

UPDATE

Solutions for Success

AT&T Consultant/Vendor Sales Group

Conducting Business Online **see P. 10**

Data Mining **see P. 12**

Disaster Preparedness Tested **see P. 13**

Wireless In India **see P. 14**

US Airways Picks AT&T **see P. 19**

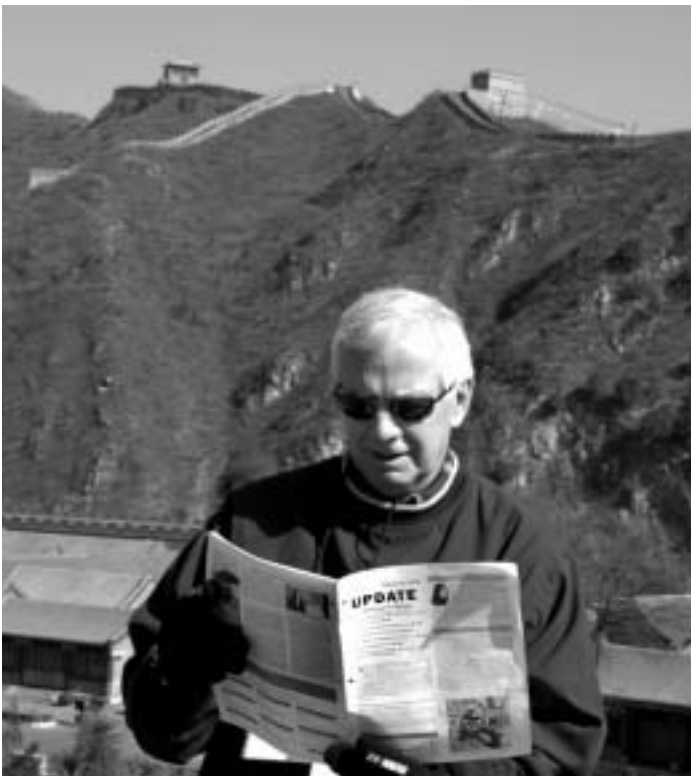
Kari's Korner



>Wonders of the World

We're living in an amazing time when it seems Telecom changes every minute and the World sometimes is a blur. In this "life rush" it's sometimes good to take a "time out" to both appreciate the past and admire the present, just like this Consultant is doing near Beijing in this great photo taken by Debbie Stock. She spotted this distinguished executive getting caught up on the latest exciting Telecom News in our AT&T UPDATE, while standing by "The Great Wall of China" –

continued on pg. 2



>Consultant Vendor Sales Group Joins Sales Operation's SPC Team



Kevin Kearney

The AT&T Consultant Vendor Sales Group is now on the Sales Operation's Strategic Planning and Communications team at AT&T West. Kevin Kearney is Sales Vice President of Sales Operations & Alliance Channels, including Alliance Solution Providers and Specialized Outreach, Competitive Intelligence, eChannel, Mandates, Compensation, Projects & Support for the President of Business Communications Services and Strategic Planning and Communications. Kearney, a summa cum laude graduate of Regis University, has extensive sales experience as an Account Executive, Agent Sales Manager, Sales Planning Manager, Sales Manager and Sales Director.

Sherri Khan, Director of Strategic Planning and Communications, oversees major sales and recognition events, the Executive Briefing Centers and other key units, including executive communications for the BCS President. Since joining the company after being a Sales Manager for Nordstrom's most successful store, the California State University-Sacramento graduate has led efforts in sales, product development and defining as well as implementing business strategies.



Sherri Khan

Data with David

The acquisition of AT&T by SBC last November caused a new combined company to create a new 2006 product portfolio. Legacy SBC PremierSERV products have been replaced by various legacy AT&T products. This article profiles AT&T Managed Internet Services which recently replaced the SBC PremierSERV Dedicated Internet Access Service, and the options the new AT&T offers to its customers for dedicated Internet access.

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Paul Bedell

>Voice DNA Service Overview

As a result of the merger in November 2005, AT&T is moving in a new direction with its hosted VoIP service. AT&T Voice DNA Service will replace SBC's PremierSERV Hosted IP Communication Service (HIPCS) going forward, as the primary hosted VoIP offering for customers.

AT&T Voice DNA is a product offering within the AT&T Dynamic Network Application portfolio. It provides a network-hosted, Session Initiation Protocol (SIP)-based communications solution.

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> Presence Of AT&T In China

China Service Portfolios

VPN Solutions

- ◆ AT&T Enhanced Virtual Private Network Services
- ◆ AT&T IP Enabled Frame Relay/Asynchronous Transfer Mode International Services
- ◆ AT&T Virtual Private Network Tunneling Services (Remote Access and IPSec Site-to-Site)
- ◆ AT&T Remote Access Services
- ◆ AT&T Business Internet Service

Connectivity Solutions

- ◆ AT&T International End-to-End Frame Relay Service
- ◆ AT&T International End-to-End Asynchronous Transfer Mode Service
- ◆ AT&T International Private Line Service (Full Channel and Bi-Lateral)

Other Solutions

- ◆ AT&T Worldwide Calling Card
- ◆ Network Integration Services

The AT&T Difference

Performance

- ◆ AT&T delivers unsurpassed application performance around the world
- ◆ Over 20 years of local experience in China with good relationships with local carriers
- ◆ Experienced in-country networking professionals with intimate local knowledge

Agility

- ◆ AT&T's commitment to Concept of OneSM delivers an unmatched foundation for your dynamic IT. AT&T's VPN is the best platform for integrating services and applications
- ◆ Partner in first Sino-foreign Telecom Joint Venture in China

Control

- ◆ AT&T gives you unparalleled control and visibility over your integrated networking environment

- ◆ AT&T BusinessDirect[®] supports more applications, more users and more transactions than any other portal

Security

- ◆ AT&T's unique framework ensures unequaled network security
- ◆ Incomparable network security expertise and range of capabilities

Local Commitment

AT&T is the first foreign telecom service operator to establish a Sino-foreign telecom services joint venture in China. UNISITI is a joint venture between AT&T, Shanghai Telecom (STC) and Shanghai Information Investments (SII). The three companies signed the official joint venture agreement on December 5, 2000 and UNISITI received permission to begin operating in March 2001. AT&T distributes its Enhanced Virtual Private network Services, VPN Tunneling Services, IPSec Site-to-Site and Remote Access Services via UNISITI. UNISITI also offers a range of services, like Enterprise Internet Service, and collocation in Shanghai.

Country Brief

AT&T China

AT&T China Co., Ltd. (wholly owned company of AT&T) since 1983; Headquartered in Beijing

Number of Nodes

59 MPLS Nodes

Number of Remote Access PoPs

- ◆ 215 Dial-up PoPs
- ◆ 1,321 Wi-Fi Hotspots

In-Country Coverage

Branch offices in Shanghai and Guangzhou

Other Facilities

1 Internet Data Center in Shanghai

Global Support

Sales and customer care support available in local language

Continued from page 1

KARI'S KORNER

truly one of the oldest and amazing "Wonders of the World." It stretches for more than 4,000 miles and actually links several earlier barriers. Different dynasties built and expanded this astonishing fortress, which was started more than 2,000 years ago, and can be seen by astronauts orbiting the Earth. Looking at this remarkable structure makes me think of how at AT&T we're so involved in "breaking down walls" that keep folks from communicating as effectively and efficiently as possible. We're doing this in China (see info left) and other places around the World. For over 125 years, AT&T and its family of companies have been connecting people in increasingly efficient ways. Now, through DSL, VoIP, wireless, video conferencing, Personal Digital Assistants, webinars... AT&T is making it possible for you to communicate better than ever before. That's why we have the AT&T Consultant Vendor Sales Group, providing you with personalized assistance, streaming news broadcasts & archives, breaking news listserver messages, seminars, special password-protected websites, plus news & feature-filled UPDATE publications and a lot more. We want you and your clients' businesses to be incredibly successful. Call us today, 1-800-552-5299.

Kari

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Kari Aguinaldo, CVSG Leader

"Always be in the moment. Never lose focus!"

Carol Channing

AT&T Coverage in China

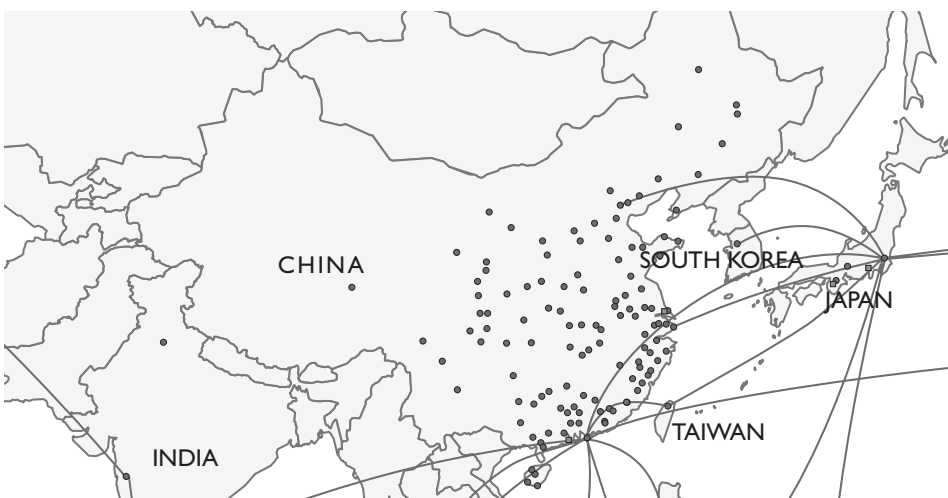


Photo by Debbie Stock

AT&T Managed Internet Service

AT&T Managed Internet Service (MIS) provides high-speed dedicated Internet access for business customers on its IP backbone network that is among the most advanced in the industry. Customers have the choice of various components, access methods, transmission speeds and options. The key to this service is that it is managed: AT&T monitors the network 24 hours a day, seven days a week, and maintains the communications link between customer locations and the AT&T network. Should a problem occur, AT&T diagnoses it and resolves it as appropriate. This affords customers the opportunity to focus their resources on running their business, not on attending to their telecommunications needs. MIS combines AT&T's world-class IP backbone and customer service to deliver the quality and performance needed to conduct business over the Internet.

AT&T MIS connects customers' Local Area Networks or applications to the Internet in two different ways. AT&T MIS with Managed Router provides a dedicated Internet access solution that is managed by AT&T "end-to-end", i.e., AT&T leases CPE to the customer and then manages it. Customers who prefer to retain control of the premises equipment and manage several elements of their IP service in-house may elect to provide their own CPE and CPE management. At a minimum, the CPE provided to AT&T MIS with Managed Router customers consists of a Router, a CSU/DSU, and a diagnostic Modem. Additional CPE components may be required or provided depending upon a customer's specific configuration.

Standard Service Features

AT&T Managed Internet Service includes the following Standard Features:

MIS Port

AT&T MIS provides customers with access to the AT&T IP Backbone at speeds ranging from 56 Kbps to 2.5 Gbps (OC48).

The access choices for AT&T MIS are:

- ◆ **Digital Private Line:** Private Line connections to the AT&T IP Backbone are available at speeds ranging 56 Kbps - 2.5 Gbps.
- ◆ **Frame Relay Service:** Frame Relay connections to the AT&T IP Backbone are available at speeds ranging 64 Kbps - 1.5 Mbps. AT&T MIS with Managed Router is not available with a non-dedicated Frame Relay port.
- ◆ **ATM Service:** AT&T MIS via ATM is currently supported in all Backbone Nodes. ATM connections to the AT&T IP Backbone are available at speeds ranging 2 - 60 Mbps.
- ◆ **Integrated Access (T1 SINA (Static Integrated Network Access) or Channelized T3):** Customers

choose Integrated Access when they want to split circuits between applications (such as voice and data) or to allocate channels to multiple AT&T Services.

- ◆ **NxT1 (N by T1):** NxT1 Access uses a combination of software and hardware components to provide greater bandwidth by automatically load balancing traffic over multiple T1 links. NxT1 Access is available for two to four T1s of capacity (3 Mbps, 4.5 Mbps and 6 Mbps). NxT1 effectively bundles individual T1 connections through the use of per-packet load balancing on the combined circuits to take advantage of the total bandwidth of the multiple circuits. With NxT1 Access, if one T1 fails, all remaining T1s continue to function normally.
- ◆ **Ethernet Access:** AT&T MIS supports the following Ethernet Access interfaces: 10-Base-T, 100-Base-T, 100-Base-Fx, 1000-Base-Sx 2.

Customer Premises Equipment Provided by AT&T*

AT&T provides (i.e., leases to the customer) CPE as a part of AT&T MIS with Managed Router service. The Customer Premises Equipment provided by AT&T includes a router, Channel Service Unit/Data Service Unit (CSU/DSU) and a diagnostic modem for out-of-band testing. All CPE supplied by AT&T is pre-configured by AT&T and includes Advanced Replacement Next Business Day (ARNBD) support.

CPE Monitoring, Management and Maintenance*

This standard feature is available only with the AT&T MIS with Managed Router service. AT&T retains full management and operational control (including passwords) of the CPE.

Packet Filtering*

This standard feature is available only with the AT&T MIS with Managed Router service. AT&T oversees the implementation and maintenance of packet filtering tables in the customer's router for added security. Packet filtering helps prevent unauthorized access to your internal network and controls authorized users' access to customer-specified Internet sites.

