140K, with bursts up to 180K.

Today, SBC Freedom Link provides access to 2900+ public hot spots, 1100+ hot spots in McDonald's restaurants both in and out of SBC's wireline territory, and 1200+ hotspots via roaming partners. That translates into over 5200 hotspot locations. And that number is growing. The public hotspots include McDonald's, UPS, Barnes & Noble, Caribou Coffee, and several airports. Roaming partners include Wayport, Sprint, Concourse, GoRemote, and WISE Technologies. A list of SBC FreedomLink hot spot locations is available at: http://secure1.sbc.com/locations.adp. If a client is in a location that does not provide Wi-Fi access, they can utilize Cingular Data Connect for wireless connectivity. This works wherever GSM networks are available.

Wi-Fi access provides customers with wireless functionality at a number of venues where customers need to conduct business. There are several ways to purchase "Standalone Public Wi-Fi Access". This includes one-time walk up usage, which as available today at selected venues for SBC and non-SBC customers. Customers can also purchase monthly memberships, also available today at selected venues for SBC and non-SBC customers. Roaming is available today at a per session fee. In the future, SBC is planning to offer subscriptions for SBC customers, as well as an unlimited roaming option.

There are nearly 4 million SBC Yahoo!® DSL Internet access customers. These customers

have free access to our FreedomLink Hot Spots through April 2005. In addition to the standalone Wi-Fi access options, SBC offers bundled solutions which include Wi-Fi access along with other products and services. Customers who purchase a bundled solution may be eligible for 12 months of free SBC Freedomlink Wi-Fi access.

Public applications are those "hot spots" made available for public use. Public Wi-Fi opportunities exist for businesses that support travelers or "captive audiences", people that need to access their information via a wireless solution while away from their home or office. Businesses that might consider becoming a public Wi-Fi access provider include cafes, hotels, tire retailers, airports, or ball parks.

When a business becomes a hot spot provider utilizing static DSL, they receive several benefits. These include 3 months free Static DSL, free access point equipment, and free installation of the DSL service and Wi-Fi equipment. Hot Spot Builder businesses will also receive free Wi-Fi session coupons to attract customers, a free signage kit, 24X7 technical support, and a listing on www.sbc.com/Freedomlink website as an official SBC FreedomLink Hot Spot.

Becoming a hot spot access provider offers businesses a creative way to attract customers to their establishments. Bandwidth needs depend on number of users and applications being used. In addition to the DSL Hot Spot Builder solution, options for higher bandwidth are available. If your client's business has "high usage" potential, e.g. a hotel, another mode of transport might provide a better solution for supporting the demand for network access and applications.

In addition to providing public Wi-Fi access, businesses can install private Wi-Fi networks. They can also install both public and private Wi-Fi networks to facilitate various internal and community applications. Private WLANs are deployed in businesses, private facilities, universities and homes for internal use. The most common applications are internal employee access or for use at a specific location for providing specific data to or from a user and the host. For example, a hospital might install a private Wi-Fi network and use wireless notebooks as a replacement for the doctor's paper chart. A farm or winery could use a Wi-Fi solution to support an inventory control application. Private WLAN Applications work on 802.11 technology and can support in building and on campus proprietary networks. They can be used for wireless voice, wireless data, or both.

A wireless data solution provides the benefits of a flexible WAN and access indifference. Network based intelligence provides increased functionality with reduced cost. Customers realize "plug n play" functionality across applications and increased productivity from the "anytime, anywhere" nature of the network. Additionally, your clients can access their data utilizing the technology that best meets their needs.

In addition to the Wi-Fi and wireless voice offerings, SBC provides solutions for integrated voice and data and wireless VPN. BlackBerry® is a wireless voice and data device that keeps mobile professionals connected to people and information on the go. It provides users with wireless access to their business applications such as email, phone, text messaging, and Internet access. BlackBerry devices can support custom applications, such as custom MLS software for real estate agents. SBC's Blackberry offers include several plan solutions, including the shared minute plan option available for up to 4 users at an additional per user fee.

The Mobile Business Bundle solution provides laptop wireless access to the Web through Cingular®Data Connect or SBC FreedomLink. This bundle provides both unlimited SBC FreedomLink Wi-Fi and the choice of Cingular Data Connect from 20MB/month to unlimited. If a customer orders this solution by 4/15/05, they qualify for 12 months of free unlimited SBC FreedomLink Wi-Fi. Mobile Business Bundle requires that the customer has SBC Yahoo! DSL.

SBC also offer solutions for wireless remote access. The VPN RoadWarrior bundle keeps mobile workers productive by providing access to their network & data anytime, anywhere. The solution includes SBC PremierSERV℠ IPVPN, Unlimited SBC FreedomLink Wi-Fi, Unlimited Roaming on Wi-Fi Partner Networks and Unlimited Cingular Data Connect. This requires that a customer purchases SBC PremierSERV IPVPN. The VPN RoadWarrior bundle can be offered with SBC PremierSERV NVPN via an IPVPN/NVPN Hybrid solution.

Other integrated options may be available for your clients. These could include wireless solutions or a combination of wireless and wireline solutions. Please contact your Consultant Liaison Manager to discuss the application and determine the best solution to meet your customer's needs.

What are some next steps for wireless and SBC? In the next 12 months, we expect wireless technology to improve to the point where a call could be handed off seamlessly between the 802.11 & GSM environments. SBC is also exploring the application of Wireless Managed Services. This will provide your clients the option of SBC supporting wireless services as part of the managed services portfolio.

SBC Wireless and You

What does all of this mean to you as a consultant?

There is and will continue to be opportunities to discuss wireless applications with your clients. wireless is and will continue to be integral to complete solutions for business, across all segments. Demand for both wireless solutions and increased applications is growing. As the network continues to evolve, there will be even more throughput and additional capabilities via a wireless solution. The future will bring increased speed, more complex applications and convergent seamless solutions.

SBC is well positioned to provide complete solutions for their customers, both today and in the future. SBC's products and bundled solutions enable you to offer your clients SBC applications to meet their needs. Businesses need both mobility and seamless solutions, and SBC is here to assist you in providing applications that allow your clients to access their voice and data services anytime, anywhere.

Need more information? Your Consultant Liaison Manager can help you with solutions to meet the needs of your clients, including providing information on our current offers, bundles, and promotions.

Caprice de Lorm is Director of Channel Delivery for SBC West. She earned an MBA at Pepperdine University and is a 16-year telecom veteran in Sales and Marketing. Caprice has held leadership positions involving the launch of SBC Long Distance, DSL & Wireless.

Major Store Selects SBC Companies

HHGREGG, a major Electronics & Appliances Chain, has selected SBC Companies to provide SBC PremierSERV Network-based Virtual Private Network to all of its stores and distribution centers.

The new network service is designed to help the retailer lower costs and increase flexibility to meet a wide range of business applications, such as Inventory Management, Point-of-Sale Transactions and Online Orders.

The service will help the company efficiently and cost-effectively manage its operations, which include 59 stores throughout Indiana, Ohio, Kentucky, Georgia and Alabama.

The service will allow the firm to migrate to Next-Generation Communications services and Applications, such as VoIP and Streaming Video.

Jerry Hinek, SBC Security

>Cyber Nuisance To Cyber Crime

Executive Overview

This article describes how technological developments and economics have changed the kinds of malicious attacks that we can expect and the harm we may suffer as computer users on the Internet. While early attacks were mostly mischief, present day attacks try to take away your exclusive use of your computer, sometimes to find out your personal and financial secrets, sometimes to use your computer to attack other computers.

Introduction

We all take our powerful computers and the Internet so much for granted that it's hard even to remember that the earliest personal computers could only communicate with a keyboard, a dot matrix printer, a tape recorder and a monochrome monitor. The biggest security problem was denial of service from an unstable operating system or a power outage.

Cyber attacks on personal computers (PCs) have developed from unsophisticated nuisances whose only purpose was mischief to very clever attacks for financial gain.

When computers were not networked together attacks could spread only slowly, and by chance. Now almost every PC in the world is on the Internet; most of them use the same operating system and the same suite of applications, and they can be attacked quickly and directly. What the Internet added to the mix was the ability to reach millions of people cheaply.

