BELLSOUTH CORPORATE

News Release

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BellSouth and NTT To Collaborate On Bringing Optical Fiber To The Home

Joint R&D Will Lead To Tomorrow's High-Speed Telecom Infrastructure

Immediate Release:

June 17, 1998

(ATLANTA) - BellSouth and Japan's Nippon Telegraph and Telephone Corp. (NTT) are joining forces to bring optical networking to the home.

In a historic, first-ever collaboration, two of the world's premiere telecommunications companies have signed a joint research and development agreement to create common technical specifications for high speed optical network access systems.

"Bringing optical fiber technology to the home promises to fundamentally change the nature of telecommunications services that will be available to meet 21st century consumer and business telecommunications needs," said Dr. David Kettler, BellSouth vice president - Science and Technology. "We believe that 'fiber to the home' (FTTH) is the key to making available the bandwidth that tomorrow's data, imaging and video applications will require."

ccording to Dr. Toshiharu Aoki, NTT senior executive vice resident - research and development, "This is an epochal greement between independent, international lecommunications companies. NTT and BellSouth will pool eir information industry leading expertise and research data to dvance the availability of affordable FTTH technology. dditionally, we will use our considerable resources and llective customer demand to drive down the cost of FTTH uipment, as well as speed its availability on the world telecom arket."

ki explained, "NTT and BellSouth will be cooperating to bring ntributions to the Full Service Access Network (FSAN) itiative, a group of 14 international telecommunications ompanies working to develop common broadband access system ecifications. The common technical specifications developed by llSouth and NTT will be disseminated through FSAN."

AN members include: Bell Canada, BellSouth, BT, Deutsche

Telecom, Dutch PTT, France Telecom, GTE, Korea Telecom, NTT, SBC, Swisscom, Telefonica, Telstra and Telecom Italia. FSAN documentation is shared with relevant standardization bodies.

"The BellSouth vision for FTTH," Kettler said, " is for our customers to be able to purchase communications appliances at local retail stores. These appliances could be used for voice, video, data or imaging applications. When such an appliance is plugged in to the customer's home telecommunications network, the BellSouth network would 'talk' to that appliance and provide the needed telecommunications provisioning automatically and immediately.

"Obviously, such a system would enhance customer satisfaction by making telecommunications available instantly when they are needed. At the same time, BellSouth would benefit from significantly reduced provisioning costs," Kettler said.

"In part, we believe NTT's decision to work with BellSouth was based on BellSouth historical support for FTTH technology, dating back more than 10 years ago when BellSouth launched a FTTH trial near Orlando, Florida," Kettler added.

"NTT has also been actively promoting FTTH, especially in the area of interface specifications for high speed optical access systems," Aoki said. Kettler added that Dr. Kenji Okada of NTT has achieved major successes as chair of the Optical Access Network (OAN) group of FSAN. "Dr. Okada drove the initial OAN agreements in the March 1997 FSAN meeting in Atlanta; within one year, these specifications were completed, contributed to the ITU, and adopted as the draft international recommendation ITU-T G.983."

Recent technological advances and cost reductions have spurred interest in optical distribution networks, with Asynchronous Transfer Mode Passive Optical Networks (ATM-PON) emerging as the most promising approach to enabling large-scale, full-service access networks to meet the evolving needs of their customers. An ATM-PON architecture for FTTH uses only optical fiber and passive optical splitters in its outside plant.

NTT has already deployed narrowband and video distribution FTTH and broadband ATM-PON systems, and plans to introduce a fully FSAN-compliant ATM-PON system in 1999. BellSouth plans to install a "first office application" FTTH system using FSAN-compliant ATM-PON technology in 1999. Studies indicate pricing will drop to a level that will allow cost-effective deployment of FTTH by 2001.

NTT is one of the largest telecommunications company in the

world. It's operating revenue is more than 6,322 billion yen ($45 billion). It provides local and long distance telecommunications services, serving more than 60 million lines through a fully modernized and digital network in Japan. NTT has been aiming at rapid globalization toward the 21st century through investing in overseas carrier businesses and making alliances with foreign companies.