Primary And Secondary Domain Name System (DNS) Administration

AT&T MIS includes:

- ◆ Up to 15 primary DNS zones (15 domain names per circuit) with a maximum of 150 Kilobytes of Primary zone data
- ◆ Up to 15 secondary DNS zones with a maximum of 150 Kilobytes of Secondary zone data

The customer is responsible for all domain registration fees related to provisioning and use of domain names. Customers may choose to establish their own primary DNS,

* Standard features for MIS with Managed Router only.

in which case AT&T will provide/administer secondary DNS only, if requested. Customers can view, add, delete or update their DNS records and add new domains quickly and easily via the web.

Network Usage Reports

This comprehensive view of usage data provides customers with a valuable tool to effectively monitor and manage their Internet bandwidth use and plan for future upgrades. Network Usage Reports are accessed through a Web site using Secure Socket Layer (SSL) technology to protect customer's specific data from unauthorized users. Graphical reports are available on a daily, weekly and monthly basis. The daily graphical reports display the 15-minute inbound and outbound traffic profile (except for usage-based circuits where 5-minute traffic data is used) as well as the peak and average traffic statistics of the day. The weekly and monthly graphical reports display the inbound and outbound traffic profile as well as the peak and average traffic statistics for the corresponding time-frame.

Service Level Agreements

For AT&T Managed Internet Service and AT&T Global Managed Internet Service (the SLAs differ depending on the country and region) the following Service Level Agreements: On-Time Provisioning, Site Availability/Time to Restore, VoIP on MIS Site Availability, MIS Latency, MIS Data Delivery, MIS VoIP Call Quality, and MIS Jitter.

Billing Methods

Customers have the choice of flat rate or usage-based billing. The pricing for the usage-based billing is based upon sustained bandwidth usage, which is determined on a monthly basis.

Implementation Support

Customers have on-line access to the MIS Implementation Planner providing detailed information about the installation and use of MIS. Customers are charged a service activation fee which includes the technical interview with the AT&T Provisioning Technical Engineer, access line coordination, DNS registration and service testing. This also includes equipment configuration for the AT&T MIS with Managed Router customers. AT&T will also coordinate access circuit provisioning and cooperative testing.

Network Operations Services

AT&T offers the following network operations services: Network Monitoring, Network Care and Maintenance, and Customer Premises Equipment Monitoring, Maintenance and Management.

Technical Services and Support

AT&T MIS includes the following technical support services essential for optimal use

of the service: Software and Configuration Support, 24-Hour Hotline, Trouble Ticket System, Fault Isolation and Problem Resolution and Security Procedures.

Interactive Advantage/E-Servicing

The following electronic servicing capabilities are available for the AT&T MIS customers through BusinessDirect. They include: Customer Care Website, Online Bill Inquiry System, DNS Provisioning Tool, Online Network Usage Reports, and Voice over IP Web Site.

AT&T IP Backbone

AT&T MIS is based on AT&T's IP backbone and the AT&T core network, one of the most reliable networks in the industry. The AT&T IP backbone is designed and engineered to attain the high levels of reliability and performance.

AT&T MIS Options

Customers are free to customize their MIS solutions to meet their individual needs by choosing from AT&T's comprehensive service options.

Local Access Combination Option

Under the Local Access Combination Option, AT&T provides the Local Channel access and the MIS Port as bundled Service Components, which are ordered, provisioned and billed together.

Class Of Service Option

The Class of Service (CoS) option allows customers to prioritize their traffic based upon the type of traffic or application and performance requirements. Without this option, AT&T MIS treats all types of traffic customer sends/receives equally without the ability to prioritize it.

There are four Classes of Service (CoS) available: real-time, high-grade data, medium-grade data and low-grade data classes for critical, business and standard data applications. Each CoS has a specific amount of bandwidth allocation so that all classes can transmit data during congestion. However, if any class does not use its entire bandwidth allocation, packets of other classes can share the unused bandwidth. You may select from a number of "profiles" that have predetermined bandwidth allocations for each CoS.

The CoS feature is available for use with both MIS (with customer provided router) and MIS with Managed Router at sites with local channel access (Full DS-1 or Full/Fractional DS-3 or OC-3). The CoS feature is not available for MIS Access Redundancy Options or VOIP on MIS.

(Please see the February 2006 *Update* for a more detailed description of CoS)

Additional DNS Option

Customers who take advantage of the primary and secondary DNS administration feature of AT&T MIS may need more than the standard 15 primary DNS zones/150 Kilobytes of primary zone data or more than the standard 15 secondary DNS zones/150 Kilobytes of secondary zone data. This option supports administration of up to 15 additional DNS zones with a maximum of 150 Kilobytes of zone file data. Customers may select either primary DNS or secondary DNS, but they cannot combine the two. If the customer requires both additional primary DNS and additional secondary DNS, they must purchase multiple DNS options.

Alternate Backbone Node Option

This option allows a customer to request the AT&T IP Backbone Node where their MIS connection will terminate. Typically, the MIS connection terminates on the Backbone Node closest to their site. For any individual location, the selection of an Alternate Backbone Node may involve a number of considerations. Customers need to be aware that distance plays a factor in cost, i.e. the further away their Backbone Node selection is from the Node they would normally be homed or served, the higher the price that might be incurred for backhauling.

CPE Redundant Configuration Option

CPE Redundancy Option provides a "Cold Standby" CPE configuration. The Cold Standby provides a customer with a fully configured and tested AT&T MIS CPE router and CSU/DSU housed on their premises. If the router and/or CSU/DSU fail, their central point of contact replaces the non-working CPE. AT&T Customer Care provides customer assistance during the CPE changeover. This option is available only to MIS with Managed Router customers.

AT&T MIS In Non-Traditional Space Option

A Non-Traditional Space (NTS) is a location that is not owned or managed by AT&T, such as non-AT&T data centers. Customer's equipment may be located in their own dedicated cage, or there may be common space and shared racks that multiple customers can utilize. Customers are responsible for ordering the cross-connection in the co-location center from their router to the AT&T access router, and paying all associated fees charged by the co-location center.

Network Co-Location (NCS) Option

AT&T MIS with NCS provides customers a physical presence within an AT&T Central Office (CO) and a direct connection to the AT&T IP Backbone. AT&T provides a pre-installed rack with power supply in AT&T's CO building. The customer would provide and maintain the router, cabling and other equipment necessary to maintain the service.

MIS With Voice Over IP Option

AT&T Managed Internet Service with Voice over IP (VoIP on MIS) lets customers use their MIS data access connection for voice and fax. VoIP uses idle bandwidth on a MIS connection to deliver cheaper outbound voice calls to anywhere in the world. Voice calls are converted to IP packets and transported over the AT&T IP Backbone.

MPLS Private Network Transport Service (MPLS PNT) Option

Multiprotocol Label Switching (MPLS) Private Network Transport (PNT) is a network-based IP VPN solution based on MPLS. It is implemented based on IETF RFC 2547, an IP VPN technology which separates VPN traffic from all other traffic by provisioning separate routing tables in network edge routers. MPLS PNT customers are assigned a unique VPN ID (label) during provisioning, which is added to their data packets as they enter the AT&T IP backbone. These labels are removed as the data packets reach their destination so that the customer's router may read the data.

MPLS PNT is available in two models:

- ◆ **MPLS PNT IP Transport:** In this model, Customer Edge (CE) routers (customer routers) connect to AT&T Provider Edge (PE) MPLS enabled routers, and the MPLS label stacking starts at the PE router. MPLS is not running on the local access circuit, and local access circuits with MPLS PNT are always dedicated and never shared. Class of Service (CoS) can be implemented on customer access and egress links, allowing a customer to prioritize their traffic based upon the type of traffic or application and their performance requirements. Without CoS option, MPLS PNT treats all types of traffic send/receive as the same. There are four Classes of Service (CoS) are available: One for Real-time and three Data Classes (critical, business and standard data applications).
- ◆ **MPLS Label Transport:** In this model, Customer Edge (CE) routers (customer routers) connect to the AT&T MPLS-based network which enables Provider Edge (PE) routers (access routers). But, the CE routers and PE routers are configured for IP static routing and Label Distribution Protocol (LDP) to allow the exchange of MPLS labels between AT&T and the customer. Therefore, the MPLS label stacking starts at the customer's router.

MIS Access Redundancy Options (MARO)

AT&T MIS Access Redundancy Options optimize the performance of multiple dedicated Internet circuits. Three options are available:

- ◆ **Backbone Node Redundancy:** With Backbone Node Redundancy a group of circuits terminate on one or two different Customer

Routers and two different Access Routers located within two geographically separate AT&T IP Backbone Nodes.

- ◆ **Access Router Redundancy:** With Access Router Redundancy a group of circuits terminate on one or two different Customer Routers (CR), and two different Access Routers (AR) within the same AT&T IP Backbone Node.
- ◆ **Automatic Load Balancing:** With Automatic Load Balancing, a group of circuits terminate on one or two Customer Router(s) and a single Access Router for the purpose of balancing the traffic across the circuits.

AT&T Security Service Options

AT&T IP Security Services are customized by the customer base on customer's security needs for IP networking. AT&T security technicians and analysts respond to security incidents based on a predetermined security policy designed by the customer. Options include:

- ◆ AT&T Managed Firewall Service – Server Based on your premises
- ◆ AT&T Managed Firewall Service – Router Based
- ◆ AT&T Managed Firewall Service – Premise Based Cisco PIX® option
- ◆ AT&T Managed Intrusion Detection Service
- ◆ AT&T Network Scanning Service

AVTS SOHO With MIS Feature

The AVTS (AT&T Virtual Tunneling Service) Site-to-Site – SOHO (Small Office Home Office) provides a low cost, high value service for customers needing an inexpensive, effective VPN infrastructure in order to manage their business-to-business communications. The Service can also include bundled AT&T xDSL or AT&T MIS connectivity in combination with the SOHO device.

The Value Proposition

AT&T Managed Internet Service provides managed dedicated access to the Internet for business customers. MIS customers enjoy reliable connectivity with the reach and flexibility that they desire. With AT&T MIS, customers receive world-class customer support and outstanding network performance and reliability.

MIS runs over the superior AT&T IP Backbone. Designed for speed and reliability, the AT&T IP Backbone includes alternate routes between nodes, redundant routers and emergency backup power supplies. Because AT&T owns and controls its entire IP network, core network and facilities, we can ensure high reliability and quality performance, and back it up with strong performance Service Level Agreements.

In summary, AT&T MIS Service provides:

- ◆ One-stop shop for Internet service and access
- ◆ One bill and one contract!
- ◆ No hidden start-up or usage charges.
- ◆ If contracted for, AT&T coordinates the installation and manages the service end-to-end.
- ◆ Global Reach in over 50 countries
- ◆ Dedicated, Reliable Internet Access – target availability of 99.999%
- ◆ Managed Internet Connectivity – 24 x 7 monitoring, care and support
- ◆ In-Country and/or In-Region Support
- ◆ Flexible Billing Options, traditional flat rate or usage based billing to provide added flexibility for customers with bursty data traffic profiles

Tom

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"Your own resolution to succeed is more important than any one thing."

Abe Lincoln

> AT&T, Cingular Wireless And Yahoo! Launch AT&T Yahoo! Go Mobile Phone

AT&T Inc., Cingular Wireless and Yahoo! Inc. recently announced the availability of AT&T Yahoo! Go Mobile, the first-of-its-kind integrated service that gives consumers real-time access to their favorite AT&T Yahoo! Internet customized online content, services and community on a wireless phone.

AT&T is now offering the AT&T Yahoo! Go Mobile service on the Nokia 6682 handset from Cingular within the AT&T traditional 13-state service area. The service was initially announced at the Consumer Electronics Show (CES) in early January and is only now available for consumers to purchase pre-loaded on handsets.

The AT&T Yahoo! Go Mobile service is the first time that AT&T Yahoo! Internet subscribers will be able to seamlessly access, in a single mobile application, a comprehensive set of their personalized AT&T Yahoo! services, including Mail, Photos, Address Book, Calendar, Messenger and Web, Image and Local search, as well as customized news, weather and sports.

The AT&T Yahoo! communications services are also connected to the built-in e-mail,

messaging, address book and calendar applications on the mobile phone, giving consumers one reliable source for the information they find most vital. For example, if a user loses his mobile device, his saved contact information will still be available to him on the Web and easily synched with a new mobile device.

For AT&T, this new application supports an initiative by the company to integrate AT&T services and content across the three screens that many consumers value most today: the PC, the cell phone and the TV. For Yahoo!, this new service is part of a suite of innovative applications designed to extend the reach of Yahoo!'s services beyond the browser.

"We're helping our customers enjoy the digital lifestyle by giving them virtually anywhere, anytime access to their already personalized and customized Web-based communications and entertainment services," said Scott Helbing, chief marketing officer, AT&T Consumer Markets. "We're blurring the lines between the PC and the wireless phone so that consumers can stay in touch, check e-mail, get updates on news and weather – minute to minute, day by day – regardless of where they are or what screen they are watching."

"Consumers want to connect to their favorite Web services on their mobile devices, and AT&T Yahoo! Go Mobile makes it easy," said Marco Boerries, senior vice president, Connected Life, Yahoo!. "We have created a service unmatched in the mobile marketplace and are excited to give consumers a single way to simply connect to all of their information and content while on the go."