Background

Hackers

The first hackers were just people who knew how to use computers pretty well. They weren't the bad guys, they were an elite group. The meaning of the term has evolved and now describes several types of individuals usually with a negative connotation. Some early hackers developed computer viruses, probably for the technical challenge. There wasn't a lot to gain from writing or spreading them. Some present day hackers dedicate themselves to finding flaws in modern software and publicizing those flaws.

Communication

Before we were able to make computers communicate over local area networks (LANs), the best way to get information from one PC to another was to swap diskettes. Now every new computer comes with one or more communication devices from 56K modems to 100 Mbs Ethernet connections.

Computer Users

Most computer users expect to spend a lot of time surfing the Internet, communicating with friends, businesses and governments all over the world. Business people and students want to take their laptop computers with them wherever they go to connect to school or company. These computers all have known and unknown vulnerabilities that leave users exposed to constant attack.

Software and Operating Systems

As operating systems that control computers have become more complex, computers more powerful and communication almost instant, ruthless people have devised ingenious ways to exploit weaknesses in the system to hurt you. And all this has made it financially profitable to exploit these weaknesses.

Early PC Threats

Economics

Initially, there was not much financial gain in cyber attacks. People did nasty things for the fun of it. The only way to make money with computers was to sell computers, software or supplies. There were no dot com businesses. There were no E-commerce web sites. There was not much software for personal computers. People who bought computers often wrote their own programs.

Viruses

Two important technological advances in personal computers made the first computer viruses possible, floppy diskettes and hard drives. Diskettes were the primary way to share information between users and computers, so they were also the primary way to spread viruses. They could be handed off, copied, mailed and sold. Diskettes infected hard drives so that the virus infection could survive after re-boots and hard drives could infect more floppy diskettes so that more computers might become infected.

Early viruses were not well written, they had lots of bugs. Computers were expensive. No one really wanted to test a virus whose only goal was mischief, so viruses were written and released. There was no profit in writing viruses, or in writing them well, so no reason to be very sophisticated or to have test machines.

It's an interesting characteristic of computer viruses that the most destructive ones couldn't spread very far. If your computer became infected and stopped working, you couldn't easily spread infected diskettes. More people would spend more effort avoiding and eliminating destructive viruses. So the ones that stayed around for a long time were mostly nuisances. The biggest problem was often that the virus was disruptive.

SPAM

SPAM was originally excess E-mail that was annoying. If someone wanted to express something angry at another person, the first person would send a long nasty message or bombard the person with messages. It was an annoyance, but not nearly so big a problem as we have today.

Current PC Threats

State of Technology

Today computers are powerful and relatively inexpensive. All come with networking capabilities. Operating systems and application software are very complex. Millions of people of all degrees of technical skills use computers and use the Internet. This is part of the equation for modern day threats. Computers can do a lot and people with insufficient skills can't stay fully in control of their computers.

Economics

We bank online; we shop online. We pay bills electronically. The money is now on the Internet, and that's where thieves are going to steal it. Someone anywhere in the world can attempt to rob you of your bank account number and PIN. The up-front costs of cyber crime are low, the illicit profits potentially high. Someone can attack millions of anonymous people, and even if only a very small percentage is duped, the scam is a success.

Another part of the economic equation is that present day attackers get other people's computers to do the work for them. They don't need a computer cranking out E-mail all day, they use clever techniques to take over the computers of strangers, without the strangers even knowing about it.

Viruses

Virus writers are in a constant race with the anti-virus software companies. They have continually used whatever new technologies were available to create new viruses to spread mischief. They no longer have to wait for people to hand over an infected diskette, they now usually E-mail you the virus and ask you to open it yourself. They employ social engineering techniques to persuade you that the file you are opening is innocent, interesting, funny or beneficial. Virus writers know that if the virus immediately harms your computer it won't get to spread from there. Their challenge has been to spread without actually being noticed.

SPAM

SPAM is the key that has brought technology and economics together to threaten your

financial well being. Technology makes it possible and affordable to reach millions of people. Bombarding those millions of people with E-mail messages is virtually free, and even if only a few percent of people respond, the profits are enormous. But the vast majority of people don't like SPAM, and many find it offensive. People have filtered their e-mail to try to block SPAM. There is software to try to block it. Most people see it as a problem that they want to eliminate. The spammers still want to reach your inbox.

Just like virus writers, spammers have always used available technology to thwart attempts to block SPAM. If everyone knows that certain people always send SPAM, people would block those senders. So spammers use devices known as anonymizers to conceal their identities. People block SPAM based on the presence of certain words in the subject line or the body of the message. Wouldn't it be nice if we could all eliminate the deluge of messages about Viagra? Spammers defeat the filters with strategic misspellings. They add spaces inside the words or make every other letter an asterisk. Sometimes the entire message is a picture that looks like text.

Another problem for spammers is that Internet service providers will eventually shut down accounts that are generating millions of messages a day, every day, so spammers have connected with virus writers to develop ingenious ways to avoid obstacles and spread the messages. They get vulnerable computers to do the work for them. The same SPAM message may come from a thousand different sources.

Virus and SPAM

Because there is a lot of money to be made with SPAM and because virus writers are very good at spreading their viruses from PC to PC without detection, spammers and virus writers now work together to deliver SPAM. In a typical scenario, a virus writer writes a virus that installs secret software on an infected computer. The software does several things.

1. It searches the infected computer for E-mail addresses.
2. It may try to disable anti-virus software or anti-SPAM software.
3. It may try to install a secret vulnerability for future exploit by the attacker.
4. It may install keystroke trackers or other Spyware to get your passwords, bank accounts or other sensitive information.
5. It sends copies of itself to other computers via E-mail to try to infect other computers. It uses some of the discovered E-mail address for phony return addresses to disguise the real source.
6. It sends a message to a computer controlled by the hostile attacker, alerting the second computer of the infection.
7. It sends out periodic messages to the attacker's computer asking for instructions.
8. The infected computer might be used to initiate a new virus or a SPAM message sent out to hundreds or thousands of the discovered E-mail addresses.

That's an evolving scenario. If a computer system is insecure, even though the owner knows nothing about "cyber attacks", it can be used for cyber attacks against others. The infected computer has become a zombie that does the bidding of virus writers and spammers to defeat anti-virus and anti-SPAM defenses and to harm other people.

Security Patches

It's no secret that there are cyber attackers, so software companies try to protect their customers by releasing timely patches for vulnerabilities discovered in their software and operating systems. And of course it's also no secret that there are patches.

The wrinkle is that the attackers use patches to pinpoint vulnerabilities knowing that there is a lag between a software company releasing a patch and people actually obtaining and installing it. In fact some computers are seldom, if ever, patched. Attackers reverse engineer patches to see what they are fixing, then they write routines to exploit those vulnerabilities.

Defensive Strategies

The people trying to attack you are smart, clever and greedy. They are also practical. They will adapt both to new defenses and to new opportunities. You probably can't stop the problem, but you can mitigate the threat. Here are a few rules of thumb that should keep you safe from cyber threats:

1. Be suspicious of incoming e-mail, especially with any attachments, even from people you know and trust. It might be a virus sending the message and using the other person's return address.
2. Don't leave your e-mail software in preview mode so that you can see part of the message by default. That could start the download of hostile code without your knowledge.
3. Install a software firewall that will alert you when your computer tries to send out a message to the Internet without your knowledge.
4. Keep good anti-virus software running on your computer at all times. Set it to scan your E-mail automatically.
5. Read any newspaper articles on the latest viruses to get information on new developments in virus techniques.
6. Check for viruses if your computer seems to be running very slowly or the network lights on your DSL or Cable modem flicker a lot when you're not even using your computer.
7. Turn off your computers when you're not using them. If you're starting your weekend or going out of town, why leave it running?
8. Always just stay aware and ask questions.
9. Be aware of the many hoaxes too. They just make you less vigilant of the real threats.

Conclusion

There's no escaping the need for constant vigilance. You have a lot to protect from very sophisticated people who are trying to steal from you. Stay informed: you don't have to be an expert, but ignorance is not bliss. People have reported virus infections within minutes of connecting a new and unsecured computer to the Internet for the first time. Plan your security: find and install patches and know about problems with your software and operating system. Install anti-virus and anti-spyware software and keep them up to date. Use a firewall on your computer or home network. You have to keep yourself informed as developments in technology facilitate developments in cyber attacks. Things will change.