Atlanta-based BellSouth is a $21 billion communications services company. It provides telecommunications, wireless communications, directory advertising and publishing, video, Internet and information services to nearly 30 million customers in 20 countries worldwide. BellSouth's telephone operations provide local exchange and intraLATA long distance service over one of the most modern telecommunications networks in the world, with more than 23 million access lines in nine Southeastern states: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.

For more information on BellSouth, visit the BellSouth web site: www.bellsouth.com. Information on the Full Services Access Networks Initiative is available at: *www.labs.bt.com/profsoc/access/*.

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BellSouth Announces Aggressive 30 Market Roll-Out Of Ultra-High Speed BellSouth.Net[SM] FastAccess[SM] ADSL Internet Service

Super-charged "always on" service will make higher speed, better priced ADSL Internet access available to 1.7 million home and small business users in 1998

For Immediate Release:

May 20, 1998

ATLANTA -- BellSouth today announced that it will begin offering affordable, ultra-fast Internet access service to the first of 30 Southeastern markets in late August. Featuring one simple price plan for both consumers and small businesses starting at $49.95 per month, BellSouth.net[SM] FastAccess[SM] service uses ADSL (asymmetrical digital subscriber line) technology to deliver an "always on" Internet connection and download speeds 30 to 100 times faster than a typical dial-up connection.

BellSouth will provide the service in New Orleans, Atlanta, Birmingham, Jacksonville, Raleigh, Charlotte and Ft. Lauderdale this year, making the service available to 1.7 million customers by the end of 1998. The service will first roll out in New Orleans in late August and will be offered in 23 additional markets in 1999.

BellSouth.net FastAccess service not only delivers lightning fast Internet access and download speeds, but customers' ADSL connections to the Internet are "always-on" and do not require dialing up to connect.

"Our 30 market roll-out of BellSouth.net FastAccess service is another example of BellSouth's strong commitment to delivering leading-edge data services to consumers and business customers alike," said Duane Ackerman, Chief Executive Officer of BellSouth Corporation. "BellSouth.net FastAccess provides a very high-speed Internet connection with a very affordable, easy-to-understand price plan. High speed Internet service is now a viable option for home users or small business owners, not just those who have a corporate network connection."

BellSouth.net FastAccess service will be available for $49.95 to BellSouth customers who subscribe to the Complete Choice[SM] or Business Choice[SM] service plans (which include local phone service plus a choice of up to 20 calling features, such as Call

Waiting, Call Forwarding and Caller ID, for one flat monthly rate). For other customers, BellSouth.net FastAccess service will be available for $59.95 per month. One-time charges include $199.95 for equipment and $99.95 for installation. The monthly price for BellSouth.net FastAccess includes unlimited Internet access but does not include the monthly charge for basic telephone service.

"BellSouth.net FastAccess makes your high-speed connection to the Internet as easy as the click of a mouse," says Donna Lachance, vice president of Marketing for BellSouth.net Services. "An Internet specialist will visit your home or business to install the equipment, test your new line and even install your Internet software and establish your BellSouth.net Internet account on your PC. Our new service is the epitome of full service from the company you trust."

According to an industry report from the Yankee Group[1], ADSL-based Internet access will experience strong growth over the next three years. The analyst firm predicts that 350,000 ADSL lines should be in service nationwide by the end of 1999 and that almost two million ADSL lines will be in service at the end of 2001.

"Internet users come from all walks of life and business, but all have one thing in common, the need for speed," according to telecommunications analyst Jeffrey Kagan of Kagan Telecom Associates. "BellSouth.net's ADSL Internet service will be the fastest access the average small business or consumer customer can get. This is great news for BellSouth.net customers and for BellSouth."

BellSouth will also offer other ADSL access services to other network service providers and large businesses. ADSL service transforms an enterprise's existing information system from one limited to voice, text and low-resolution graphics to a powerful, ubiquitous network capable of providing Internet access, remote LAN access, multimedia access and specialized PC service. ADSL also enhances BellSouth's teleworking offering for businesses with employees working from home offices.