AT&T is selling the cutting-edge Nokia 6682 handset through its sales channels for \$199.99 after a \$50 Nokia mail-in rebate (does not include sales tax and shipping costs) with a new two-year Cingular service plan. The AT&T Yahoo! Go Mobile application is pre-loaded on the handsets at no additional cost. Cingular's standard wireless data usage charges apply, and Cingular Wireless voice service and data plans are sold separately.

In addition to the integration capabilities of the AT&T Yahoo! Go Mobile service, the Nokia 6682 handset is loaded with advanced hardware features, such as an internal MP3 player, data storage with removable media and a digital voice recorder.

To learn more about AT&T Yahoo! Go Mobile and to check availability, please visit www.att.com/gomobile or go.yahoo.com.

Voice DNA leverages AT&T provided access, converging voice and data applications over one connection, to provide customers with carrier-class features such as:

- ◆ Primary local calling features (N11, 8YY, PSTN off-net terminations)
- ◆ Line-side features such as call hold, call waiting, conferencing, etc.
- ◆ Advanced features such as “Locate Me”, on-demand audio conferencing, and call routing for contact centers

Voice DNA is provided via a network Application Server (AS) platform that serves as a virtual, hosted IP PBX, providing line-side features on top of carrier-class local services and features. All Voice DNA-originated calls access the Voice DNA (AS) for call setup, and determination of customer calling features. Voice DNA also provides the following capabilities:

- ◆ A web-based Administrator Tool (portal) for centralized management of the Voice DNA Service
- ◆ A Personal Web Site (portal) for end user service management (features and function programming)
- ◆ Support of add-on ‘a la carte’ features
- ◆ IP phone automated registration
- ◆ Operations, Administrative and Maintenance functions

Voice DNA eliminates the need for a PBX or IP PBX on the customer’s premises. Delivering consistent feature/functionality that is available at customer’s headquarters locations to remote sites has traditionally been a challenge for multi-location businesses. However, since Voice DNA is a network-based service, access for remote offices is easily achieved, with a variety of access types supported.

When multiple sites are installed for one customer, Voice DNA service requires that the “hub” site must utilize one of the AT&T managed IP services. The service currently supports:

- ◆ AT&T (VoIP on) Managed Internet Service.*
- ◆ AT&T MPLS Private Network Transport Service (MPLS PNT).*
- ◆ AT&T or Third (3rd) party broadband access.** This service will be available with Enterprise Remote Worker Service with the Voice DNA platform, which is scheduled for launch in May 2006.
- ◆ Options:
 - Customer and AT&T managed Firewalls
 - Customer and AT&T managed gateway routers
 - Network Address Translation(NAT)

Service Description

Voice DNA offers:

- ◆ Feature Packages
- ◆ Rich a la Carte menu of items
- ◆ Various Transport/Access options – Dedicated IP access (MIS, MPLS PNT) and Broadband Access (AT&T or Third party). NOTE: Third-party broadband access option is targeted for availability in 2Q06.
- ◆ The AT&T BusinessDirectSM web portal provides access to the Administrator Tool, Personal Web Site, Reports, eBill, eOrder, eMaintenance, and eServicing.
- ◆ Procurement of IP Phones and other CPE devices via AT&T’s CPE resale program <http://solutions.web.att.com/acsteam>

* Voice DNA customers must subscribe to at least one IP Flexible Reach calling plan per site to support local and any reach calling. Currently supported plans are Plan B-Local Intensive or Plan C-All Distance.

** This service will be available with Enterprise Remote Worker Service with the Voice DNA platform.

- ◆ Professional services including Design & Implementation, LAN Management and CPE Installation.

Other Aspects Of Voice DNA Service

Voice Mail

AT&T provides a Voice DNA integrated voice messaging platform.

CPE Choices

Customers have the option to choose from different types of CPE including: IP Phones from selected vendors, and terminal adaptors/Integrated Access Devices (IADs) to support customers existing analog phones and fax machines.

Equipment Installation

Customers have the option to have AT&T install equipment down to the IP handset using AT&T Network Integration Services.

Voice DNA Feature Packages Overview

AT&T Voice DNA Service offers three feature packages and several a la carte items. The following table summarizes the packages and a la carte items (subject to change based on availability for Controlled Introduction/General Availability (CI/GA).

NOTE: Feature availability is also dependent upon the model and type of IP phone/handset selected by the customer.

Feature Packages

There are three feature packages available which provide increasing levels of functionality.

All three packages include access to AT&T’s BusinessDirectSM Portal, which provides access to the Administrator Tool (portal). The Enhanced and Premium packages also provide access to a Personal Web Site for each

Voice DNA Feature Packages (All Packages include BusinessDirect Portal and Administrator Tool).

Standard (No Personal Web Site)	Enhanced (With Personal Web Site)	Premium (With Personal Web Site)	A la Carte Features
Anonymous Call Rejection, Call Waiting, Caller ID Presentation, Caller Name and Number Presentation, Call Hold, Call Transfer – Blind, Call Transfer – Consultative, External Transfer, Last Number Redial, DID (Direct Inward Dialing), DOD (Direct Outward), Fax machines utilizing T.38 Fax protocol, Three-way Conferencing, Call Restriction, Station to Station Dialing	<p>What’s offered in the standard feature package PLUS:</p> <p>Personal web site features: Click to Call, Call Logs, Missed Call Notification, Locate Me, Call Forward – Busy, Call Forward – No Answer, Call Forward – Variable, Call Treatments, Caller Categories (Groups), Simultaneous Ring, No Answer Ring Timers, Selective Call Forwarding, Selective Call Rejection from callers in specific call categories, Selective Call Acceptance, Call Forging, Speed Dialing Corporate, Speed Dialing Personal (Favorites), Directory/Contacts, Alternate Name Search, My Profile</p> <p>Phone Features: Bridged Line Appearance, Multiple Line Appearances – single extension, Multiple Line Appearances – multiple extensions, Call Forwarding – Unconditional, Call Park, Call Pick-up, Call Pickup – Directed, Call Pickup – Group, Click to Call LCD, Distinctive Ringing, Intercom Calling, Do Not Disturb Last Call Return</p> <p>Common Capabilities: Billing (Account) Codes – Mandatory, Billing (Account) Codes – Optional, Call Groups, Hunt Groups</p>	<p>What’s offered in the enhanced feature package PLUS: Outlook Integration, Voicemail (with Unified Messaging and Message waiting light), Switch Phone</p>	<p>(Available with Enhanced and Premium Packages) Audio conferencing (up to 10 users) Per Seat: Attendant Console Scheduled 3Q06 Call Distribution Module</p>

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end user, for purposes of managing their service features.

1. Standard Feature Package

Low-cost minimal functionality for basic use such as lobby or conference room lines. Also includes an Administrator Tool.

2. Enhanced Feature Package

Includes what's offered with the Standard Feature Package, plus the Administrator Tool and Personal Web Site. The Enhanced package also offers features such as "Locate Me" (aka "Find Me/Follow Me") with simultaneous ring, and Call Forking (ability to ring two phones at the same time).

3. Premium Feature Package

Includes what's offered with the Enhanced Feature Package, plus the Administrator Tool, Personal Web Site, Outlook Integration, Voicemail and Switch Phone (ability to switch a call from one phone to another mid-call by entering a command through the End User Web Portal).

A la Carte Features – Options for Enhanced Or Premium Packages

- ◆ Audio Conferencing. On-demand (click-to-conference) conference calls for up to 10 participants via web portal, and up to 3 participants via phone.
- ◆ Call Distribution Module Call Distribution provides a mini ACD (Automated Call Distribution) function where callers are queued for answering by representatives who enter and exit the group on their own. For example, Call Distribution can be used for a customer support group, agents taking reservations, or agents making appointments. For customer service, customers with support contracts can be given a specific support number, which is the call distribution telephone number. Customer support representatives can then check themselves in or out of the Call Distribution call answering group.

Up to 100 Call Distribution queues can be configured that can have up to 200 representatives at any given time.

Administrator And Personal Web-Based Tools

Accessed via the award-winning AT&T BusinessDirectSM portal, AT&T Voice DNA provides customers with a web-based Administrator Tool (portal) offering centralized management and administration of their Voice DNA Service, and a Personal Web Site used by the enterprises' end-user. The Personal Web Site allows employees to manage their calls and feature settings.

Administrator Tool

A single customer login to the Administrator Tool is created when Voice DNA service is established. From the Tool, the customer's assigned Administrator can:

- ◆ Create Group Administrators

- ◆ Add/modify/delete end users
- ◆ Assign SIP phone Media Access Control (MAC) address to end-users
- ◆ Assign extensions and Voice DNA feature packages
- ◆ Enable/Disable individual features within the package for a given user
- ◆ Add contacts
- ◆ Create call and/or hunt groups
- ◆ Create Billing Codes for organizations, directorates, call or hunt groups
- ◆ View service level reports
- ◆ Pull usage reports
- ◆ Control feature settings such as limiting the type and/or group of employees with access to 8YY/9YY dialing

Personal Web Site

End users with the Enhanced or Premium feature (station) packages have access to a Personal Web Site. Each user is assigned a login and password, created by the administrator during end point extension/number assignment.

From the portal, end users have the ability to:

- ◆ View their call logs (missed, incoming, received and placed calls)
- ◆ Access company and personal contact information
- ◆ Establish their contact numbers (e.g., "Locate Me" numbers)
- ◆ Enable/disable features and settings such as "forward all calls to voicemail"
- ◆ Forward voicemail messages via e-mail
- ◆ Listen to voicemail messages from the web site

Design/Implementation Support

Standard Design And Implementation Support

Voice DNA Service includes AT&T management up to the router on the customer premises. The LAN (Local Area Network)

Voice DNA Reach. Phase 1: 100 MSAs.



elements, firewall (if not ordered from AT&T as part of the Managed Security Services), switches, IP phones, and other equipment beyond the router are the responsibility of the customer.

AT&T works closely with the customer to design and install the Voice DNA solution.

1. An AT&T network design team is assigned to:

- ◆ Review the protocols, applications and interfaces to ensure that they can be supported
- ◆ Provide assessment(s) for the following:
 - Premises equipment
 - Required bandwidth to access the AT&T IP network

2. Installation – once the network is designed, AT&T assigns an installation coordinator and provides end-to-end service implementation, including the following:

- ◆ Coordination with local exchange carriers for ordering, installation and testing of access circuits to AT&T access points
- ◆ Configuration of AT&T-provided hardware and software
- ◆ Router ordering, configuration, software loading, staging and testing
- ◆ Configuration of backbone switches
- ◆ Registration of information and network topology in the AT&T Global Network Services database
- ◆ Extensive end-to-end and acceptance testing prior to service activation
- ◆ Dial plan implementation
- ◆ Assistance with post-turnup moves, adds and changes to the customer's network configuration.

Optional Design And Implementation Support

AT&T can also provide customers with design, CPE (Customer Premise Equipment) procurement and converged networking implementation support through AT&T's Network Integration Services (NIS), and AT&T

Connectivity Solutions (ACS) to create a comprehensive AT&T solution. AT&T Professional Services provides:

- ◆ Purchase of customer premise equipment
- ◆ LAN assessment
- ◆ Architecture, design and implementation
- ◆ Site Survey
- ◆ Administrator Support
- ◆ Training option

Service Availability

Voice DNA leverages the IP “Flexible Reach” footprint to support local and any distance calling. Customers must subscribe to at least one IP Flexible Reach calling plan per site. Current supported plans are Plan B (Local Intensive) or Plan C (Local and US Long Distance Package). The map below provides an overview of Phase One coverage.

Technical Overview

Voice DNA service is an integrated solution that leverages the AT&T MPLS IP Network and the AT&T Voice over Internet Protocol (VoIP) infrastructure. This infrastructure includes a network-based Sessions Initiation Protocol (SIP) telephony platform and a hosted IP Centrex application server that offers a full suite of management services and tools. These services and tools work in conjunction with an IP Flexible Reach calling plan (inclusive of local, US long distance and international) to present a complete customer solution. (See page 9 for more detailed description.)

AT&T Voice DNA service leverages AT&T’s VoIP Infrastructure, including a Call Control Element (CCE), a Border Element (BE) connection to the AT&T IP Backbone – an IP MPLS-based network and the related inherent security standard.

AT&T’s VoIP architecture is based upon open standard protocols to facilitate a multi-vendor

Voice DNA

environment. It is designed to support both existing and future services as they are developed and deployed.

The key elements include:

- ◆ A Single IP/ MPLS network with Quality of Service and Class of Service controls
- ◆ An open standards architecture leveraging SIP (sessions initiation protocol)
- ◆ A Call Control Element, which manages all signaling
- ◆ Border Elements that “translate” multiple protocols into SIP
- ◆ Agnostic access that supports a variety of endpoints and PSTN connectivity
- ◆ Security controls that preserve integrity, availability and confidentiality of all signaling and bearer traffic
- ◆ Flexibility to support emerging applications

Physical Architecture And Service Elements

The primary Voice DNA platform elements are:

- ◆ Voice DNA (Application and Media) Servers
- ◆ Business Features (e.g., call-hold, call-pickup, call-park, call-waiting, call-forward, billing, many others)
- ◆ Carrier Services (e.g., Local Number Portability, routing and others)
- ◆ Call Distribution features (e.g., call classification/clearing/mapping, call origin display, call prioritization/queuing, music-on-queue, automatic overflow,/ etc.)
- ◆ IP Conferencing with up to 10 participants (Impromptu)

AT&T Voice DNA with VoIP on MIS or MPLS PNT provides the customer with a Managed Customer Premises router. This customer premises router performs the necessary class of service markings and queuing capability compliant to the Converged Class of Service Project. In the Voice DNA offer, the CE connects directly to the LAN that hosts the IP phones.