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

Avis And SBC Communications Announce Plans For Wi-Fi Service

SBC Communications Inc. and Avis Rent A Car System, Inc. recently announced that the SBC FreedomLink Wi-Fi service will be made available in up to 88 Avis locations at major airports throughout the nation by early 2005. The SBC Wi-Fi service will be available in Avis business centers, providing added convenience and increased productivity for millions of travelers.

FreedomLink service will be the newest addition to Avis business centers in major airports. Avis business centers provide a quiet place for mobile professionals to conduct business with complimentary telephone, fax and copy services, enabling them to increase productivity and efficiency while away from the workplace.

"This agreement will make FreedomLink service more widely available, providing greater value to travelers, especially mobile professionals, who rely on Wi-Fi to stay productive and connected while on the road," said Scott Helbing, senior vice president, SBC Consumer Marketing. "We continue to expand the SBC Wi-Fi network, making service available in a wide variety of locations to meet consumer demand for wireless high-speed Internet connectivity."

Nancy Grover, SBC Security

>Anatomy Of A Virus Writer

Who are those people who take the time and effort to write viruses, worms, and Trojans with the sole purpose of wreaking havoc on the Internet and your computer? With all the risks involved, what could they possibly gain?

The Stereotype

When most people think of a hacker or virus writer they immediately envision a bored – but brilliant, socially inept, male teenager who has never had a girlfriend.

Many movies, books and television shows depict these young men as pasty-faced, overweight boys, who rarely leave the comforting glow of the computers they keep in their parents' basements. And when they do leave it's only to stock up on more junk food and caffeine, or possibly to take a shower if more than a week had gone by. But, this description is far from the truth.

The Reality

Yes, virus writers generally are computer-obsessed males, but most are typical for their age, have normal relationships with friends and families, are good students and employees and are contributors to their schools or communities. Many do have girlfriends and some are even married, and they don't appear to be too different than any other young men we might know.

Ten years ago, the average age of a virus writer was between 14 and 17 years old. Today the age span is closer to 14 to 34 years of age. David Smith, who you'll learn about later in this article, was 30 when he was arrested for distributing a virus. And, like most of the older virus writers, he worked in the computing industry. David Smith was a network programmer.

In the past, most of the virus coders lost interest as they grew older and began a profession, or joined the ranks of the hackers instead. Today, many still write viruses even after entering the workforce, and some don't even get started until their mid-to-late 20s.

There are even a handful of female virus writers, but they are few and far between. The younger females seem to be motivated by an urge to impress boyfriends or male peers, or to become accepted in the predominantly male club of hackers and virus writers.

Why They Do It

Motivations vary greatly among virus creators. In order to create and spread infections, virus writers explore known bugs in existing software, or look for vulnerabilities in new versions. Often, teenagers became virus writers because they see the creation of these types of programs as a technical challenge. Others write to develop their skills of exploiting software vulnerabilities, and still others are trying to make a political statement. Some write with malicious intent in mind, thriving on the thrill of shutting down a company or government e-mail system. And many are satisfied just to see their virus listed in antivirus software programs, or on the news.

Most are also looking for recognition in the underground world of hackers and virus writers. Though some hackers started out writing viruses themselves, they often look down their noses at the virus writers, after moving on to what they perceive to be bigger and better things.

Hackers possess a different set of advanced, refined skills that allow them to target specific computing systems and pinpoint where their program will land, and what the expected results will be. The virus writer, on the other hand, wildly launch their untamed, unpredictable programs with little regard to the outcome.

While hackers are at the top of the computing undergrounds' hierarchy, virus writers are near the bottom, with script-kiddies, lower still. Script-kiddies rely on previously released viruses, or use attack tools that are readily available on the Internet. Most of the time, the viruses written by the script-kiddies are so poorly programmed they're not capable of spreading anyway, though sometimes they do get lucky, with unfortunate consequences for everyone.

Who Are These Virus Writers & What Are They Trying To Prove?

William Morris wrote and set loose the first worm to propagate over the Internet. The 1988 worm infected 6,000 systems and caused $15 million dollars in damages. Considering how few people were on the Internet at that time, this was quite an amazing feat.

William, whose father was a chief scientist at the National Security Agency, was convicted of computer abuse and sentenced to three years probation, 400 hours of community service and a $10,000 fine. William now teaches at MIT.

Cheng Ing-Hau, a sergeant in the Taiwanese Army, wrote the Chernobyl (CIH) virus in 1998. He had a grievance of some sort against anti-virus companies, so in protest he unleashed his virus. The virus was programmed to erase infected hard drives on April 26, the anniversary of the Chernobyl nuclear disaster of 1986. He must have been protesting that event also.

Cheng was detained in 1999 by the Taiwanese military but was soon released since no Taiwanese firms came forward to claim any damages, even though the virus wiped out 2 million PC's worldwide. He was re-arrested in September 2000 after a complaint by a Taiwanese student, and was sentenced to less than 3 years in jail.

David Smith wrote and released the Melissa virus in March 1999. The worm replicated itself so quickly and so often that it forced companies including Microsoft, Intel and Lucent Technologies to shut down their email gateways. By the time Melissa rode off into the sunset, $80 million in damages has been amassed. David wrote the virus for a stripper he admired. Her name was Melissa, and he had hoped that this would make her admire him too.

David Smith pled guilty and received 20 months in prison and a fine of $5,000 for his tribute to Melissa.

Mafiaboy admitted involvement in denial-of-service attacks in early 2000 against websites belonging to several companies, including Amazon, Dell, CNN, Yahoo! and eBay. Mafiaboy's real name has not been disclosed, as he was just 17 at the time of his arrest in Canada.

Yes, Mafiaboy was a script-kiddie. Using an existing virus and tools found on the Internet, he was able to rewrite the code, which bombarded dozens of high profile sites with thousands of simultaneous messages, preventing user access for up to five hours, and causing $1.7 billion in damages.

The judge ordered Mafiaboy to spend 8 months in a youth detention facility, one year of probation, and pay a fine of $160. At his sentencing, Mafiaboy vowed he would return, though no one has heard from him since.

Onel Guzman wrote the ILOVEYOU virus while a student at a Philippine university. At first, he said he unleashed it accidentally, and then he blamed it on his roommate. But, either way, it didn't matter. In 2000, there were no laws that could be used to prosecute a virus writer in the Philippines, so even though the virus caused about $7 billion in damages worldwide, he never faced any charges.

While authorities were trying to charge Onel, several computer companies were reportedly trying to offer him a job.

Jan de Wit of the Netherlands, wrote the Anna Kournikova virus in 2001 using a virus

creation toolkit often used by script-kiddies. Horrified at how well his virus worked, Jan turned himself into the police and pleaded guilty to releasing the worm. As part of his reasoning for committing the crime, he claimed he did it as an experiment, after reading a survey, which said the public hadn't learned anything from the spread of the ILOVEYOU virus. Obviously, the survey was correct.

Jan received just 150 hours of community service for authoring and launching his virus.

Jeffrey Parsons is the author of a Blaster worm variant release in 2003, and was 18 at the time of his arrest. He chose to modify the Blaster worm by inserting a backdoor Trojan, which would enable him to have remote control of any infected computer. He left a clear trail back to himself as the author, by coding his nickname teekid, into the virus.

Though Jeffrey has pleaded guilty and is expected to spend 18-37 months in federal prison for infecting more than 7000 computers, the author of the original Blaster worm which took down tens of thousands of home PCs and small business networks remains at large.

What's Next?

The total number of viruses unleashed during the Internet's short history is close to 63,000, with the total damages estimated at $65 billion. Some viruses have been extremely destructive, while many have been weak and virtually harmless.

About 1,000 viruses are created each month by these virus writers. Some of these are new, never before seen code, most are variants of existing viruses. Virus writers are constantly looking for new operating systems and applications to infect, and there is no indication that the art (if it can be considered that) of virus writing will be dying out any time soon.

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 Security Professional.

"Don't Worry. Take Action."

Juan Carlos Ortiz

Business Hosted IP #1

The SBC Companies have been rated the leading provider of Business Hosted IP Voice Services by International Data Corporation, a leading Global Market Intelligence and advisory firm focused on the information technology and telecom industries.