BellSouth.net FastAccess service will be fully compatible with the Universal ADSL framework being proposed by the Universal ADSL Working Group (UAWG). The group, composed of computer, networking and telecommunications industry leaders and co-chaired by John Cahill, executive director, BellSouth Telecommunications, Inc., is working to develop universal technical specifications that will ensure that ADSL products and services will work together and will help provide a simple migration path from today's modems. (More information on the UAWG is available at its Web site, www.UAWG.com.)

Customers can make a reservation for BellSouth.net FastAccess service now via the BellSouth.net Web site at www.bellsouth.net/external/adsl or by calling 1-888-321-ADSL toll-free during normal business hours.

BellSouth.net service has more than 235,000 customers in 43 markets across the Southeast. The service provides customers with free Netscape Communicator software in both Windows and Macintosh versions. electronic mail and free access to expert Help Desk service 24 hours a day, seven days a week. BellSouth.net service is offered in major markets throughout the Southeast to more than 70 percent of BellSouth's telephone customers region-wide. BellSouth.net pricing plans include BellSouth's charges for connection to its local Internet network and the Global Service Provider's charges for connection to the global Internet.

BellSouth (NYSE: BLS) is a $21 billion communications services company. It provides telecommunications, wireless communications, directory advertising and publishing, and Internet and information services to more than 30 million customers in 20 countries worldwide. BellSouth's telecommunications operations provide service over one of the most advanced networks in the world for approximately 23 million access lines in its nine-state region that includes Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. For more information on BellSouth.net Internet services, visit www.bellsouth.net or visit BellSouth Corporation's Web site at www.bellsouth.com.

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[1]Study by the Yankee Group, "Resolving the Access Bottleneck: ADSL Equipment Open the Flood Gates," March 1998

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New Bell Atlantic High-Speed ADSL Service to Shift Internet Surfers into HyperDrive

Suite of "Always-On" Services Will Be Brought to Markets Served by More Than 7 Million Lines by Year-end 1999

June 3, 1998

Media contact: Larry Plumb, 703-295-4360

ADSL

WASHINGTON -- Consumers and at-home workers in several mid-Atlantic markets will be among the first in the world to order "always-on," high-speed Internet access starting this September, Bell Atlantic announced today.

The digital high-speed service will provide a link to the global Internet that will always be available at the click of a mouse. No dialing. No busy signals.

The company's deployment of the new suite of Bell Atlantic InfoSpeed Internet access services, powered by Asymmetric Digital Subscriber Line (ADSL) technology, will begin in the Washington, D.C., Pittsburgh and Philadelphia metropolitan areas in September. New Jersey's Hudson River waterfront will follow in October. Service in these mid-Atlantic markets will be deployed to more than two million lines by the end of 1998 and five million more in 1999.

The New York City and Boston metropolitan areas will begin to come on- line next year. Additional markets will be announced in the future.

"Bell Atlantic's InfoSpeed services will take the headache out of working and surfing on-line from home," said Bruce Gordon, group president-retail for Bell Atlantic. "The tempo of work and play moves faster every day in our ever more 'wired' world, and people increasingly find their standard Internet access to be too slow. Bell Atlantic is determined to keep pace with people's evolving needs by adding booster rockets to the on-line connections we provide and by supplying high speed, easy-to-use, complete Internet solutions."

The new service will supercharge an existing phone line by using ADSL technology to provide connections ranging from 640 kilobits per second (Kbps) to 7.1 megabits per second (Mbps) -- up to 250 times faster than a traditional 28.8 Kbps modem.

"Consumers usually are deterred from adopting a hi-tech service such as InfoSpeed by usage-based pricing, a 'choice' of only 'one size fits all,' high up-front costs, and the effort required to operate complex new technologies," said Gordon. "Bell Atlantic is addressing these concerns."