Voice DNA supports the following SIP and SIP B telephones:

1. Cisco 7905G
2. Cisco 7960G
3. Polycom 301
4. Polycom 600
5. Cisco VG 224 Integrated Access Device

Voice DNA supports the following CODECs:

1. G.711 – Conferencing Only
2. G.729a – Fax and Voice Calls

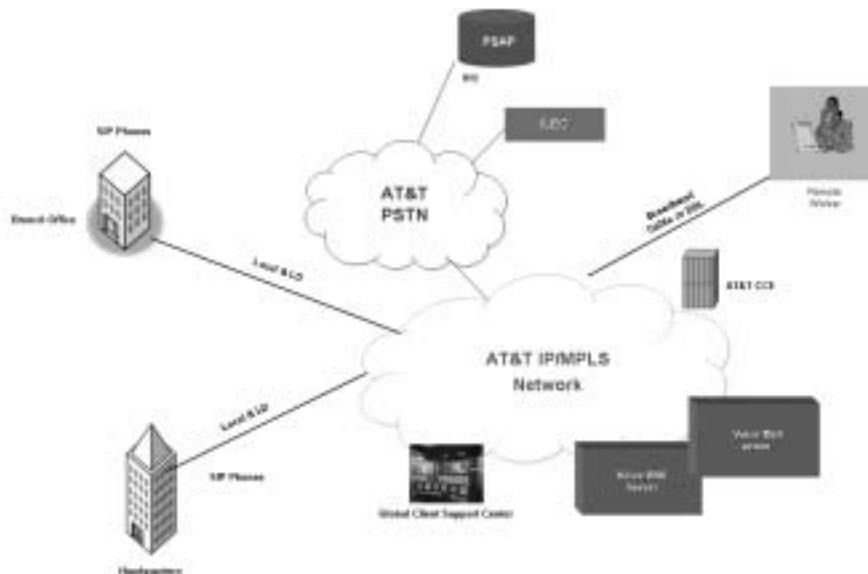
E-911 Mandate

There are some critical differences between E911 services using AT&T Voice DNA services (Voice over IP) and 911 using traditional phone services. Inaccurate or incomplete data of the caller’s location will not allow the E911 system to pinpoint the exact location of the user, and has the potential to foil an emergency rescue and put the caller’s life at risk. The FCC has issued an order which requires service providers to implement a solution that will be able to pinpoint the exact location of the user. In addition, the provider must notify customers about 911 services over the IP network and obtain customer acknowledgement of receipt of this information. These services will be made available once AT&T has implemented the solution required to meet this mandate.

Paul



Paul Bedell is Associate Director, Product Marketing (Offer Management) for the AT&T Voice DNA Service. He is also an Adjunct Faculty member at Chicago’s DePaul University and a published author. Paul was selected as DePaul’s “Adjunct Faculty of the Year” for 2005 in the School of Computer Science, Telecom and Information Systems.



General RV Motors Ahead With AT&T High-Speed Network

AT&T Inc. recently announced that it has successfully implemented an Internet Protocol Virtual Private Network for General RV Center, one of the largest-volume recreational vehicle dealers in the country. General RV needed a consolidated network for voice and data that could prioritize different types of data in order to enable technologies such as Voice over Internet Protocol (VoIP). The AT&T VPN incorporates the latest Multi-Protocol Label Switching (MPLS) technology and integrates General RV’s seven domestic locations. The network enables each site to connect directly to all the other sites rather than having to connect through headquarters, thereby improving network performance.



>IP Flexible Reach Service Overview

Efficiency and productivity are key drivers in the VoIP arena. Expense reduction, whether from a networking or operational perspective, is front and center for

every business size from Enterprise to the SMB space. Over the last five years, AT&T has built a robust portfolio of VoIP products that address local, long distance, and international voice calling and, when converged with data applications, are carried over AT&T's nationwide MPLS IP backbone. Business user features can be either Hosted (Voice DNA) or Customer Premises-based (digital TDM or IP PBX) solutions.

AT&T VoIP network access is provided using MIS (Managed Internet Service) or MPLS PNT (Private Network Transport) service and includes an AT&T managed router at the customer's location, or the customer can provide and manage their own router. When a site is VoIP-enabled, the TDM or IP PBX is connected to the router and calls are transported over the MIS/PNT circuit to the Global AT&T MPLS Network. The network infrastructure – including Call Control Elements (CCE), Border Elements, Routing Engines, and Application Servers – manages the VoIP calling activities. VoIP calls are routed to another VoIP customer site (on-net) or one of several AT&T Network Gateway Border Elements, to provide network-based hop-on and hop-off onto the PSTN (off-net calling). The routing of the VoIP calls to an on-net or off-net destination occurs the same way, without regard to whether the customer is using the hosted solution or the premises-based solution. Using hosted Voice DNA, both the calling plans (IP Flexible Reach) and the IP telephony feature package options are integrated into a single solution.

The glue in this portfolio is called IP Flexible Reach. This provides the elements necessary to voice-enable a customer's IP service. It consists of three calling plans, two of which also provide local telephone numbers. IP Flexible Reach service supports voice traffic that is converted to IP data packets, allowing customers to use their MIS or MPLS PNT connection for data, voice and fax traffic. Flexible Reach calling plans are labeled simply A, B and C, with Plan A providing long distance call completion only, and Plans B and C providing both call completion and local telephone numbers and service. Customers choose the calling capacity they require in units of concurrent (simultaneous) calls, which is similar to the trunking requirements in a TDM solution. Concurrent calls are engineered using

standard voice traffic tools, or by using the customer's existing voice channel capacity. IP Flexible Reach service provides a flexible solution for any customer, large or small.

Standard IP Flexible Reach pricing/billing elements include, but are not limited to:

- ◆ Per-Site Non-Recurring charge – \$250.00
- ◆ Monthly Recurring Charges for Calling Plans A, B and C based on number of concurrent calls (Calling Plan A is not available with the Voice DNA option)
- ◆ VoIP telephone numbers – \$.30 each (Plans B and C only)
- ◆ Off-net usage charges – \$.025 per minute (US) and individual per minute rates for international calls
- ◆ VoIP Module Card (if connecting with TDM PBX) based on number of concurrent calls

AT&T Certified IP PBX systems are:

- ◆ Cisco Call Manager (CCM)
- ◆ Avaya MultiVantage and IP Office
- ◆ Any TDM PBX that supports PRI/CAS interfaces can be used with Flexible Reach.

IP Flexible Reach also supports the AT&T Hosted IP telephony Feature Package options (Voice DNA), which makes the IP Flexible Reach service a complete IP Telephony communications solution.

IP Flexible Reach is designed to function much the same as traditional telephone service, but there are differences when it comes to 911 service in comparison to traditional local exchange service. Specifically, Calling Plan A, (U.S. long distance) does not support 911 calls since local calling and local telephone numbers are not provided. Traditional POTS/PSTN access lines are required at each location where Calling Plan A is used, as a means to reach 911 operators and to make and receive local calls. Calling Plans B and C support local calling, but E911 is only supported for calls made from a registered location within the Flexible Reach/Voice DNA footprint.

For more information, please go to <http://www.att.com>, Products and Services, then Voice over IP then Voice DNA.

Mary Ann Gillespie is Associate Director of Offer Management for the new AT&T. She works on IP Flexible Reach Service and the legacy Hosted IP Communications Service.

AT&T To Work On Defense Contract

AT&T Government Solutions has been selected to assist Northrop Grumman Mission Systems with a contract to build a modern, IP-based system to handle voice and video conferencing for the Defense Information Systems Agency (DISA). The value of the contract could reach \$51 million. DISA's Defense Information Systems Network Video Services II (DVS II) will allow U.S. military commanders to quickly and

>AT&T Announces New Five-Year Contract With Premier Community Credit Union

AT&T Inc. recently announced a new contract with Premier Community Credit Union, a Stockton, California-based provider of premium financial services.

Under the terms of the contract, AT&T will provide Network-based Virtual Private Network services, using Multi-Protocol Label Switching technology, and will support services to provide increased bandwidth and full maintenance support to Premier Community Credit Union's six branch locations.

These services will improve network continuity and support advanced applications, resulting in overall improvements to customer service. Additionally, these services will provide increased security and network redundancy, affording Premier Community Credit Union a secure environment for data transactions across its network.

"We were in search of a dependable provider to upgrade our bandwidth and improve security within our voice and data network," said Jeanine Morse, executive vice president and chief operating officer, Premier Community Credit Union. "We are certain that the solutions provided by AT&T will improve our quality of service and secure our voice and data environment."

"Credit unions want and need an affordable, secure and reliable means of meeting members' increasing demand for sophisticated financial services," said Robin MacGillivray, President – Business Communications Services, AT&T. "Premier Community's motto, 'We're here for you,' is a reflection of their commitment to meeting those demands. We're pleased that they've chosen AT&T as their primary voice and data services provider. Our solution will enable them to offer reliable and enhanced services with the increased security they need and with the peace of mind they can pass on to their members."

Premier Community Credit Union is a provider of premium financial services to its membership, anyone who lives or works in San Joaquin County. Additional information about Premier Community Credit Union is available at <http://www.premierccu.org>.

easily set up secure, high-speed audio and video conference calls across continents.

AT&T is the incumbent on the current DISA Video Services – Global (DVS-G) contract, which provides video bridging services to all military communities. Originally procured to handle administrative communications, DVS-G has evolved into an effective command and control network comprising six video bridging hubs that provide secure, 24-hour-a-day communications to 4,000 sites worldwide.



>Conducting Business Online

Executive Summary

This article discusses some of the ways to do business online, on a personal computer, from a risk vs. benefit point of view. It shows how risks go down and benefits increase by doing things online that were previously done by mail or over the phone.

Introduction

I enjoy doing business online, especially like banking and filing my taxes on my PC. I make purchases, and book travel online. Some people are still hesitant to type a credit card or bank account PIN into a computer. It's outside their comfort zone, and they are suspicious that it isn't safe with all those hackers and viruses lurking about in cyberspace.

Personally I think there's overall less risk and an awful lot of advantages to doing things online. I feel more confident in the security of an online transaction than I do writing a check and mailing it. The truth is that unless you are dealing with currency, most of your transactions are online, even when they begin by physically handing a credit card to a clerk.

Basic Assumptions

This article assumes that you keep your computer(s) up to date with the latest security patches and that you can be reasonably confident that you are virus and spyware free. It also assumes that when you conduct business wirelessly you use a secure network that encrypts communication. Computers with security vulnerabilities or attached to insecure networks are the wrong tools for conducting business.

My computers are patched, my anti-virus and anti-spyware software are up to date. My wireless router uses strong encryption with a long, randomly generated key. I can feel confident in the overall security of my online transactions.

Security

This column is always about information security, so let's deal with that first. There is no such thing as total security; there are always trade-offs and compromises. Typing your credit card number, bank number and PIN or your social security number into a form on a website has some risk. Someone could look over your shoulder; you could have spyware on your computer that tracks this information and sends it to a hostile person on the Internet; there's always the possibility that someone can crack the encryption on the network or exploit a new vulnerability. Yes, there are risks, but there are risks in carrying a lot of cash around too.

In general you are as safe or safer doing financial transactions over the Internet as opposed to face to face or by mail. The risks you face in online business are not from the transaction itself, but from the ways businesses and institutions safeguard or fail to safeguard your information once the transaction is complete. Those risks are the same no matter how you perform the transaction. If you walk into a store and use a credit card or call a toll free number to order a gift, the transaction is recorded electronically.

Typing your credit card number into the web page of a legitimate retailer, bank or government agency doesn't expose you to extraordinary risks. And, in some cases, conducting some business online eliminates the risk of human error from people transcribing pieces of paper into a computer.

Banking

My first experience with electronic banking was accepting direct deposit of my paycheck. The benefits are so phenomenal that I never even wondered if there were risks. My money is in my bank, on time, whether I'm at work, sick or out of town. Direct deposit has eliminated some of the risks on pay day. I can't lose a check. The company can't lose my check.

The "killer application" for me has been paying my bills online. I love the convenience of scheduling a payment as soon as I get a bill, then forgetting about it. I don't have to remember to write the check a couple of weeks later. My credit union will take care of it. The "Bill Payer" service offered by many financial institutions even pays the postage if they have to mail a check. It takes responsibility if a check is lost in the mail. What could be nicer? One caveat: a friend didn't get the decimal point in the right place once and had a lot of inconvenience for it. There can always be human error.