>SBC Communications Selects Microsoft TV For Advanced IP Television Service

SBC Communications Inc. recently announced an agreement with Microsoft Corp. to provide next-generation television services using the new Microsoft® TV Internet Protocol Television (IPTV) Edition software platform.

The SBC IPTV deal with Microsoft, valued in excess of $400 million over 10 years, is the first of its kind for any U.S.-based telecommunications provider.

"Our service will change the way people experience TV. Finally, customers will watch what they want, when they want — from a virtually unlimited and interactive content selection," said Ed Whitacre, SBC Communications Inc. chairman and CEO. "We will deliver integrated communications and entertainment services to enhance the digital lifestyle of our customers."

SBC Labs has been testing an IP-based television service built on the Microsoft TV IPTV Edition platform since June 2004. SBC companies and Microsoft will begin field trials in mid-2005 and plan commercial availability of the IP-based television platform in late 2005.

In the first quarter of 2005, construction is expected to begin on the SBC Project Lightspeed, the company's initiative to deploy fiber closer to customer locations to provide new, feature-rich, IP-based services, including IP television, voice over IP (VoIP), and ultra-fast Internet access. Project Lightspeed is expected to reach 18 million households by year-end 2007.

"Project Lightspeed and the Microsoft and SBC relationship underscore what the future holds for consumers: a virtually unlimited opportunity for innovative, cross-device services and entertainment experiences enabled by the marriage of powerful broadband networks with the magic of software," said Steve Ballmer, CEO of Microsoft. "The selection of Microsoft TV as the IPTV services platform provider for SBC recognizes Microsoft's leadership position in the rapidly emerging IPTV industry and the benefits it will bring to customers."

Microsoft TV IPTV Edition also provides strong security features and efficiency in delivering standard and high-definition TV programming to multiple TV sets in the home over the SBC fiber-enhanced network, while leaving ample bandwidth available for ultra-fast Internet access and VoIP services.

IPTV Potential Offerings

The new service will enable a next-generation digital video entertainment experience not previously realized in the mass market. The solution will take full advantage of the SBC expanding two-way broadband network to offer new, innovative services beyond today's existing broadcast-oriented digital TV networks.

Additionally, by using IP technology to deliver video, voice, data and other advanced services and applications over a single network connection, the services may be accessed and shared via any number of IP-enabled household devices, such as TVs, set-top boxes, PCs, PDAs or phones. Microsoft TV IPTV Edition also provides a comprehensive security system including subscriber and end-to-end digital rights management technology to protect the content across multiple devices.

The IP-based TV service is planned to include instant channel changing, customizable channel lineups, video on demand, digital video recording, multimedia interactive program guides, event notifications, content protection features and more.

Some additional potential applications include:

- Using two-way broadband networks, SBC companies could be able to send alerts and notifications to customers watching TV in new ways. Some examples include the ability to alert a customer of upcoming favorite shows, or Caller ID and instant messaging right on their TV screen.
- The Microsoft TV IPTV Edition platform could enable new services and applications such as tuner-less picture-in-picture functionality. The PIP feature enables users to preview other shows and channels while the primary channel runs in the background.
- Photos could be easily shared from a networked computer and played back through the TV.
- To enable optimal use of bandwidth, SBC companies plan to use a switched video distribution system, which streams only the content the customer requests instead of broadcasting all channels to everybody at once. This cutting-edge technology frees up large amounts of bandwidth for other applications.

Cautionary Language Concerning Forward-Looking Statements

Information set forth in this article contains financial estimates and other forward-looking statements that are subject to risks and uncertainties, and actual results may differ materially. A discussion of factors that may affect future results is contained in SBC's filings with the Securities and Exchange Commission. SBC disclaims any obligation to update or revise statements contained in this news release based on new information or otherwise.

Jagdish Kohli, Ph.D.

>Multimedia Communication Direction

Communication is a basic human necessity. Speech has been a dominant media for interpersonal communication for centuries. Our ears listen to the audio information and send it to the brain for comprehension. Our eyes look at the multi-dimensional world around us and send visual signals to the brain for absorption. Text and number based information when spoken to us or read by our eyes is interpreted by the brain.

Effective business communication across the whole spectrum of business folks and with the customer base is the foundation of a successful business. Judicial use of selected multimedia content and technology can enhance this communication to unprecedented level unfolding new business opportunities.

Here we discuss:

- Multimedia Overview
- Interactive Multimedia
- i-Multimedia (interactive multimedia) Services
- Multimedia IP (Internet Protocol) Network
- Future of Multimedia

Multimedia Overview

The term "Multimedia" refers to information in different media such as text, audio (voice, sound, music), graphics, still images, animation and video files. Multimedia describes a presentation or communication message that combines at least two of those elements in a single, integrated delivery system. Multimedia are simply an effective way to deliver a message. If there is no message, all multimedia can do is package the emptiness nicely.

Multimedia by its very nature engages multiple senses. The audience for multimedia can include people from all age groups learning new knowledge, procedures or skill sets. Skillfully combined imagery, sound and text capture attention more decisively than any of those elements alone. This integrated message reaches audiences on multiple cognitive levels and results in higher retention.

DVDs have surfaced as the most popular media for distributing multimedia content in today's market. A large number of movies, music videos, music albums, digital books, and other data are distributed via DVDs. DVDs can be single sided, double sided, single layer, double layer or a combination of these.

All content delivered via DVDs can easily be stored at the edges of a high speed network and delivered in real time. The network approach has the following benefits:

- Ease of access
- Higher utilization of storage media as compared to DVDs
- Lower cost of delivery across an expanded customer base
- Instant access to a variety of multimedia content

Interactive Multimedia

As the name suggests, interactive multimedia responds to user interactivity, typically by offering menus that guide the user along various information pathways. In this respect it's a revolutionary communication tool, allowing users to easily find the exact information they want while minimizing time and effort sifting through unwanted information. Interactive multimedia also has familiar roots; much like television and film, multimedia combines graphics, sound, video and animation into a single product aimed at telling a story or delivering a message: boy meets girl, meet our company, and visit our museum etc. Interactivity adds a whole new dimension on the already-familiar concept of combining media. Most of the future content development will consider this powerful capability thus enhancing multimedia communication.

When an audience watches a video, information flows in one direction and viewers take a passive role. But when a user sitting at a computer – whether accessing a DVD in the computer or connected via DSL or Cable Modem to the Internet – chooses the information he or she wants, bypassing irrelevant or already familiar material and moving directly to new topics. With this interactive approach, multimedia evolves into a learning tool that cuts out wasted time while bumping up the number of fronts on which information is presented.

Multimedia content for education, entertainment or healthcare can be stored on high capacity network servers called portals. These servers can stream audio, video or other multimedia information at user request. Interactive features in the portal provide full playback control to the user. These features include:

- Pause
- Play
- Fast forward
- Rewind
- Random access to individual video frames
- Slow motion playback
- Multiple branches/pathways in multimedia information flow

i-Multimedia (interactive multimedia) Services

i-Multimedia is a family of network based services useful for almost every personal or professional communication environment. Here we discuss some representative examples of potential services for education and entertainment industries.

i-Learning

i-Learning is a means of learning involving new mechanisms for communication, including multimedia access devices (desktop computers, lap top computers, PDAs, MP3 players, mobile notebooks and phones), high speed communication network, multimedia content portals, search engines, electronic libraries, distance learning, and Web-enabled classrooms. i-Learning is characterized by speed, technological transformation, interactive multimedia content and "Quality-of-Learning".

i-Entertainment

i-Entertainment is a means of entertainment involving new mechanisms for communication, including multimedia access devices (televisions, desk top computers, lap top computers, PDAs, MP3 players, and mobile notebooks), high speed communication network, multimedia entertainment portals, search engines, digital film libraries, and digital music libraries. i-Entertainment is characterized by high quality presentation, technological transformation, interactive multimedia entertainment content and "Quality-of-Enjoyment."

i-Multimedia family of services can have a transformational impact on the quality of human being. i-Learning services can create a very high quality human capital that has not been possible with our current mode of teaching. Interactive multimedia services can be instrumental in creating a whole new global social order.