Bell Atlantic has identified three different groups of at-home Internet users, each with a different set of requirements -- personal, professional and power. Customers choosing Bell Atlantic InfoSpeed high-speed services and Bell Atlantic.net sm Internet access will be able to select from among three options that most closely meet their needs, subject to potential distance limitations:

- Bell Atlantic Personal InfoSpeed (up to 640 Kbps, with Bell Atlantic.net Internet access) at $69.95 a month for unlimited use;
- Bell Atlantic Professional InfoSpeed (up to 1.6 Mbps, with Bell Atlantic.net Internet access) at $109.95 a month for unlimited use;
- Bell Atlantic Power InfoSpeed (up to 7.1 Mbps, including Bell Atlantic.net Internet access) at $189.95 a month for unlimited use.

Start-up fees will be held to less than $200 during introductory promotional periods. This will include a $99 one-time connection fee, and -- for Bell Atlantic.net subscribers -- an ADSL modem for under $100, the waiver of fees for inside wiring work and the waiver of fees for a specialist to aid in the set-up of the person's at-home computer. Further, the service will come with a customer care, money-back guarantee for all one-time charges if a customer decides not to continue service within 30 days of installation.

Bell Atlantic InfoSpeed also will be available to other Internet Service Providers to package with their Internet access offerings. Three levels of high-speed connections will be offered, priced at flat monthly rates: InfoSpeed 640K at $39.95, InfoSpeed 1.6M at $59.95 and InfoSpeed 7.1M at $109.95.

When customers order a Bell Atlantic InfoSpeed service, specialists will be available to visit their homes and install the equipment and test the line. If customers want, the specialists will be able to install and configure their Bell Atlantic.net software and set up their computers for always-on Internet access. After the installation is complete, technical support will be available 24 hours a day, seven days a week.

"Delighting our customers and providing world-class service is one of the hallmarks of Bell Atlantic," said Gordon. "Our commitment to customer care now is being extended to the world of on-line services, where we intend to meet our customers' expectations and ensure a

migration path to the future when they purchase a data service from us."

Bell Atlantic will be "technology-change proofing" its high speed services by introducing an "ISDN (Integrated Services Digital Network) Rewards" program concurrent with the launch of its InfoSpeed product line. Once Bell Atlantic InfoSpeed service is available in an area, ISDN customers who have purchased an ISDN modem from Bell Atlantic will be guaranteed an ADSL modem from the company at no additional charge when they upgrade to InfoSpeed service and subscribe to Bell Atlantic.net. So, customers who want high-speed Internet access need not wait until ADSL- powered InfoSpeed is available in their area. Where Bell Atlantic InfoSpeed is not available or is not compatible with a person's line, customers can still order Bell Atlantic ISDN service for high-speed Internet access.

Bell Atlantic ISDN service is available -- today -- to nearly 20 million households in the mid-Atlantic region and the Northeast. ISDN can provide Internet connections that are more than four times faster than traditional 28.8 Kbps modems. Nearly half of the one million ISDN lines installed in the United States are used by Bell Atlantic customers.

The company's ADSL-based services also will evolve to be compatible with the international, universal specifications currently being developed by the world's technical community. These specifications will ensure that future ADSL products and services will work together simply and easily, providing a "plug and play" installation process and making the services even more affordable. For more information on this issue, visit the Universal ADSL Working Group site on the World Wide Web at www.uawg.org.

Enhanced business-to-business and business-to-Internet ADSL-based services will be launched early in 1999. These enhancements will include accelerated provisioning procedures, proactive network monitoring capabilities and service management capabilities. The new services will enhance Bell Atlantic's full suite of Fast Packet services that is designed for the business market.

Customers can make a reservation for Bell Atlantic InfoSpeed ADSL services today via the Bell Atlantic Web site at www.bellatlantic.com/adsl, or by calling **1 (877) 525-ADSL**. They also can learn about Bell Atlantic's ISDN Rewards Program by visiting the same Web site or calling the same toll-free number.