Filing Taxes

I'm a big fan of tax software and online filing. I've had friends who have mailed their taxes on time, paid the correct amount, and have been dinged a year later because the state tax agency lost a form that was included. When human beings or machines have to transfer the information from paper to a computer they occasionally make mistakes. Those mistakes may not benefit you, or they may come back to haunt you later. When I E-file, I get a confirmation within a day, and any refund arrives sooner. I save the postage. I have to take the same care to put my information into a computer that I do onto paper, but my tax software creates really neat looking tax forms and carries some information over from year to year eliminating more chances for error. Some businesses allow employees to download W2 information directly into their tax software. You can see

where this is going. Risk is minimized and the whole thing is so convenient.

Book a Trip

I travel for pleasure 2 to 3 times a year, and book flights, rental cars and hotels online. Airlines may have stopped serving food, but they have invested in their websites. They've made it easier to find the best flight and the best fares to the destinations they fly. They also offer package deals including hotels and car rentals. If you want to compare different airlines, there are well known travel websites that will check all the airlines and let you choose among them. Booking fees for these sites are nominal. Some airlines will have sales that are only available from their own sites.

Remember that you can try out these websites with no cost and no risk. You can go through the whole process of selecting your itinerary and you aren't charged until the final screen. If you don't click CONFIRM, you don't pay. You do have to keep in mind that some deals or packages are non-refundable. That's a risk.

Book A Hotel

Sometimes I drive and only need to book a hotel. If you're willing to accept a small amount of uncertainty about the hotel, you can get some fabulous deals. There are several websites that let you specify the general location (within 10-20 miles), the dates, the quality of hotel, and the price you're willing to pay. I always ask for a 3 star or higher hotel, and normally get rates that are 25% to 50% of the rates at the hotel's website or through any of the travel websites.

Shopping

I also buy clothing online. A lot of us have a hard time finding the right sizes. My arms are a bit long, so I like tall sizes, even though I'm not especially tall. I have some favorite sites to buy tall size shirts. Some retailers let you order your pants to the quarter inch and your choice of cuff or no cuff. You have the ease and convenience of knowing whether you size and style are in stock, and it's easy to find hard-to-find items.

Phishing

We've all heard about phishing the past few years. Some phishing is very cleverly designed to trick you into giving up personal financial information. It's a problem, and there aren't any easy answers. You have to be cautious. You shouldn't click on links in your email that take you to a website where you can be fooled. If you want to go to the website, open your browser and type in the address or click your own bookmark. Think critically about the email you receive. Even if the message looks like it really came from some official source, why would that source

send you an email? How did they get your email address? Many businesses and government departments have been spoofed in phishing messages to potential victims. If you never gave your email address to the sender in the first place, be suspicious; don't be duped. Don't let yourself feel pressured by email. Better to call the apparent sender and ask if the message is legitimate.

Comparative Risks

Most of your financial transactions end up electronic no matter how they begin. It really doesn't matter that much whether you were at a computer screen or in a store handing your card to a clerk using a point of sale device to read the card and authorize the sale, it's an electronic transaction. Once you have completed your transaction, your information is only as safe as the entities that process that information. The convenience of using a credit card comes with some risks. Other risks are reduced or eliminated by doing business online.

Conclusion

If you haven't wanted to shop or bank or pay bills or file taxes online you should relax and try it out. If you can be confident that your own computer and network are secure, and you double check your transactions before you complete them, you wind up with less overall risk and more assurance.

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

The opinions expressed in UPDATE are not necessarily those of the AT&T family of companies.

>Cingular OfficeReach™ Helps Control Telecom Costs

Cingular Wireless recently introduced Cingular OfficeReach™, an integrated communications management solution that allows businesses to administer their wireline and wireless services as one system to help control telecom costs and increase productivity.

OfficeReach is a voice-based Virtual Private Network (VPN) that enables business customers to manage their communications platforms through a suite of valuable tools, including One Number Service, Customizable Call Management, Private Numbering Plan, and Zone Billing. OfficeReach is integrated directly into a company's existing telephone network and uses a database-driven, intelligent platform. OfficeReach requires no capital investment in PBX infrastructure so trunk line and PBX investments are minimized while the organization grows.

"OfficeReach satisfies the needs of Cingular business customers who are grappling with the challenges of managing and better leveraging multiple communications platforms in an increasingly mobile world," said Joe Lueckenhoff, vice president, business mobility and marketing, for Cingular Wireless. "With OfficeReach, Cingular is paving the way for businesses to optimize their fixed and wireless communications to increase employee productivity while reducing communications costs."

Using Cingular OfficeReach, companies can establish a one-number "find me/ follow me" service that allows for employees to be reached at their desk, mobile phone, home or any other location they specify, all by a single phone number. The user can pick up to three

numbers that can be reached sequentially by a single phone number. For example, if a company employee is traveling to a satellite office, the one number service can be set to first try the employee's mobile phone, then a phone number at the satellite office and lastly the phone in the employee's hotel room.

Customers also can set up an abbreviated dialing feature so that workers can be reached at their desk or mobile phone via the same two-to-five digit extension number. In addition, businesses can establish single or multiple calling zones in which they enjoy special rating on both fixed and wireless service, and customizable call restrictions to reduce or eliminate unauthorized calls on company-owned wireless devices.

OfficeReach also simplifies communications management. It allows managers to activate all OfficeReach services and restrictions from a single Web-based interface, and employees can set up their personal services via the Web. The solution also reduces the administrative burden of managing wireless bills with flexible, easy-to-use invoicing through a single carrier featuring on- and off-network call tracking.

Cingular OfficeReach is available to business customers with a qualified Cingular Wireless business agreement. OfficeReach packages are flexible and enable customers to choose different elements of the OfficeReach service based what's right for the organization or individual users within the organization. Customers can choose from multi-tier pricing options and subscribe to individual OfficeReach features or the entire OfficeReach suite to maximize wireless expense control.

>Shanghai's Bank Selects Sterling Commerce

Sterling Commerce, the multi-enterprise collaboration company, recently announced that one of China's largest banks, Bank of Communications (BoCom), has selected the company's Connect:Direct® as its centralized file transfer platform for collaboration with its branches and trading community. Connect:Direct enables BoCom to maintain its leadership position in the market by providing centralized management of its business-critical file transmissions, allowing the company to meet the rapidly changing and high-stakes demands of the Chinese banking industry.

Connect:Direct fulfills BoCom's file transfer needs for business-critical and business-sensitive information between its headquarters and branches in a secure, reliable and efficient way. With Connect:Direct, BoCom has raised the bar in secure file transfer opera-

tions, assuring safe delivery to its customers and branch offices over a private network and the Internet. By enabling best practices in centralizing data, Sterling Commerce helps streamline BoCom's internal processes while optimizing how the company works with its external business community. Connect:Direct enables BoCom to adapt quickly to changing business needs by managing its communications processes and providing unprecedented visibility into systems that are outside BoCom's control.

The de facto standard in many industries throughout the world, Connect:Direct is ideal for automating the movement of large volumes of data and for connecting to remote offices and business partners over the Internet. Connect:Direct provides BoCom with a centralized file transfer platform that creates a standardized format in how they view and process data, which has reduced unit costs and defect rates per transmission and increased staff productivity and service-level

commitments. By leveraging the compression capabilities of Connect:Direct, BoCom has shortened file transmission time and eased the stress on the network.

BoCom has completed the first phase of implementing Connect:Direct to centralize data for its wholesale banking operations and is now working on its retail banking data in a year-long project scheduled to be completed in August 2006.

"With the increasing focus on data centralization, having a fast, secure and reliable file transfer system is paramount amongst Chinese banks," said Neil Baker, senior vice president for APAC Sterling Commerce. "We are happy that we could help BoCom take its infrastructure improvement up several notches and enable the bank to make its mark in a rapidly changing, high stakes arena like China. This win is a testament to our track record in providing secure file transfer solutions to banks across Asia."

UPDATE



> Data Mining – The Art Of Assumption

What Is Data Mining?

Data mining is a method used to examine customer information, deploy marketing tactics, identify and reduce fraud and abuse, and assist in research. Data collecting has been in use for many years, however, the recent explosion of data mining has raised some valid issues. These issues include concerns about the quality of data being collected, the ability to correctly analyze the data, and of course, privacy.

Data mining can be defined as the art and science of extracting useful information from large databases, and then making conclusions based on that data. Data mining is usually associated with a business or other organization's need to identify trends, and can help retailers and industries like banking and insurance companies to reduce costs and increase sales. The Department of Homeland Security uses data mining to identify terrorist activities, looking at money transfers, communications, and tracking individuals through travel arrangements and immigration records.

Uses For Data Mining

The most obvious uses of data mining are extracting customer information collected from customer loyalty cards to help a company to provide better service, determine what merchandise to stock, and after combining that data with other databases, they can learn what people in certain neighborhoods with certain income levels are most apt to buy.

There are other helpful gains from data mining as well. Each time a prescription is filled at a pharmacy, data mining can be used to compare common side effects, drug interactions, or can help combat prescription drug. The FAA uses data mining to identify common aircraft defects and recommend protective measures. And, insurance companies can use collected data to determine if a claim is likely to be fraudulent.

Think too about employers using data mined from health insurance companies to weed out potential candidates that have diabetes, or have experienced a heart attack in an effort to reduce their own health care costs.

Data mining is also useful for verifying a person's identity by asking them to confirm collected data. Imagine my surprise when I recently opened an account and was asked to verify my identity by answering several multiple-choice questions. These questions related to physical addresses I have been

associated with, jobs, and life changes. The final question concerned the age of an ex brother-in-law I had not seen in years. I was not only amazed; I was also somewhat appalled that this service knew so much about me.

Where Does This Data Come From?

Data mining is not the collection of data, it is the analysis of the data collected and learning useful things from it. Data mining involves complex algorithms based on statistical methods. So, how is the data collected?

Each time you buy a home, use a club card, use a credit card, open an account, make an online purchase, or do a web search, information is potentially collected about you – your spending habits and likes and dislikes are generally recorded somewhere and accessible to most anyone willing to pay for the information.

What about your Internet surfing habits? Can information be gathered while you are researching new cars, or reading about vacation hot-spots, That would be private, right? Not necessarily.

It seems that Google places a tracking cookie on each system using their service. This cookie collects your IP address, what you searched for, date and time of the search, type of browser used, and whether any links were click from the resulting search. There may be more information being collected, parsed and stored, but Google isn't saying. A Google representative says the data is not currently correlated to specific users, but that could change. And consider this, the Google cookie does not expire until January 17, 2038. Other search engines have recently followed suit.

And that is the information collected for the anonymous user. If you utilize the Google toolbar, log into Google, or use the personal search service, even more information is saved, and that saved information is associated to an individual – you.

Another unlikely source of data collection that could be used to draw inferences is the Amazon.com wish list. Last Christmas, my friend presented me with a gift, which she saw on my Amazon wish list. I was a little embarrassed when she commented on the unusual array of products I had listed and asked me about some of them. I explained to her that I use the wish list feature as a shopping list for others, rather than as a list for myself. So, after making my own wish list private and viewable only by me, I decided to check out the concept a little more.

I found that over 92,000 Nancy's have public wish lists. Nine of those Nancy's share my last name, and it appears that they have a variety of interests ranging from

dieting, to quilting, gardening, to Billy Joel, and prostate health. I then began looking up family members and old friends and discovered what my daughter's boyfriend is probably buying her for her birthday. I even checked to see if my former brother-in-law had a wish list, he didn't. And then I began wondering how different organizations or the government could use this data and for what purposes.

That's when I ran across a great article by a person who wrote a script that allowed him to mine information from all of Amazon's 260,000 public wish lists. From this data, he was able to determine who bought certain questionable books, and he was able to make assumptions on a person's political affiliation, and to map out geographically where people with certain interests lived using Yahoo! Maps. All of the writer's work was perfectly legal and did not violate Amazon's condition of use.

Connecting The Dots

Of course, there are things I like about Amazon and Google's data collecting capabilities. Each time I visit Amazon's site, it remembers what I last bought, and makes suggestions based off that data, while Google displays ads convenient to my location making my search a little easier.

While there has been a significant advance in data mining capability and analysis tools, there are still major limitations to its capability. Data mining tools can identify connections between behaviors among groups of people, but it cannot necessarily identify an individual relationship between a behavior and an action. Thus, data mining still requires skilled specialists that can interpret the output. Otherwise, the data can be used to make assumptions or find correlations that do not really exist.

For instance, let's say my daughter is moving from Denver back to San Diego and has asked for my help. Ever the procrastinator, I book my one-way flight the day before I am due to fly out. At the same time, I also reserve a U-Haul truck to move her furniture. After making the reservations, I rush off to the grocery store to buy a case of whiskey and a case of vodka for my Aunt Edna's 50th wedding anniversary shin-dig, and while I'm there I pick up a box of disposable diapers as a favor to my neighbor who is holed up at home with a sick child.

When I get home, I'm pleasantly surprised to see a box from Amazon on my front door step. I'll certainly enjoy reading *The Catcher in the Rye* on the plane. Finally, I remember that I want to tour the U.S. Mint while in Denver, so I use Google to do a little research and get the directions.

Now, all of this is perfectly innocent behavior, and anyone who knows me will attest to that. But, imagine how it looks to an impartial system that is simply finding relationships and making assumptions based on the data.

Number One, I may show up on a list as being a really bad parent as buying cases of liquor may imply that I may have a drinking problem, and buying a box of diapers indicates I may have a young child.

Number Two – In light of the 9/11 attacks, buying a one-way ticket at the last moment raises all kinds of red flags, renting a U-Haul truck and downloading directions to the Mint may look like I want to pick up more 'souvenirs' than the U.S. Mint gift shop has to offer. Consequently, it might look like I have some ulterior motives for visiting the Mint.