Multimedia IP (Internet Protocol) Network

Modern private IP networks are fully capable of transporting many DVD-quality video streams without impacting data and voice traffic. Within a typical enterprise, Ethernet networks are composed of 10/100 Mbps switched ports on Ethernet switches and routers. Therefore, individual users receive their own 100Mbps connection to the switch. A typical MPEG-2 stream is 5Mbps, leaving 95Mbps available for other traffic.

Public communication network is evolving towards a high speed IP network. This unified network will cater to the needs of mobile as well as fixed location users. This network will be transparent to the user and provide high speed anytime anywhere real time communication. In addition to real time communication, this network will also provide a wide array of interactive multimedia content delivery services. Users will be able to access services at multi-megabit per second speed. These speeds will be higher than current DSL and Wi-Fi (Wireless Fidelity) speeds and may approach the evolving 4G (4th generation) wireless network speed of 100 Mbps.

Unicast and Multicast Service

Multimedia streams can be unicast or multicast over IP networks. With unicast streams,

an individual stream is sent to each participant. Unicast is ideal for stored multimedia distribution where each employee can receive his own stream and pause, rewind, fast forward, at will. Multicasting is used when a live stream such as a CEO speech (or live classroom lecture) is being sent to hundreds of employees (or students) simultaneously. Multicasting conserves bandwidth because only one stream is sent from the source, and the IP network switches replicate the stream as needed. Although each viewer receives his own stream, the stream only travels from the local switch to the viewer's multimedia access device instead of the origination point.

Future of Multimedia

Interactive multimedia opens up a number of new possibilities for business and personal communications. The following two examples illustrate the type of emerging opportunities:

Multimedia Call Centers: Call centers have become important for a number of daily or periodic business or personal transactions. Online shopping needs interaction with a call center agent. Signing up for a new healthcare plan needs communication with an agent. A multimedia call center will show the live picture of the agent as well simultaneous interaction with the multimedia content.

Multimedia Healthcare: Interactive multimedia communication between the doctor and patient will add a new dimension in the delivery of quality healthcare. With multimedia tools a doctor can visually show the patient the state of an infected part of the body and various options for treatment and recovery. These visuals will keep the patient engaged interactively during the course of the treatment.

Interactivity already pervades everyday life, from voice mail, e-mail to more complex computer-aided training and testing aids. It's only a matter of time before its face evolves to include multimedia on a large scale. With proven advantages over traditional methods of communication, interactive multimedia is poised for growth in the world of personal and professional communications. New interactive applications in entertainment, medicine, education, travel, real-estate, banking, insurance, administration and publishing/ advertising will evolve at a rapid pace.

"Pure Communication is a matter of the heart. It brings peace and happiness."

Jagdish Kohli, Ph.D, is an independent IT and Healthcare consultant. Dr. Kohli can be reached at jagdish_kohli@yahoo.com

Jagdish

>Convergent Bill And Electronic Billing Analysis Tool (eBAT)

Convergent Bill and eBAT are designed to improve the way business customers analyze and pay their telecommunication bills. These complementary products represent a unique opportunity for customers to increase accuracy and time savings – at no additional cost. The Convergent Bill is a summary-level paper bill that consolidates billing data across most SBC affiliates into one easy to manage bill that will allow customers to organize bills thru a 5-level customer defined hierarchy. The Convergent Bill is presented in a summary format with four basic categories: Monthly Service, Usage, Other Charges & Credits, and Taxes & Surcharges.

Electronic Billing Analysis Tool (eBAT) is a secure web-based application that will allow customers to receive the detail behind the categories displayed on the SBC Convergent Bill. eBAT allows customers to view charges, execute standard or customized reports, download data to an array of software programs including Microsoft Access, and sort/filter data to pinpoint specific areas of interest. Since this service is available via the web, customers will define the various roles and access authority that each administrator or employee can have within the tool. Each user will have an encrypted password to ensure security and safety of this tool.

As account team involvement is critical to successfully implement and maintain these products, Convergent Bill and eBAT are available to customers who are supported by a dedicated account team. In addition, Convergent Bill is available to customers who are in good credit standing and whose SBC accounts are in current status.

Q & A

Q: When will Zone 1/Zone 2 call detail be available?
A: Zone 1/Zone 2 call detail is targeted to be available August 2005 on the Billing Connections CD product (or DVD if the CD cannot handle. the volume). Zone 1/Zone 2 call detail will not be available through eBAT because the high volume of detail would compromise the tool.

Q: Is the CSR CD available in .pdf or .txt format?
A: For West and Southwest accounts, the CSR CD in .pdf format is targeted for the December 2004 timeframe. For Midwest and East accounts, the CSR CD is already available. The CSR CD/DVD in .txt format for all regions is targeted for 4th quarter 2005.

Q: When will charge allocation capabilities be available (e.g. the ability to take one account's charges and break them out by percentage across multiple cost centers)?
A: Charge allocation capabilities through eBAT are currently being considered, but no timeframe has been established for when they will be available.

Q: When will jurisdiction and account code information be available through eBAT?
A: The addition of the "Jurisdiction" column to eBAT's Usage Detail report and a new Account Code report is targeted for 1st Quarter 2005 in eBAT.

– Chi-Chi Liang works in SBC Customer Service for the SBC Convergent Billing/eBAT Project Team

>SBC Companies Improving Customer Billing Experience

Customers have told us loudly and clearly what they want – a single bill including all affiliates (preferably on a single page); bills that are clear and concise; bills that reflect the price customers were quoted when they signed up for a bundle; a single point of contact; and errors corrected promptly. Customers also want to be rewarded for all the business they do with us.

We've listened, and the result is several dozen initiatives aimed at making our bills more readable, understandable and useful:

Streamlined bill format for residential and small business customers: Our Enterprise Bill Format has been rolled out in the Midwest, Southwest and West regions, and is targeted for SBC East in 2006. The new format, easier to read and understand, offers benefits including a streamlined "Bill at a Glance" section providing a snapshot of important account information for quick reference; a billing summary that lists all the customer's services; and an "SBC Benefits" section offering customers a quick snapshot of the monthly savings they realize by purchasing plans and bundles of services.

Single price point: Customers buy bundles from us but are frustrated when they can't find the total price we quoted them anywhere on the bill. We're working through numerous issues to correct that, starting over the next few months with our consumer All Distance® bundle and quickly expanding to all the bundles that include services from more than one affiliate.

Single point-of-contact: At the same time, we'll provide residential and small business customers with one place to call with questions about their bill – they won't have to call multiple affiliates to get answers.

Online options: Residential customers can receive and pay their bills online by signing up for SBC eBill, and they can arrange to pay a paper bill online through ePayment.

"What We See Depends On What We Look For."

Gene Curry

Elim Carpenter

>DSL Data News

Product Upgrades

SBC Yahoo! DSL Email sub-account storage capacity has increased from 100Mb to 250Mb.

SBC Yahoo! Instructional Video DVD

The DVD will be included with all clients kits for the Efficient #5100B and 2Wire HomePortal #1000HG. It will provide customers with instructions on how to set-up their DSL service for the #5100B modem and the #1000HG. It will address basic trouble-shooting, safety and security issues. The goal of DVD is to make the installation process easier for customers. The three month Trial Launch begins Nov. 15, 2004

Promotions

SBC Yahoo! DSL

- Up-Market DSL Term Promotion (Minimum 35 lines)
  Express – Static DSL (128 K x 384-1.5 Mbps) $54.95 per month on a 24 or 36 month term. (Through March 31, 2005)
  MNRAS Express – Static DSL $59.95 per month on a 24 or 36 month term. (Through March 31, 2005)

Previously only 2 Dynamic DSL speeds offered 24, 36 month terms.

SBC-Covad DSL

- DSL & SDSL Price Changes
- 144K IDSL will be available for $99.95 per month.
- Promotion represents $5 off the current monthly charge.
- 192K SDSL will be available for $104.95 per month.
- Promotion represents $10 off the current monthly charge.

Elim Carpenter is Associate Director – West Channel Delivery, Business Marketing DSL .

"What You Think Upon Grows."