Bell Atlantic.net is available in major markets from Maine to Virginia. Bell Atlantic.net will provide customers purchasing Bell Atlantic.net Internet access powered by InfoSpeed with free Communicator software in Windows 95* or Windows NT* 4.0 versions, electronic mail, access to newsgroups, five megabytes of space for a personal Web page and free access to expert help desk

Contact Us

Using Bell Atlantic InfoSpeed

InfoSpeed is a cutting edge service that serves as a powerful resource tool.

With ADSL technology, Bell Atlantic is better able to meet your needs by applying a new high speed data access service, Bell Atlantic InfoSpeed, to your existing telephone lines. ADSL is called "asymmetric" because the downstream rate of data transmission is faster than the upstream rate. This characteristic makes ADSL technology the ideal vehicle for high-speed access to the Internet and other online services.

Internet / Online

Bell Atlantic's InfoSpeed service sends data at rates ranging from 640 Kbps to 7.1 Mbps from the Internet to your home... up to hundreds of times faster than a conventional 28.8 Kbps modem... making Internet navigations more practical and reliable. The greatly increased speeds of InfoSpeed service turn your PC into a more powerful resource, allowing you to be more productive and to take advantage of substantial cost savings. Remember, when you're on the Internet... time is money!

Remote LAN Access / Telecommuting

The trend in telecommuting continues to grow; so does the demand for more efficient tools to help people who work from home keep current with activities taking place back at the office. With the bandwidth provided by InfoSpeed service, you can virtually telecommute to anywhere in the world; the disadvantages of distance are eliminated. For instance, InfoSpeed can cut the time required to transmit a typical Windows screen (50 KBps) from 21 seconds down to a fraction of a second. It will feel just like you're in the office - but without the headaches and commute.

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D.C. - Dupont Circle, Georgetown, and other parts of Northwest, D.C.

- **Pittsburgh Areas:**
  Squirrel Hill, Glenshaw, Oakland, Beaver Falls, Bethel Park, Carnegie, Connellsville, Greensburg, New Castle, New Kensington, Uniontown, and Washington.

- **Philadelphia Areas:**
  Ardmore, Bala Cynwyd, Bryn Mawr, Bethayres and parts of Huntington Valley, Coatesville, Collegeville, Downingtown, Jenkintown, Perkasie, Phoenixville, Royersford, Souderton, Willow Grove, and the Oaklane and Chestnut Hill sections of Philadelphia.

- **New Jersey Areas:**
  North Bergen, Cliffside Park, Elizabeth, Englewood, Hackensack, Hoboken, Jersey City, Leonia, Oradell, Rutherford, Union City, and parts of Newark.

To qualify for InfoSpeed DSL service, your local Bell Atlantic Central Office must be outfitted with the DSL equipment and your phone line must be able to support the service. Your line will be tested for service compatibility once your Central Office is DSL equipped and you have placed your reservation for service.

Sign Up Today

If you reside in one of the above locations, reserve InfoSpeed DSL service today.

If your phone number does not qualify, you may check out our Residential ISDN service, which provides you with 128 Kbps in both directions. You may also be added to our mailing list to receive information when Bell Atlantic InfoSpeed Service comes to your area.

ISDN Rewards Program

Top

Bell Atlantic will be "technology-change proofing" its high speed services by introducing an "ISDN (Integrated Services Digital Network) Rewards" program concurrent with the launch of its InfoSpeed product line. Once Bell Atlantic InfoSpeed service is available in an area, Bell Atlantic residential customers who have purchased an ISDN modem from Bell Atlantic will be guaranteed an ADSL modem from the company at no additional charge when they subscribe to our Bell Atlantic.net DSL offering with a 12-month commitment. Bell Atlantic residential customers that prefer to use another Internet provider will receive 1/2-off Bell Atlantic's normal ADSL modem price, when they purchase an ADSL modem from Bell Atlantic. So, customers who want high-speed Internet access need not wait until ADSL-powered InfoSpeed is available in their area. Where Bell Atlantic InfoSpeed is not available or is not compatible with a person's line, customers can still order Bell Atlantic ISDN service for high-speed Internet access.