Finally, the book I've ordered has consistently appeared on banned book lists since it was first published in 1951, placing me on yet another suspicious persons list.

Just another reminder not to put data out on a public database if you don't want people snooping around and looking at it.

Nancy

Nancy Grover, Regional Manager-AT&T 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 and an Information Systems Security Architecture Professional (Network Security Architecture).

The opinions expressed in UPDATE are not necessarily those of the AT&T family of companies.

"It is better to discuss an issue without settling it than to settle an issue without discussing it."

Elizabeth Barrett Browning

AT&T Japan Stats

- ◆ Headquartered in Tokyo.
- ◆ Branch Offices in Mitaka, Nagoya, Osaka, Fukuoka and Sapporo.
- ◆ Three Internet Data Centers in Tokyo and one in Osaka.
- ◆ Four MPLS service nodes: two in Tokyo and one each in Nagoya and Osaka.
- ◆ 31 Dial-up PoPs; 3,258 Wi-Fi Hotspots; Cellular Access.
- ◆ Sales & Customer Care Support available in Japanese language.
- ◆ Many of Japan's leading companies are known for their innovative and effective use of telecommunications.

> AT&T Tests Disaster Preparedness

It's impossible to know when a natural disaster such as Hurricane Katrina might strike again, or if our nation will ever see another attack like the one on the World Trade Center in New York City and the Pentagon in Washington, D.C.

At an emergency-preparedness exercise held recently in Dallas, AT&T demonstrated that we are ready to respond – and we urged other companies to be prepared as well.

The exercise ran from Feb. 8 to 15 and was the largest in the 16-year history of AT&T's Network Disaster Recovery program. When disaster strikes, our disaster recovery team has one and only one responsibility: do everything needed to rapidly restore service to business and government customers in the affected area.

In this exercise, the team was charged with restoring service at a central office that had been destroyed. The team arrived in Dallas with a convoy of 43 vehicles, including 30 semi-trailers filled with sophisticated electronic equipment, and began laying fiber-optic and coaxial cable to re-establish voice and data links as full reconstruction of the central office began.

As part of our business-continuity plan, AT&T conducts disaster recovery exercises such as this several times a year. At this event, we also hosted a Networking Leaders' Forum that brought together company executives, government officials, outside experts and more than 300 business customers to discuss the latest trends in business continuity and disaster recovery.

AT&T Chairman and CEO Ed Whitacre was present to watch the team in action, and joined Chris Rooney, senior vice president – Enterprise Sales, to meet with customers and employees during the event. They also joined other AT&T executives in urging area businesses to develop and test their own disaster-preparedness plans.

That advice is urgent. A report released during the disaster-preparedness event showed that even after last year's massive hurricanes, 31 percent of Dallas/Fort Worth businesses still do not view business-continuity planning as a priority. In many parts of the U.S., the situation is even worse. Many local businesses are unprepared to face threats such as computer worms, viruses, hurricanes, wildfires, tornadoes and ice storms.

In today's workplace, a disruption of network infrastructures can easily lead to the collapse of vital processes. Having a business-continuity plan that's updated and tested is imperative. Nine in 10 Dallas/Fort Worth com-

panies have such plans, but only 65 percent have fully tested them in the last 12 months.

"AT&T has the only mobile, full-readiness disaster recovery team in the industry, allowing us to monitor, manage and proactively protect the networks of our business customers around the world," said Christopher Roy, AT&T regional vice president in Dallas. "We hope this exercise serves as a reminder for businesses to plan and test their plans regularly."

More information on AT&T's disaster recovery program is available at www.att.com/ndr.

AT&T National Disaster Recovery Program Facts:

AT&T's Disaster Recovery Program is designed to ensure that communications service is quickly restored to business and government customers after a disaster damages or destroys part of our network.

The team is on call 24 hours a day, seven days a week and is prepared to reach the site of a disaster anywhere in the United States within 72 hours.

The team has been activated 21 times since it was created in 1990, including in response to Hurricanes Katrina and Rita, the 2003 wildfires in San Diego and the September 11 attacks.

The team is comprised of specially-trained managers, engineers and technicians from across the U.S. who conduct several drills a year.

The team has a fleet of more than 150 self-contained trailers and support vehicles that house equipment similar to what we use in our central office.

Over the last 16 years, AT&T has invested more than \$300 million in disaster recovery.

In addition to restoring service, AT&T's disaster recovery team is prepared to use its mobile satellite communications capabilities to support humanitarian relief efforts by private organizations and government agencies.

Our drills are also designed to encourage businesses customers to develop and test their own disaster recovery plans.



Operators on barrels after 1906 earthquake in San Francisco.

Photo courtesy of AT&T Archives and History Center



> Wireless In India

This article is based on Dr. Kohli's recent visit to India, his personal experience of using a prepaid mobile service and general trends in wireless developments in India.

I visited India during the months of February and March 2006 for four weeks. I carried my Cingular phone with me and decided to get a prepaid SIM card for use during my stay in India. These SIM cards – from various mobile service providers – are sold through a number of outlets. I stopped by a small grocery store to purchase an Airtel (one of the mobile service providers in India) prepaid card. I had to provide a local ID and a passport size photograph to get the service and a new mobile telephone number. To my surprise my US driving license or even the US passport was not considered a valid ID for getting this service. The connection fee was \$2.00 and the prepaid card for \$5.00 was adequate for my stay in India. The whole process getting connected took about 10 minutes. I received calls, made local, out of state and international calls without any hassle. On my way back to US, I replaced my Airtel SIM card with Cingular SIM card during transit in Munich.

During my stay in India I found:

- ◆ A high degree of acceptance of mobile services by people from all walks of life.
- ◆ SMS is used by many people especially by students.
- ◆ Musical Ring tones are very common.
- ◆ A number of people showed interest in using wireless Internet.
- ◆ People were excited to receive some experimental video services on their mobiles.

India is a very populous country with over a Billion people breathing every moment. Wireless services are a playing a significant role keeping people connected. It is a very young industry in India with huge prospects for growth. To put this in perspective India's current wireless subscribers are compared with US and China in Table 1. Worldwide there are today around 2 Billion wireless subscribers. India has only around 4 percent share of this world market size.

India is home to the lowest tariffs anywhere, at between 2 and 3 U.S. cents a minute for a local mobile call, and has 85.4 million wireless users – more than the pop-

ulation of Germany. India added 4.28 million GSM and CDMA subscribers in February 2006, but still less than 9 of every 100 Indians owns a mobile phone. Mobile operators have a great opportunity to grow wireless subscriptions in the coming years.

SMS (Short Messaging Service)

SMS is heavily used by the youth of India. A number of creative SMS applications are under development to bring higher efficiency in the current way of conducting business in many places. Courts in Delhi are developing a novel value-add SMS service.

SMS Services For Delhi Courts

Delhi will soon become the first state in the country, where attorneys and litigants will be able to receive all court related information through subscription-based SMS. The following are some key attributes of this offering:

- ◆ People involved with this venture foresee that by the end of the year 2006, anyone in Delhi would be able to receive court related information through this SMS service.
- ◆ Some mobile companies have shown interest in becoming the service providers for this subscription based service.
- ◆ Through the SMS service, a lawyer or litigant would be alerted about the important dates of a case. It would also provide any other information on demand.
- ◆ This service like the successfully running websites of Delhi courts would also help in reducing the unnecessary crowd in the courts as the litigants would be getting information without coming to the court.
- ◆ In the Capital of India-Delhi many such technological experiments were being conducted to reduce the burden of courts. This should be applied all over the country. In addition to SMS, multi-lingual text editor, e-kiosks and other emergent technologies are in the works to reduce the burden of courts as well as to provide better facilities to the lawyers and litigants.

Wireless Internet

India is a vast country with many people still living in villages. Indian economy is on the rise with a need to provide connectivity among people expeditiously. Wireless Internet is viewed as one way to fulfill this need. Some of the reasons for promoting wireless Internet includes:

- ◆ Mobile phones are cheap, use little power and are already made by many companies.

- ◆ A single cell tower could connect a whole town. Mobile phones have Web browsers and text messaging and e-mail – and are stable, tested technology.
- ◆ They are spreading quickly in a lot of the developing world. Many governments want to get technology into poor villagers' hands quickly.

In order to provide a high speed broadband Internet connection a number of Wi-Fi hotspots has been installed by some mobile operators. WiMAX is gaining ground in India as it provides greater speed and larger coverage than Wi-Fi technology. The following are some reasons for this trend:

- ◆ The demand for broadband connectivity from urban homes and small/medium businesses is growing rapidly and this cannot be met effectively by the existing wireline technologies. Wireless will be the dominant delivery mode for broadband services just as wireless now dominates voice services. Because of broadband performance, early availability and cost advantages, WiMAX is best-positioned to serve this huge Indian market.
- ◆ Several Indian service providers have already acquired suitable spectrum licenses to deploy wireless broadband services and are planning early rollouts in 2006. WiMAX is the first truly broadband technology available to meet Indian market needs.
- ◆ The presence of a number of WiMAX technology vendors and other system integrators in India will usher significant local high technology value additions, and working with service providers also help fine tune WiMAX deployment in the country.

Mobile Video Services

At the beginning of 2006 Reliance Infocomm introduced a full-fledged English TV news channel on mobile phones in India through its wireless carrier Reliance IndiaMobile. This development underscores a trend among carriers to move into more lucrative offerings.

The channel, called Times Now, is a joint offering from Times Group, South Asia's largest media conglomerate, and Reuters. The streaming news will be available through Reliance IndiaMobile's R World service.

Reliance premiered R World several years ago, treating users to cricket scores, Bollywood movie trailers, news clips, fashion, animation, and some location-based services for free until recently. Data downloads now cost a few US cents for 10 minutes or so of usage.

Users of Nokia 6255 and Nokia 6235 cell phones will be able to watch the news clips on a streaming basis. Users with other R World models will be able to access the news clips on demand.

Table 1: Comparing India with China and US

Country	Population (est. July 2005)	Wireless subscribers (Year end 2005) Millions	Percent of worldwide Subscribers
India	1,080,264,388	79	3.8
China	1,306,313,812	398	19.3
US	295,734,134	202	9.9

May 2006

It makes economic sense for wireless operators in India to offer value-added services. These services provide convenience of modern life and users will be willing pay for improving their quality-of-life. Examples of these conveniences include:

- ◆ People can watch the news on their handsets while stuck in traffic jams in Bangalore, Delhi or any other major metropolitan city.
- ◆ At the airport or traveling in a bus, people will use their mobile phones to clear their email backlog and not grumble about paying for the service.

India's 3G network is not yet in place, so the streaming video may not be of the highest quality. But it is a great leap forward to make mobile TV a reality in India. With 3G delivery of multimedia content would become crisp. A number of new entertainment TV channels can be provided for the mobile user. The convergence of consumer applications on mobile wireless devices has shown that consumers want the ability to take their living room entertainment experience with them when they are on the go. Adding personalization and interactivity to new services will provide additional user value to experience at the moment services.

> Qatar Telecom And AT&T To Offer Advanced Global Network Services

Qatar Telecom (Qtel) recently announced the deployment of a state-of-the-art 'global network node' and the launch of Internet Protocol Virtual Private Network (IP VPN) services in Qatar that will provide Qtel's customers with safe, secure and reliable global connectivity.

Qtel will deliver the global connectivity and IP VPN services working with AT&T Inc. and NavLink. At the same time, Qtel provides large multinational companies from all over the world with network presence in Qatar and the rest of the Middle East.

The global network node is one of the first of its kind to be deployed in the Middle East and clearly confirms Qtel's status as a leading regional service provider. The network node is hosted in Qtel's new Qatar Data Center, which has been built to the highest standards and specifications.

Qtel Chief Executive Officer Dr. Nasser Marafih said, "Under the leadership of H.H. Sheikh Hamad Bin Khalifa Al-Thani, the Emir of Qatar, we have embarked on a program to lead the region into the next generation of telecom and IT related services."

"By establishing this network node in Doha, Qtel can now offer leading Qatari and multi-

India does not have the burden of legacy network systems and can quickly move into the deployment of IPTV family of services. Thus voice, data and video services can be provided over a single unified network along with economies of scale.

Wireless Future In India

With a population of more than one billion and a growing economy, India is a huge market for wireless services. Almost 40 percent of Indians are younger than 20 years of age. The average age of Indians is 26 years. The youth of the country will be driving the growth of wireless. The challenge for the leadership of India is to channelize this energy of the youth towards a better future for all.

The following highlights speak about the future of wireless in India:

- ◆ India GDP has been on a very impressive growth curve in the last decade. It continues to sustain a GDP growth of 7-8 percent per year. Most people are enjoying the benefits of this growth. India has a huge middle class which has the money and is prepared to spend.
- ◆ Government of India has developed a progressive regulatory framework for the development of telecommunication sector.

national enterprises a wide range of new advanced data services, including world wide connectivity over a global network."The IP VPN service delivers the feature-rich capability of a fully managed IP network while providing the reliability, quality and security of an MPLS-based private network environment. Services provided to customers include:

- ◆ The ability to connect seamlessly to customers' world wide branches with their headquarters in Doha.
- ◆ The capacity to handle critical and sensitive business information reliably and without delay.
- ◆ Assurance of 'no single point of failure' allowing customers to continue to conduct business even in the event of a breakdown anywhere in the network.
- ◆ One-Stop-Shopping: end-to-end management of all aspects of the service, including contract renewal, maintenance and billing.