Asian Saying

Quality Certification

SBC Companies move into Data Markets received a Big Boost recently when its National Pricing Center won TL9000 Certification. It shows SBC is committed to continuous improvement, lower costs, increased competitiveness and building strong relationships with customers and suppliers. TL9000 was created several years ago by key telecom companies and suppliers to recognize and help develop Quality Performance.

>SBC Communications Announces Launch Of Residential VoIP Service

Another Step Forward in the SBC IP Transformation. Full-scale VoIP service rollout planned for early 2005.

SBC Communications Inc. recently announced the launch of a residential Voice over IP (VoIP) service that will significantly expand the SBC IP service portfolio and give DSL customers a powerful new option for communicating with friends and families.

The full-scale VoIP service rollout will take place in early 2005. It is preceded by a trial, now under way, in Los Angeles, Dallas, Chicago and San Antonio. The service will use IP technology and a DSL Internet connection to deliver not only voice calling but also other enhanced features, such as a Web-based portal and advanced call-management capabilities that make it easier for customers to manage their communications.

"When we fully launch our service early next year, consumers will be able to choose between traditional and traditional plus next-generation voice services from SBC companies," said Randall Stephenson, SBC chief operating officer. "Over time, we expect that VoIP will be a preferred voice service because of the features and benefits this technology enables.

"Our VoIP services continue to evolve, as we introduce innovative features that take full advantage of the power of IP technology," he said. "Residential VoIP is an important emerging technology, and with our industry-leading base of DSL customers and our ability to integrate wireline and wireless communications services in new ways, we're committed to playing a leading role in this growth market – just as we have in the business VoIP market."

The SBC VoIP service will have a Web portal with features such as "find me" and enhanced "do not disturb," giving customers the ability to specify which numbers can ring through, as well as a "click-to-call" capability that lets customers call friends and family with a click of a mouse. The service will also have popular calling features, such as voice mail, call forwarding, call waiting, caller ID and three-way calling.

VoIP technology uses high-speed connections to make voice calls to anyone over the Internet or IP networks rather than over the traditional circuit-switched phone network. Customers must have broadband in order to use VoIP service.

"By adding VoIP to our extensive consumer product lineup, we gain more flexibility to create an array of innovative and integrated service bundles," said Stephenson. "With a portfolio that includes wireless, broadband, video, Wi-Fi, VoIP, and traditional local and long distance services, customers can get the complete range of integrated communications and entertainment services from SBC companies."

Building on a History of IP Leadership

The SBC VoIP service is the latest milestone in the company's emergence as a leader in IP communications and in its strategy to create a host of new features and offerings that will seamlessly integrate communications devices and networks for its customers.

In October, SBC companies announced the acceleration of an initiative – Project Lightspeed – to build a fiber optic-based network that will use IP technology to deliver digital TV, VoIP and super high-speed broadband services to 18 million customers in two to three years.

In September, SBC companies, which have provided IP services for businesses since 1998, won contracts for several large-business VoIP deployments, including a deal to create and manage a VoIP network for 50,000 Ford employees located in 110 different facilities.

Also in September, SBC companies launched SBC Unified Communications. This new messaging service uses IP technology to create a single electronic mailbox for multiple types of messages, including e-mail, wireless voice mail, wireline voice mail and even faxes. The innovative service works over either a DSL or dial-up Internet connection. Customers access the mailbox from any compatible PC or PDA with Internet access or any touchtone landline or wireless phone. The service uses text-to-speech technology to read e-mail and/or fax headers over the phone.

Regulatory Rulings Help Spur Consumer VoIP Offer

Recent decisions by the Federal Communications Commission have encouraged companies like SBC companies to invest in bringing the latest IP services to customers more quickly. For example, the FCC recently ruled that VoIP was an interstate service and that it would keep authority over the promising new technology in order to eliminate the possibility of a patchwork of state-by-state regulations.

"The FCC is moving to create an environment that promotes investment and innovation in IP services," Stephenson said. "It is important that federal, state and local authorities keep the road clear so that this technology can reach consumers faster. The fact that we are accelerating our investment to bring new technologies to the market more quickly shows how good policies can deliver good results to consumers."

Carlos Alas, Jr.

>Contract Stages

Executive Summary: This article outlines the different stages of Contract Development at SBC Companies. The stages of the Contract Process range from the Discovery and Strategy of an opportunity to Life Cycle Management of a signed and implemented contract.

Depending on your experience or what you may have heard along the way, negotiating a telecommunications contact can seem to be a pretty daunting task. In actuality, the process can be boiled down to seven steps, which if taken individually and executed correctly can lead to a very rewarding experience that benefits all involved. At SBC companies, the contract process is designed to give our customers the maximum benefit of discounts available in exchange for a term and volume commitment of their telecommunications services.

Contracts can be for simple services such as usage or High Capacity T1 (HICAPS). They can also be complex and span across the entire SBC 13 state foot print and include various affiliates such as SBC Long Distance, SBC Internet, SBC DataComm and Out-of-Territory Services. In either case, the process is simple, although the time lines can vary depending on the degree of complexity and negotiations involved.

Let's take a look at the contract process in its most basic form.

Discovery and Strategy

Once you have determined that you have an opportunity to develop a contract for telecommunications services for your customer, you will want to explore the idea based on the information you have with the appropriate Contract Developer at SBC California. This can be coordinated through your Liaison Manager. A quick meeting to discuss the opportunity will quickly help you determine if you have an actual opportunity or whether it needs to be explored further. Things that will be discussed in such a meeting might include the required minimum annual revenue for a contract which can range from $30K annually for a California 96A Contract (Tariffed Core Revenue, i.e., HICAPs, Usage, PRI, GigaMAN®, Centrex, Super Trunk, DID Number Blocks, etc.) to $500K minimum annual revenues for a 13-state Master Discount Agreement. You will also want to discuss special terms and conditions you know are important to the customer such as a "technology upgrade clause" or "business downturn clause" as well as any special circumstances such as a staggered implementation, new services or the supercedure of an existing contract. Setting the strategy for dealing with special circumstances is important at the first stage in order to avoid re-work down the line. It is at this stage that you can also request sample documents for your clients to preview while the pricing is being developed. This will help you get to the next step.

Pricing Request

Once you have determined a particular strategy with your assigned Contract Developer, the next step is developing the Pricing Request. The request will be based on the strategy you decide to implement in order to achieve the desired results which would have been laid out during the first stage. Pricing Specialists will work with the request based on the information provided. The more information you can supply regarding "competitive threats", future opportunities for growth or the strategic value of the particular customer the better. The output of the Pricing request is known as a Rate Letter. The Rate Letter outlines the customers' products, volume, term and prices as well as terms and conditions specific to the customer.

Proposal

Armed with the Rate Letter information, the Account Team can then translate it into a Proposal format for the customer making it easy to understand the deal. It is essential in order to point out the advantages of the contract pricing as well as the benefits over the term. Will the customer have "amortized installation", an "incentive bonus" or "growth incentive"? How much will they save over the life of the term? What is the percentage savings from tariff? It is at this stage that if the calculations on product volumes or pricing do not meet the customer expectation that pricing may have to be revisited. Not until you have concurrence from the customer at this stage can you continue with the next stage.

Once the customer agrees to the length of term, product volumes, pricing as well as terms and conditions you are free to go to the next step.

Contract Request and Development

Requesting the contract from your Contract Developer at this stage will be relatively simple since they will already be aware of your opportunity and any special terms and conditions that are specific to the deal. The deliverable at this stage is an executable document which the customer can sign. It will be rare that the customer will want to negotiate the contract terms and conditions further if the prior stages have been handled correctly. If this should occur, however, it is the Contract Developers' responsibility at this stage to negotiate and coordinate the participation of SBC legal if necessary. Most negotiations are carried out in a positive and mutually productive atmosphere. At the end of this stage you will be presented with two copies of the final executable documents for your customer to sign, the Customer copy and the SBC copy. Both copies must be signed and returned to SBC for processing.

Contract Signature and Filing

At this stage, you have the signatures and are almost done with the entire process but there are several formalities both internal to SBC companies and external involving governing bodies, such as the California Public Utilities Commission (CPUC) which still need to be addressed. The signed copies are forwarded internally for validation and prepared for filing with the appropriate government bodies.