Bell Atlantic ISDN service is available - today - to nearly 20 million households in the mid-Atlantic region and the Northeast. ISDN can provide Internet connections that are more than four times faster than traditional 28.8 Kbps modems. Nearly half of the one million ISDN lines installed in the United States are used by Bell Atlantic customers.

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- **Pricing**
- **Locations**
- **ISDN Rewards Program**

Pricing

Monthly
Bell Atlantic plans to introduce InfoSpeed Services at the following rates:

	Monthly Rate
InfoSpeed 640 Kbps	$39.95
InfoSpeed 1.6 Mbps	$59.95
InfoSpeed 7.1 Mbps	$109.95

Pricing for Bell Atlantic Internet packages will be as follows:

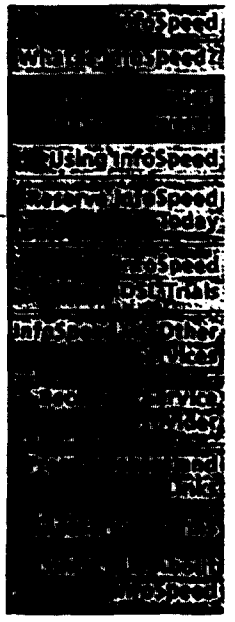
	Monthly Rate
Personal InfoSpeed (InfoSpeed 640 Kbps & Bell Atlantic.net)	$69.95
Professional InfoSpeed (InfoSpeed 1.6 Mbps & Bell Atlantic.net)	$109.95
Power InfoSpeed (InfoSpeed 7.1 Mbps & Bell Atlantic.net)	$189.95

One-Time Charges
One-time charges include the following:

Service Connection Charge:	$99.00
ADSL Modem:	$325.00
Turnkey Home Installation:	$99.00

For customers subscribing to one our Internet packages for twelve months, the ADSL modem is only $99 and the turnkey home installation is FREE!

Please note that if you do not already have a Network Interface Card (NIC), you will need to purchase one from Bell Atlantic or any other retail provider of NIC cards. Generally, the price for a NIC card is somewhere between $40 and $60.



Locations

Top
Bell Atlantic plans to service 2 million lines in 1998 and an additional 5 million lines in 1999. Deployment of the new suite of Bell Atlantic InfoSpeed services will begin in September in the Washington, D.C., Pittsburgh, and Philadelphia metropolitan areas. New Jersey's Hudson River waterfront will follow in October. The New York City and Boston metropolitan areas will begin to come on-line early in 1999. Additional markets will be announced in the future. Specific locations within each area in 1998 are expected to be:

- **Washington, D.C. Areas:**
  VA - Alexandria, Annandale, Arlington, Baileys Crossroads, Falls Church, Merrifield, Vienna (plus, current trial locations McClean, Tysons Corner, Fairfax, Springfield, and Burke);
  MD - Bethesda, Beltsville, Colesville, Hyattsville, Landover, Silver Spring, Suitland, Wheaton, and sections of Rockville.

As the name implies, ADSL is an asymmetric technology. It provides higher bandwidth speeds where you need it most - from the Internet (or office) to your home. Smaller bandwidth is provided upstream (from your home). ADSL technology is distance sensitive - so you must reside within a specific distance from your Bell Atlantic Central Office to get it. It is the upstream bandwidth that limits the distance.

Bell Atlantic InfoSpeed Services

Bell Atlantic will be offering three services, starting September, 1998:

- InfoSpeed 640K, which will provide downstream speeds up to 640 Kbps and upstream speeds up to 90 Kbps;
- InfoSpeed 1.6M, which will provide downstream speeds up to 1.6 Mbps and upstream speeds up to 90 Kbps; and
- InfoSpeed 7.1M, which will provide downstream speeds up to 7.1 Mbps and upstream speeds up to 680 Kbps.