Qtel sees significant opportunities to offer global services to its customers in the public and private sectors. Choosing to pursue strategic partnerships with leading global networking companies – boosts Qtel's strategic intent to become the One-Stop-Shop for global networking solutions and data centre services for customers not only in Qatar but throughout the region.

Qatar Telecom (Qtel) is the exclusive telecommunications provider in Qatar. Its principal

To fuel growth, the government raised foreign ownership limits in telecoms service providers to 74 percent from 49 percent, sparking global interest in this fragmented market.

- ◆ There will be an influx of funds as global investment communities and carriers look toward increasing their shareholder value by investing in India's telecom growth in general and wireless growth in particular.
- ◆ India has a vibrant TV industry and a rapidly growing mobile subscriber base. The mobile TV is well placed to take full advantage of the convergence between the broadcast and the mobile communications industries in India.

By the end of 2006; India is expected to be the world's third-largest mobile market by number of users, behind China and the United States.

Jagdish

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The opinions and observations expressed in this article are those of Dr. Kohli and not those of the AT&T family of companies.

activities include local and international fixed telephone, mobile, Internet, data and cable television services. Qtel also provides mobile telephone services in Oman via Nawras, a joint venture with TDC and Omani partners. Qtel is the prestige partner and official telecommunications provider of the 15th Asian Games Doha 2006.

Qtel is a winner of the 2005 Gulf Excellence Award. The company is listed on the Doha Securities Market and on other stock exchanges in the GCC. For more information, visit www.qtel.com.qa.

NavLink (www.navlink.com) is a system and network integrator and managed service provider, operating in Europe, the Middle East and Africa. Founded in December 1996, NavLink achieved a leadership position in high-end IP consulting, system integration, enterprise hosting and managed services serving telcos and new operators, as well as multinational corporations. NavLink operates a carrier class data center in Nice, France part of AT&T's 26 global data centers. NavLink resells AT&T wholesale and enterprise VPN services in the Middle East and Africa.

"Success is not the key to Happiness. Happiness is the key to success."

Jagdish Kohli, Ph.D.

> AT&T Ready To Bring Choice And Competition To Cable Subscribers In California

AT&T California recently announced its financial commitment to bring next-generation interactive television and video services to the state, a move to deliver competitive choice to consumers. The company said it is prepared to invest up to \$1 billion over the next three years upgrading its fiber-optic network in California. This investment represents a portion of the \$4.4 billion AT&T plans to spend on its Project Lightspeed initiative between now and the end of 2008.

Project Lightspeed will bring fiber closer to AT&T customers' homes, continuing the company's aggressive network build in California. More fiber in the ground, closer to customers, will make it possible for AT&T to provide new, next-generation Internet Protocol (IP)-based services over its existing network. These services will include AT&T Yahoo! High-Speed Internet, IP telephony (VoIP) and a new IP-based TV service called AT&T U-verse TV, allowing customers to enjoy features such as hundreds of television channels, movies on demand, electronic program guide, music and more.

At issue is an outdated city-by-city franchising system that significantly impedes California customers' ability to take advantage of a real competitive choice to cable companies. "The technology is available and consumer demand is here, but the current process to bring choice to customers is broken," said Ken McNeely, president, AT&T California.

Under existing regulations developed in the early 1960s, if AT&T were able to secure one municipal franchise agreement a week, it would still take more than seven years for the company to offer customers in California a choice in how they want to receive their TV service. "We simply don't think Californians should have to wait that long," said McNeely. In contrast, in just over seven years AT&T has been able to offer high-speed Internet access to approximately 85 percent or more of its California customer base.

The California Legislature can be the catalyst for delivering these competitive new technologies faster to Californians. McNeely said new legislation authored by Speaker of the Assembly, Fabian Núñez, (D – Los Angeles) and co-authored by Assembly Utilities and Commerce Committee Chair, Lloyd Levine, (D-Van Nuys) will be a major step in the right direction.

"When companies compete, consumers win," said McNeely. "We stand ready to continue our investment in California and our tradition of bringing exciting technologies and new competitive choices to our customers."

> AT&T To Deploy FTTP Network In Northern Nevada

AT&T recently announced an agreement with Kiley Ranch to build a fiber-to-the-premises (FTTP) network. Kiley Ranch will be one of the first developments in northern Nevada to feature this next-generation AT&T technology.

Kiley Ranch is one of the first new-home developments that will benefit from AT&T's Project Lightspeed, a multibillion dollar deployment of fiber that will reach approximately 18 million households as part of the initial rollout. As a result, AT&T is making plans to deliver AT&T U-verseSM products and services to homeowners as they become available including:

- ◆ High-quality video experience, featuring more than 200 channels and set-top boxes, each with an internal DVR.
- ◆ Video-on-demand library featuring hundreds of hours of a variety of programming.
- ◆ Picture-in-picture that allows subscribers to "channel surf" without leaving the program they're watching.
- ◆ Fast channel changing eliminating the delay experienced with other digital broadcast services.

In addition, the network will deliver the AT&T Yahoo! High Speed Internet U-verse Enabled service, offering subscribers a leading combination of broadband access, services and content that provides a unique high speed Internet access experience.

AT&T's initial offering will include three tiers of high speed Internet access:

- ◆ Elite – up to 6.0 Mbps downstream, up to 1 Mbps upstream
- ◆ Pro – up to 3.0 Mbps downstream, up to 1 Mbps upstream
- ◆ Express – up to 1.5 Mbps downstream, up to 1 Mbps upstream

The Kiley Ranch agreement is part of the AT&T SmartMoves program, which helps builders, developers, as well as apartment-building owners, deliver communications and entertainment services to residents.

Development of Kiley Ranch, located in the Spanish Springs Valley in northern Sparks, began last year and will continue over an estimated 10-year time frame. The project consists of 808 acres and is a planned community containing a balance of commercial developments, office and business parks, multifamily and single-family residential neighborhoods, schools, parks and open space.

Project Lightspeed is the AT&T initiative to expand its fiber-optics network deeper into neighborhoods to deliver AT&T Yahoo! High Speed Internet U-verse Enabled and, eventually, Voice over IP and U-verse TV.

> AT&T Announces New Contract With Oakland Community College

AT&T Inc. recently announced a new contract with Oakland Community College (OCC), the largest community college in the state of Michigan, located in Oakland County.

Under terms of the three-year contract, AT&T Michigan will provide Opt-E-MAN[®], a public switched Ethernet solution that will connect the college's five campuses by linking each location's local area network (LAN).

The high-bandwidth networking solution will securely support OCC's data transmission for an optimized application infrastructure and improved communications across its campuses, which are located throughout metropolitan Detroit's northern suburbs. OCC will have the ability to instantaneously share data and access bandwidth-intensive applications through this cost-effective optical solution. AT&T will also provide toll-free, local and long distance voice services to all of OCC's campuses.

"The solutions provided by AT&T will equip us with the tools needed to expand our bandwidth and increase productivity among faculty and staff to better serve our students," said Andrew Hillberry, chief information officer, Oakland Community College. "In addition, this new technology provides a more robust network, which positions OCC to provide information technology continuity for our students and faculty," Hillberry noted.

AT&T Government Solutions Wins \$8.2 Million In Private Line Circuit Orders From Department Of Defense

AT&T Government Solutions has been awarded orders totaling \$8.2 million to provide 36 secure, high-capacity circuits to the Defense Information Systems Agency (DISA), which oversees the Department of Defense's networking needs.

The circuits were awarded under a contract called DISN Transmission Services – CONUS (Continental U.S.) Extension.

The company will supply private line, point-to-point circuits that comprise the backbone of the Defense Information Systems Network (DISN), which provides critical network services to U.S. war fighters. The domestic circuits will carry both voice and data traffic and will be used for both command and control and administrative purposes.

"This award demonstrates our ability to supply secure, reliable circuits at competitive rates," said Don Herring, president of AT&T Government Solutions.



> AT&T California Out-Of-Franchise Update

For existing and potential AT&T customers residing in Verizon territory in California, the new AT&T has an expanded suite of products and services that offers the best of both the former SBC companies and legacy AT&T companies. One benefit of the merger was that both SBC companies & AT&T companies have complementary strengths. The old AT&T was known for its nationwide data and long-distance infrastructure, while SBC companies have long been recognized for world-class local exchange services. The previously-announced post-merger direction makes a lot of sense: within the former SBC companies' 13-state operating footprint, the newly-combined AT&T companies lead with traditional SBC exchange services and metro data transport services. Legacy AT&T products will eventually displace pre-merger SBC data products such as the SBC PremierSERV® suite, to take advantage of the superior Layer 2 and Layer 3 network facilities of the legacy AT&T companies. Outside the former SBC companies' 13-state footprint, legacy AT&T products will displace the old SBC Telecom offerings.

In cases where both legacy AT&T and SBC California operated as competitive local

exchange carriers in Verizon territory prior to the merger, the service offering framework is not so clearcut when dealing with the out-of-franchise areas in California. There are instances of footprint overlap, where both companies have facilities in the same geographical area and facilities in the same Verizon wire centers but there are also areas where there's no overlap and the respective networks complement each other. There are cases where both pre-merger companies have fiber in the same buildings, but at the same time, legacy AT&T and the former SBC Out-of-Franchise fiber routes are mostly diverse from each other.

Because the new, combined AT&T has a goal of providing superior customer service and transparency as it seeks to streamline, simplify and expand its product offerings, AT&T is taking a measured approach to merger integration in the California Out-of-Franchise areas. For the most part, the general direction is "Business as Usual," meaning that products are available from the legacy AT&T organization as well as the former SBC companies. For exchange services under the new AT&T, the former SBC network should be the first choice, given the nature of the Out-of-Franchise network. This is because the former SBC companies' Out-of-Franchise network is characterized by its physical proximity to its collocation facilities, its integration with the in-franchise network, and its wide-ranging presence. In areas where the former SBC exchange services are unavailable, but legacy

AT&T services are available, the customer can be offered the legacy AT&T service. For data services, the intent is to transition all Layer 2 and Layer 3 services to the legacy AT&T network, both in and out-of-franchise.

For fiber-based services, both legacy AT&T and former SBC products usually are available, depending on where facilities exist. For example, if a customer has a need for a switched Ethernet solution and they are located near former SBC Out-of-Franchise fiber, the customer can be offered the OPT-E-Man® product. But if the customer is located near legacy AT&T fiber, then the account team will likely present an offer for the Ethernet Switched Service product.

This gives a general overview of the Out-of-Franchise direction. A customer's specific needs and situation will always dictate the solution that's offered to them. The main point is that for Out-of-Franchise customers, the new AT&T is positioned better than ever to be the only telecommunications company our customers will ever need!

AT&T California Out-of-Franchise Leadership:

- Howard A. Lenox, Jr., Sales Vice President
- John X. McCarthy, Sales Director
- John Capoccia, Director, OOF Business Operations

John Capoccia, a Director in the AT&T California Out-of-Franchise Organization, has been with AT&T California since 1983. He can be reached on jc1468@att.com.

> AHA Endorses AT&T As Preferred Communications Technology Provider

AHA Solutions, Inc., a subsidiary of the American Hospital Association (AHA), and AT&T Inc. recently announced that AHA has endorsed AT&T voice and data networking products as the preferred communications solutions for AHA's membership of nearly 5,000 hospitals and healthcare organizations and 37,000 healthcare professionals.

In conjunction with the endorsement, AHA and AT&T unveiled an agreement to promote the adoption of state-of-the-art communications solutions, including Internet Protocol (IP)-based communications and mobility applications, across the nation's hospitals and healthcare systems. The AT&T-AHA agreement is designed to make these new-generation communications solutions available to the nation's healthcare providers to help them enhance patient care, protect privacy, and adopt efficient electronic health record systems.

The selection of AT&T by AHA Solutions culminates an extensive review and market

assessment by AHA Solutions' professional staff of the services and healthcare-specific offerings available from leading communications and networking providers. AHA's endorsement of AT&T is an indication to hospitals and medical IT professionals that the AT&T portfolio of voice, data and IP solutions meets the needs and standards of today's healthcare provider.

"AT&T not only has the widest U.S. and global presence, but they also demonstrated to us a comprehensive understanding of the issues facing healthcare and a deeply rooted commitment to delivering telecommunications products and services that meet the long-term IT needs of our field," said Anthony J. Burke, president of AHA Solutions, Inc. "We look forward to working with AT&T, along with our portfolio of other technology solutions, to promote the adoption of communications and IT solutions that enhance quality patient care and enable hospitals to operate more effectively and efficiently."

Under the agreement, AT&T will market its voice and data networking products and services to hospitals, as endorsed by the AHA. In addition, AT&T, AHA and AHA Solutions will

cooperate in sponsoring various marketing and educational activities focused on healthcare information technology.

As a benefit for AHA members, AT&T in the coming months plans to offer in-depth communications and IT assessment for hospitals and healthcare offices. These assessments will help healthcare facilities to gauge strengths and weaknesses of their current technology strategies, benchmarked against best practices of peer organizations. AT&T will analyze these strategies and provide recommendations for improvements. In addition, AHA Solutions will develop and market ongoing promotional campaigns to AHA members with new features and benefits.