Contract Effective Date

Once the contract has been filed with the appropriate government body, i.e. the CPUC, it is important to wait for the CPUC to issue an Effective Date. This time frame can vary depending on the contract from 14 days to 40 days. Your Contract Developer can inform you about which of the two categories might apply to your particular contract depending on its terms and conditions.

Contract Implementation

The Implementation stage takes place behind the scenes but is an important one as it guarantees the special pricing developed specifically for your customer. They receive the discounts they have contracted for and more importantly it is reflected in their monthly bill. There is a special team of SBC employees dedicated to developing Methods and Procedures for each contract and coordinating their implementation with the appropriate sales support teams.

Life Cycle Management

The responsibility for Life Cycle Management of a contract falls to the Sales Account Team for that particular customer. In essence anyone involved in the sale of a contract to a customer should be interested in the performance of a contract to ensure that it stays on track. Is the customer meeting their commitment? If not, why not? What action needs to be taken, etc? These questions are important to keep in mind when monitoring a contract in order to address irregularities as soon as they

become apparent. Once identified, most situations can be addressed with the help of the Account Team, Pricing Manager, Contract Developer, and Legal if necessary.

The stages of contracts outlined here are meant to give you an overview of the Contract Development process. Each contract is unique and has its own set of circumstances which will dictate its direction. Overall, however, it is a safe bet that if the stages outlined above are followed correctly, things will go smoothly in the contract process.

For more information on SBC Custom Contracts, please contact your appropriate Consultant Liaison Manager listed in the back of UPDATE or call 1.800.552.5299.

Carlos

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

"Listen to your customers and your dreams come true"

Meg Whitman

SBC And BellSouth Partner In New Online Yellow Pages

SBC Communications Inc. and BellSouth Corp. recently announced that their directory affiliates have created an Internet Yellow Pages joint venture that has entered into a definitive agreement to acquire the online directory publisher www.yellowpages.com. The new venture will utilize the highly recognized YellowPages.com brand and expects to become the market leader in Internet yellow pages and local Internet search.

While print yellow pages remain a significan't source of information for many customers searching for local contact information, a growing number of Internet-savvy customers are going online for their local searches. And a growing number of advertisers are recognizing that trend and are including online advertising with their print media buys. The creation of this venture and acquisition of YellowPages.com now positions the two directory publishing companies of SBC and BLS to serve the local Internet search customer and lays the foundation for what is expected to be a leading provider of nationwide, online yellow pages and Internet local search. Through this combination, the YellowPages.com site will receive more than 50 million consumer searches per month.

>Alcatel Is Selected As Primary Supplier For New Fiber Network

SBC Communications Inc. recently announced a five-year, approximately $1.7 billion primary supplier agreement with Alcatel to provide network equipment and video system integration services for Project Lightspeed, the SBC initiative to drive fiber deeper into its networks to provide customers new, feature-rich Internet Protocol (IP)-based services, including IP television, voice over IP and ultra-fast Internet access.

"This is the next big step forward in our industry-leading deployment of networks that will provide consumers with innovative advanced services," said Ed Whitacre, chairman and CEO. "We're moving at light speed to bring IP-enhanced services to customers."

The SBC selection of Alcatel is the first in a series of vendor selections to build out SBC's new IP service offerings for customers.

Alcatel's network equipment will include core network access, aggregation and switching equipment platforms that will provide the Internet Protocol, packet-based technologies over fiber optics that connect the neighborhoods to the central office. Additionally, Alcatel will work with SBC to ensure seamless video systems integration.

SBC announced previously it would dramatically accelerate its $4 billion to $6 billion Project Lightspeed plan to extend its new fiber-optics network closer to customers, with a goal of providing 18 million households IP-based services including super high-speed data, video and voice services in two to three years – rather than five years as previously announced. SBC made the announcement immediately after the FCC issued rules clarifying that it intends to keep advanced networks and services free from regulations designed for traditional telecom services and networks.

Project Lightspeed minimizes deployment time and cost by using both a Fiber to the Premise (FTTP) and Fiber to the Neighborhood solution. This approach gives SBC's customers the IP capabilities they want – integrated digital TV, super-high-speed broadband and voice over IP services – at one-fourth the cost and time as an FTTP-only overbuild.

"Our IP network will strengthen our relationship with our customers by enabling us to differentiate our offerings through service integration and advanced functionality," said Whitacre. "Project Lightspeed allows us to deliver operating efficiencies with an improved customer experience."

Toni Gilbert and Wendy Grimes

>Helpful Consultant Reminders And Tips

Need to request a Busy Study to determine your customers' call flow?

It is as simple as calling 1.800.371.6999 and asking for a Busy Study Form. Fill out with your customers' information and fax to 1.800.494.8188 with a copy of your customers' signed Letter of Authorization (LOA).

Need a Customer Service Record (CSR) of your customers' current services with SBC?
Simply request via fax along with your customers' signed Letter of Authorization (LOA) to 1.877.778.4141

Need a new "receptionist" solution for your customer?
How about SBC Call Navigator?

- Affordable, 24 hr phone coverage
- Network based auto attendant
- Routes incoming calls
- Answers multiple calls at the same time
- Work with Centrex and Non-Centrex lines
- No equipment required
- Provides 2 levels of menus
- Personalized recordings

Just call 1.800.570.8500, option 5 or you can use our Demo Line at 1.800.821.4442

Reminders:

- When calling into place an order, please be prepared to stay on the line, so your order can be typed directly into our system. When you hang up, the rep is forced into assisting the next caller in queue.
- Also when calling in to place an order, please be prepared to identify your sales title. Agents have assigned sales codes which need to be given for compensation. Vendors and Consultants need to be identified for tracking purposes.

Helpful Websites

- Unsure what carrier or area your customers' phone lines are located? Check this helpful website:
  http://www.cctec.com/apps/npa-nxx/
  This website provides the state, phone company and switch information when you input the NPA-NXX .
- Need to determine your customers' local calling area? Simply click on this website: http://sbc.com/localcalling
- Need information on area code splits? Information is available throughout the US.
  http://frodo.bruderhof.com/areacode/npaorig.htm
- Need information on co-location? Check this website for all details.
  https://clec.sbc.com/clec/

Thanks for your business. We really appreciate it!

Toni & Wendy

Cassandra Jessie-Johnson

>SBC Highlights Across The Regions

SimpleLink℠ Plan For the West

SBC California welcomes SimpleLink plan to its family of packaging and billing solutions. SimpleLink plan is a total volume discount package targeted at small business customers (5-10 lines). In return for a term and monthly revenue commitment, the customer receives monthly discounts on certain eligible services. There are three term commitments to choose from, one, two and three year options. There will be a renewable option that allows the one year term to renew for two additional 12 months for a total of 36 months of SimpleLink savings.

SimpleLink plan targets the needs of your small business customer by providing discounts on their monthly subscribed services. We are keeping it simple by deploying the one year/one BTN verbal agreement, as we have for other offers. No fuss! Please contact your Liaison Managers to determine availability of SBC services and applications for your customers.

Packages and Promotions

SBC companies is starting the New Year off with more packages and promotions. Your business growth and prosperity are important to us. Look for information in your mailboxes on virtual packages comprised of Local and Long Distance services with SBC companies, as well as SBC Yahoo! DSL, Cingular Wireless Voice & Data, Wi-Fi (FreedomLink℠) access and SBC Messaging, at attractive total prices starting as low as $149.95 or $159.99. These $149.95 and $159.99 prices are not set flat rates, but simply the representation of the sum of the individual products and services. Prices can vary depending on exact configuration of the packages.

SBC PremierSERV℠ Dedicated Internet Access (DIA) will offer promotions in the first quarter, discounting Transport Paks. We will continue to offer substantial savings on our Centrex/Plexar/CentraLink plans as well.

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

"If Opportunity Doesn't Knock, Build A Door!"