Among the AT&T services that were reviewed and endorsed by the AHA are: digital private line services, optical networking solutions, ATM and frame relay, Internet Protocol Virtual Private Network, Voice over Internet Protocol, local and long distance phone services, custom calling features, dedicated Internet access, DSL service, network management, Centrex, ISDN service, video transport services, WAN management and reporting services, network management, and comprehensive communications management.

UPDATE

>Cingular Wireless Is "Best Network" In Bay Area

Cingular Wireless recently announced it has the "Best Network" among national wireless carriers in the Bay Area, according to information provided by a leading independent research and advisory firm that provides information, insight and performance measures for the wireless industry.

The results from a recent third-party drive test proved Cingular has the most reliable wireless network in the Bay Area. The company recently launched new advertising which reinforces Cingular's superior network reliability and drive testing results in the market.

In 2005, Cingular Wireless invested \$1 billion in California, including more than \$275 million in the Bay Area. This investment added more than 200 new cell sites to the local network, including 43 new sites in Alameda, 18 in Contra Costa, four in Marin, 39 in San Francisco, 20 in San Mateo, 44 in Santa Clara, six in Santa Cruz, 14 in Solano and 16 in Sonoma counties. In addition to the new cell sites, the investment delivered other enhancements to improve customers' wireless experience, including portable generators, back-up batteries and new high-speed data features.

Cingular also rolled out its 3G high-speed broadband wireless network in the Bay Area last year. Cingular BroadbandConnect offers customers with a compatible device and service plan average data connections between 400-700 kilobits per second.

>AT&T Makes It Easy For Small Businesses To Connect To The World

AT&T Inc. has announced a new Web portal that makes it easy for new small businesses to order communications services in the traditional 13-state area of the AT&T local telephone companies — and reap the cost-saving benefits of bundled services and the convenience of a consolidated bill that can even be paid online.

New Contract With Advanced Healthcare

AT&T Inc. recently announced a new optical and data-networking services contract with Advanced Healthcare, the largest physician-led, multispecialty clinic group in southeastern Wisconsin.

Under the terms of the five-year contract, AT&T will expand Advanced Healthcare's bandwidth through implementation of a fully redundant Synchronous Optical Network ring to six locations throughout the state. With the additional bandwidth, Advanced Healthcare will be able to con-

This year, the company is expected to spend nearly \$300 million in Northern California, which will turn on-air approximately 260 more new cell sites to maintain Cingular's position as the best network. Nationally, last year the company spent \$6 billion enhancing the network and is expected to invest a comparable amount in 2006.

Cingular customers can choose from an exciting array of wireless devices including the recently launched Motorola SLVR, a slim new phone and Cingular's second handset capable of downloading iTunes directly from a PC. Cingular also offers a 30-day return policy, the longest nationwide trial period in the industry.

Additionally, the company provides an interactive mapping tool at all retail locations and by calling 1-866-CINGULAR. This resource tool details wireless coverage information and is designed to answer a customer's specific coverage questions based on an address, street intersection, zip code or even a landmark. It enables the customer to view Cingular wireless coverage all the way down to the neighborhood street level while depicting the likelihood of coverage in various scenarios — such as inside a vehicle or building.

The company's network growth relies on advanced GSM/EDGE technology. EDGE is the fastest national wireless data network in the country. Globally GSM is used by more than 1.5 billion people in 200-plus countries. Cingular customers with a compatible device and service plan can make calls in more than 170 countries and access data services in more than 95 countries.

The online "Biz Start-Up Center" (www.att.com/bizstartup) allows new, returning and relocating small-business owners to complete a Web-based form to indicate their communications needs and the AT&T services they are interested in ordering. An AT&T representative will call back within 24 hours to confirm the online order or provide further consultation on services and cost-saving bundles. In addition, customers can consolidate their local, long distance, Internet, Web hosting, and Cingular Wireless® services all onto one bill.

solidate large amounts of voice, data and video traffic from its various locations to a single, fail-safe platform, increasing efficiency and improving overall patient care.

These services will also support an X-ray Picture Archiving and Communication System, which can store, display and transmit all types of digital medical images across Advanced Healthcare's network. Additionally, because of its increased capabilities, Advanced Healthcare will have the capacity to set up a disaster recovery site that mirrors the current data center.

>New Networking Contract With Lee Enterprises

AT&T Inc. recently announced that it has been awarded a \$3 million integrated networking contract from Lee Enterprises, the fourth-largest newspaper group in America with 58 daily newspapers and more than 300 weekly newspapers and specialty publications in 23 states. The three-year agreement renews and expands a long-standing relationship between the two companies.

With numerous communities relying on Lee to deliver the news each day, network reliability is vital to the company's success. Under terms of the contract, AT&T will combine Lee's voice and data onto one integrated platform, which will significantly speed network access at Lee's offices nationwide. As a result, the company will improve its ability to share mission-critical information both internally and to its 4 million daily readers.

"With our rapid online growth, news deadlines come every minute of every day, so the journalists at our various locations need the reliable and fast access to information that AT&T delivers," said Brian Kardell, vice president of production and chief information officer at Lee Enterprises. "AT&T's advanced networking solutions also help our managers optimize efficiency and performance across the company's operations."

The Lee family has been growing rapidly. Four years ago, the company had 28 daily newspapers; today, it has 58, along with rapidly growing online sites and a rich roster of weekly newspapers and specialty publications. Last year, Lee acquired Pulitzer Inc., adding 14 markets to the company's reach.

AT&T's solution will seamlessly combine Lee's network with existing properties to ensure reliable and secure voice and data flow on a single integrated platform. With such systemwide deployment of enterprise resource management applications, Lee expects to significantly improve business operations.

AT&T also provides Lee Enterprises with the highest network availability and reliability by deploying AT&T ACCU-Ring® Network Access Service at its Davenport, Iowa headquarters building. ACCU-Ring's self-healing capabilities help ensure that financial and business data can flow securely and uninterrupted among the company's locations. In addition, the contract includes AT&T domestic local, long distance and toll-free services.

"Ride Loosely In The Saddle Of Life."

Robert Louis Stevenson

>AT&T, Avaya Announce Global Strategic Alliance

AT&T Inc. and Avaya Inc., a leading global provider of business communications applications, systems and services, announced recently a global strategic alliance to help businesses and government agencies manage through one of the most significant technology evolutions they face – the migration to voice over IP/IP telephony.

The alliance leverages AT&T's industry-leading global IP network, network design and management expertise with Avaya's enterprise IP communications technology to deliver end-to-end managed solutions from the wide area network to the IP phone on the desktop. The solutions provide comprehensive migration to IP telephony and the associated local area network (LAN) and wireless LAN infrastructure.

By giving customers a single point of contact for virtually every aspect of this migration, including design, implementation, operation, ongoing management and maintenance, the alliance is intended to accelerate global VoIP and IP telephony deployments and simplify the integration with traditional circuit-switched enterprise voice networks.

Through the alliance, customers will benefit from:

- ◆ A single source for the seamless integration of IP-based voice and data networks worldwide
- ◆ Reduced total cost of ownership
- ◆ Flexibility and control to deploy IP telephony when and where it makes sense
- ◆ Around-the-clock proactive network-monitoring and fault isolation and resolution via AT&T's integrated Global Enterprise Management System
- ◆ Direct access through the AT&T Global Client Support Center to Avaya expertise and tools for integrated service delivery across the customer's network
- ◆ Visibility and management control over their enterprise VoIP network and IP telephony infrastructure through the award-winning AT&T BusinessDirect® Web portal.

"VoIP has shifted from an emerging technology to a critical business solution," according to Paris Burstyn, director at Yankee Group. "We estimate the business VoIP market will grow at a CAGR of 31.4 percent to reach almost \$3.3 billion in 2010. VoIP and IP telephony solutions appeal to businesses as they provide an excellent converged platform for voice and data, and improve the manageability of communications. In working with AT&T, customers can leverage the reliability and scalability of its global IP-MPLS network in support of their solution."

Numerous companies, like Fireman's Fund Insurance Company, a nationwide property and casualty insurer based in Novato, Calif., have already leveraged the AT&T-Avaya alliance to lay the groundwork for their IP telephony infrastructure. "The solution developed by AT&T and Avaya enables Fireman's Fund® to deliver any service, any where. With their assistance, we have designed a virtual environment for our telephony and networking platform across our business. It gives us a huge competitive advantage with additional capabilities and capacity," said James Dunn, chief technology officer, Fireman's Fund.

During the last few years, both companies have worked closely on designing and delivering IP telephony solutions. In 2003, AT&T announced interoperability of Avaya's IP telephony servers, gateways and Multi-Vantage™ software with AT&T's global IP network and VoIP services. Avaya Session Initiation Protocol (SIP)-enabled servers are in the process of completing interoperability testing as well.

"Interoperability is one of the biggest challenges facing businesses and government agencies today, as they plan their migration to VoIP and IP telephony. This alliance addresses that challenge, ensuring that regardless of where enterprises are in this migration, their traditional voice networks will interoperate with their IP-based voice network and equipment," said Eric Shepcaro, AT&T vice president of business strategy and development. "Our expertise and experience in network design, implementation, operation and life-cycle management – coupled with Avaya's leading IP telephony technology – will deliver the improved performance and security that customers expect from their converged voice and data networks."

This alliance formalizes the joint work both companies have been doing and expands the relationship globally, providing a consistent customer experience regardless of location. As a result, AT&T has integrated a full suite of Avaya IP telephony products, including Avaya Communication Manager, with the AT&T IP Telephony and LAN Service. With this end-to-end solution, AT&T is able to manage a customer's entire IP telephony infrastructure, such as IP PBXs, media servers, voice gateways, voicemail systems, IP phones and IP soft phones.

"Working with industry leaders, such as AT&T, is a key component of Avaya's solution delivery model for businesses of all sizes," said Peter Leuzzi, Avaya vice president, Strategic Alliances and Partnerships. "Integrating the strengths of Avaya's business communications solutions and service capabilities with AT&T's global net-

work reach and depth of service offerings creates streamlined solution options for companies that are planning to migrate to IP telephony."

Under the alliance, Avaya IP telephony products, including the Avaya IP Office converged solution for small and medium businesses, also have been integrated into the global AT&T Solution Center Lab Network, which helps businesses quickly assess, plan, design and implement new network solutions. The lab network enables customers to "test drive" new applications, services and network designs to ensure optimal performance.

AT&T IP Telephony and LAN service is part of the company's comprehensive suite of business VoIP services. Last year, AT&T introduced the Dynamic Network Applications™ suite of IP communications services. AT&T Voice DNA™, an award-winning network-based VoIP service, is the first of these services available in the market. More information on AT&T VoIP and IP telephony services is available at www.business.att.com.

>US Airways Selects AT&T For Voice And Data Services

AT&T Inc. recently announced that it has signed a three-year, \$44 million contract with US Airways to provide voice and data services, connecting the company's 276 locations worldwide.

US Airways is the fifth-largest domestic airline operating approximately 3,700 flights a day and serving more than 230 communities in the U.S., Canada, Europe, the Caribbean and Latin America.

Under terms of the contract, AT&T will serve as US Airways' primary voice and data service provider, supporting toll-free and call-routing services at the airline's call center. The AT&T solution will merge US Airways' current network services, enabling the airline to simplify its telecommunications inventory, billing and overall network architecture. As a result, US Airways expects to incur significant cost savings over the next year. In addition, AT&T will provide Internet services to facilitate the airline's Web site and reservation booking agent.

"AT&T offered the optimum solution to consolidate our telecommunications services. They have unsurpassed breadth and depth of services which will enable us to increase efficiencies and decrease overall network costs," said Joe Beery, US Airways' senior vice president and chief information officer. "More importantly, maintaining an efficient and advanced network is crucial to our business, as we continue to strive to deliver outstanding customer experience."



The Latest Telecom News On CVSG-TV

Some participants on a recent CVSG Streaming Broadcast include (L-R) Rachel Hackett, Sherri Khan, Host Kari Aguinaldo – all of AT&T West and Michael Woodward of Cingular Wireless. Not pictured is Marianne Strobel of AT&T. The popular broadcasts are produced by the AT&T CVSG, with technical assistance from the AT&T IT-CTS Media Productions & other groups. Please contact your Liaison Manager to make sure you're notified about future Streaming Broadcasts. Thanks for watching CVSG-TV. *Photo by Eileen Clemens.*



"Diamond" Uncovered

In the late 1700s, explorers mistook crystals in the rocks on the slope of this volcanic crater as diamonds—thus the name Diamond Head. Like the early explorers, this chap found a different type of "diamond." It turned out to be an UPDATE, possibly hidden by telecom giants. We Thank Oahu Traveler Jay Samis for sending us this amazing photo. If you find UPDATE being enjoyed in an unusual locale, please send a digital photo to the Editor. It's much appreciated.

CVSG Resources For You

1. Website: sbc.com/cvsg
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Consultant/Vendor Sales Group

Toll-Free Hotline 1.800.552.5299 (for any other number, toll charges may apply). The team fax is 1.707.427.7574

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Thank You for reading
UPDATE

Note: At presstime, the company was taking steps to change the official name of all subsidiaries and certain groups. The names designated in this issue of UPDATE may change.