Milton Berle

Paul Bedell

>Fun With Telecom Acronyms

VoIP – Sound of George Jetson being sucked up into that tube that he used when leaving the house. *Real meaning: Voice over Internet Protocol.*

Cat5 – New, hip nightclub in Dogtown, a residential area of St. Louis, Missouri. "Tyler, meet me at Cat5 in Dogtown". *Real meaning: One of several standards that specify "categories" of twisted pair cabling systems (wires, junctions, and connectors), in terms of the data rates that they can sustain effectively. The specifications describe the cable material as well as the types of connectors and junction blocks to be used in order to conform to a category.*

GigaMAN – Superhero dweeb. Only speaks in acronyms. *Real meaning: Gigabit Ethernet metropolitan area network.*

FOT – Exclamation of incredulity by the hoi polloi in Britain. "You FOT – how could you!!!" (Similar to "You sot!"). *Real meaning: Fiber Optic Terminal.*

MUX – New formalwear for men. Only fits "macho" chest sizes of 85 inches and above, hence the "M". *Real meaning: Multiplexer.*

GSM – Good Stuff Maynard! Popular exclamation heard in Tennessee bowling league circles. *Real meaning: Global System for Mobile communication, a worldwide standard developed by the EU for digital, wireless communications.*

3G – New version of the famous MG sports car. Only has three seats. *Real meaning: 3rd Generation wireless networks, will allow for voice, image and data transmissions from one handset.*

WAP – Sound effect from the old Batman show from the 1960s. Remember all the cool cartoonish visuals that would explode onto the screen when the dynamic duo punched The Joker? *Real meaning: Wireless Application Protocol.*

NANO – That goofy greeting that Mork From Ork used on the "Mork and Mindy" show in the late 1970s, Robin Williams' launch pad to stardom. *Real meaning: One billionth of something, usually refers to nanosecond or nanotechnology, which is the science of manufacturing based on molecular structures.*

RFID – Ready For Indigestion – Definitely. Acronym seen inside Italian restaurant chain of the same name ("RFID") – one of those places that serves individual portions that could – in reality – feed 4 people. *Real meaning: RFID (radio frequency identification) is a technology that incorporates the use of embedded electromagnetic or electrostatic devices in order to uniquely identify an object, animal, or person. RFID is coming into increasing use in industry as an alternative to the bar code. RFID is used most often as a shoplifting detection technology in many stores.*

Bluetooth – Serious dental infection that occurs only in members of the Blue Man Group. Requires silent extraction of the infected tooth, complete with mimed renditions of extreme pain (that's actually real). *Real meaning: Bluetooth is a telecommunications industry specification that describes how mobile phones, computers, and personal digital assistants (PDAs) can be easily interconnected using a short-range wireless connection.*

PDA – Pretty Darn Amazing. Frequently used by teens: "Dude, this new video coupler is PDA." *Real meaning: Personal Digital Assistant.*

Paul

Paul Bedell is Associate Director of Product Management for the SBC PremierSERV Hosted IP Service. Paul also is an Adjunct Faculty member at Chicago's DePaul University and a published author. This Spring, McGraw-Hill is publishing his latest book: "Wireless Crash Course-Second Edition."

>Barnes & Noble Launches Wi-Fi Service

Barnes & Noble, Inc., the world's largest bookseller, and SBC Communications Inc. announced that SBC FreedomLink Wi-Fi service is now available at more than 600 Barnes & Noble bookstores nationwide.

The SBC FreedomLink Wi-Fi service will allow Barnes & Noble and SBC customers to use their laptop computers and personal digital assistants to communicate online, surf the Internet and connect to corporate networks at speeds 50 to 100 times faster than a dial-up connection, all from the comfort of their local Barnes & Noble bookstore and cafe.

"We chose SBC to be our Wi-Fi partner because they provide our customers with the best user experience and value in the industry," said Chris Troia, Chief Information Officer of Barnes & Noble, Inc. "SBC has a customer-friendly pricing model and widespread coverage in major metropolitan areas."

Barnes & Noble customers can sign up for a single two-hour session for $3.95. Customers can also sign up for an annual membership with unlimited access to more than 5,000 SBC Wi-Fi hot spots, including Barnes & Noble bookstores, for $19.95 per month.

>GigaMAN® Service Enhanced For Greater Reliability

GigaMAN® service is being enhanced to provide new options for even more reliable service for mission-critical applications. Following tariff approval expected in January 2005, customers can order a fully path-protected (redundant) GigaMAN service that includes a Service Level Agreement (SLA) assuring 99.999% ("five nines") network availability.

GigaMAN service, part of SBC PremierSERV Optical Networking Solutions portfolio, is a private line point-to-point service allowing customers to connect locations across the street or across the metro area at the rate of 1 Gigabit (one billion bits) per second. Customers can extend the benefits of low cost, simple and scalable Ethernet technology across the metropolitan area to support applications including LAN interconnection, Internet access, converged multimedia communications (e.g. Voice or Video over IP), and data storage/protection solutions. GigaMAN service is a carrier grade Optical Ethernet solution, fully managed (24x7) by SBC local telecom companies.

The new features include several options that provide different levels of redundancy to the SBC network equipment and/or fiber optic cable that is used for GigaMAN service. For example, Equipment Plus Alternate Wire Center Path Protection includes redundant transponder cards in the network equipment at the customer premises, and two fiber pairs carrying customer data to the other location. One pair is connected to the normal serving Central Office, and the other pair is provisioned to a different Central Office, with both pairs ultimately connecting to the SBC equipment at the far end of the circuit (via the protection option selected at that location). Another option provides Power Protection to keep GigaMAN service operating even during a commercial power failure. Customers can select different options according to their needs at each location. At presstime, the new options were scheduled to be filed for tariff in State and Federal tariffs with approval anticipated in January 2005. Upon approval, the new options would be available in all 13 local telco of SBC's traditional serving states.

– Jim McDonagh is Associate Director of GigaMAN.

Going For The Green

Thanks to reader Ernie Grunsky for sending this photo of Champion golfers who literally put down their drivers to learn the latest on VoIP in the SBC UPDATE. *These lads are definitely "On The Ball." Gotta Photo of* UPDATE *readers? Please send it to the editor.*

SBC And Ford

SBC Companies have been selected by Ford Motor Co. to design, implement and manage Cisco technology in one of the nation's largest IP Telephony deployments with more than 50,000 users in 110 Ford facilities.

The Managed IP Telephony Services are expected to increase productivity and deliver cost savings for FORD.

This solution, based on technology from Cisco Systems, places Ford's communications networks into a single IP-based network, carrying voice, video and data.

VoIP Solutions Available For Demonstration

VoIP Solutions are available for demonstrations in the SBC Executive Briefing Centers (in California).

- Cisco AVVID (Architecture for Voice, Video & Integrated Data)
- Nortel BCM (Business Communication Manager)
- SBC PremierSERV Hosted IP Communication Services (HIPCS)

Contact your Liaison Manager to set up a demo: 1.800.552.5299

The opinions expressed in UPDATE *are not necessarily those of the SBC family of companies.*

SBC CVSG Resources For You

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

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

SBC Consultant/Vendor Sales Group

Toll-Free Hotline 1.800.552.5299 (for any other number, toll charges may apply.)

Kari Aguinaldo
CVSG Leader
415.542.4516
e-mail: kw6875@sbc.com
370 Third Street, Room 711, San Francisco 94107

Bree Nimitsilpa
Liaison Manager
415.542.1071
Fax: 415.542.2648
e-mail:bm1254@sbc.com
370 Third Street, Room 711, San Francisco 94107
Helps Consultants and Vendors in the following area codes:
209, 408, 415, 510, 559, 650, 707, 831, 916, 925

Eric Aguirre
Data Administrator
e-mail: ea3515@sbc.com

Tom David
Liaison Manager
949.855.5055
Fax: 949.348.2941
e-mail: td1898@sbc.com
27402 Camino Capistrano, Room 211, Laguna Niguel 92677
Helps Consultants and Vendors in the following area codes:
619, 714, 760, 858, 909, 949 and 951

Lowayne Shieh
Liaison Manager
626.576.3045
Fax: 626.576.5081
e-mail: ls1869@sbc.com
500 E. Main Street, Room 540, Alhambra 91801
Helps Consultants and Vendors in the following area codes:
213, 310, 323, 562, 626, 661, 805, 818

Craig MacDonald
Editor/Communications/Seminars/Conferences
714.284.2370
Fax: 714.563.1736
e-mail: cm9816@sbc.com
200 Center Street Promenade, Room 103, Anaheim 92805

Graphic Design
Jessica Becker/Sergey Chichkin
Creative Graphics & Advertising
312.727.1559 e-mail: jb6764@sbc.com

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