Even more exciting, Bell Atlantic will be offering Internet packages starting as low as $69.95! The packages will be:

- ***Personal InfoSpeed***, which will include InfoSpeed 640 Kbps and Bell Atlantic.net;
- ***Professional InfoSpeed***, which will include InfoSpeed 1.6 Mbps and Bell Atlantic.net; and
- ***Power InfoSpeed***, which will include InfoSpeed 7.1 Mbps and Bell Atlantic.net

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InfoSpeed
Pricing, Qualification and ISDN Rewards
Using InfoSpeed
Reserve InfoSpeed Today
InfoSpeed ADSL Trials
Other Voice
Special Offers

What is InfoSpeed?

The fastest, dedicated link for your home.

Bell Atlantic InfoSpeed is our latest high-speed data offering. It is based on Asymmetric Digital Subscriber Line (ADSL), a new super-fast digital modem technology from Bell Atlantic that provides data transmission at significantly higher speeds using your PC.

InfoSpeed service expands the power of your existing plain old telephone service (POTS)...providing the fastest, dedicated residential link to the Internet and remote local area networks (LANs).

Even better, InfoSpeed allows a single phone line to operate as a true multi-tasking tool, so you can use your telephone or fax machine while using your ADSL modem for a data call.

Bell Atlantic InfoSpeed can best be described as follows:

- A very fast connection: 7.1 Mbps downstream (to your home), and up to 680 Kbps upstream (from your home).
- Dedicated bandwidth to your Internet Service Provider (ISP).
- Always on - *no need to dial up and no busy signals.*
- A service that works on your regular phone line, without disrupting your voice communication (i.e., you can use your phone at the same time you are using InfoSpeed to surf the web).
- Dedicated access, which is more secure than a shared access arrangement like that used by cable modem companies.

How It Works

Bell Atlantic InfoSpeed service employs Asymmetric Digital Subscriber Line (ADSL), a modem technology that places digital bits in the inaudible frequency of your standard telephone line. The line is split at your home, carrying voice to your telephone or fax machine and data to your computer via an ADSL Terminal Unit-Remote (ATU-R). An installed Network Interface Card (NIC) is required in your computer to interface with the ATU-R. These two devices are connected with an Ethernet cable.

Contact Us

Imagine 7.1Mbps of pure speed to your home.

Too fast to picture? Imagine traveling at 675 miles per hour in a convertible... That's Bell Atlantic InfoSpeed Service - powered by ADSL technology.

Plus, it's always connected... it's on your regular phone line... and you can place phone or fax calls at the same time you're on the Internet.

Special Offers

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Ameritech

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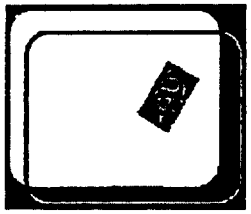

ISDN and ADSL

Products and Services

ISDN

ISDN (Integrated Services Digital Network) is a technology capable of transmitting data at speeds up to 128K. Now you can access the Internet at speeds up to 4 times as fast as a 28.8K modem. Or increase home office productivity by using your phone, fax, and computer at the same time. Best of all, you can do it all for just the fraction more than the cost of a second line.

For complete information, please visit the ISDN for Home section of our site.

ADSL

Asymmetrical Digital Subscriber Line (ADSL) is a new technology that allows information to be transmitted on a telephone line at very high speeds.

Ameritech.net High Speed Internet Service provides a complete package for using the Internet at very high speeds. The package includes an Internet access account with up to 5 email addresses and member IDs, customized browser software for your PC, a special modem, network interface card, and a high-speed ADSL line for connecting to the Internet. Our High Speed Service can be up to 50 times faster than a standard 28.8K modem.

The High Speed Internet Service is currently available only in Ann Arbor and Royal Oak Michigan, but Ameritech.net is working hard to hook up as many customers as possible. By the end of the century, 70% of the homes in the Great Lakes region will have access to the service.

For more information call 1-800-910-4369.

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Narrowband ISDN: same as ISDN.

ONU

Optical Network Unit: A form of Access Node that converts optical signals transmitted via fiber to electrical signals that can be transmitted via coaxial cable or twisted pair copper wiring to individual subscribers.

POTS

Plain Old Telephone Service: The only name recognized around the world for basic analog telephone service. POTS takes the lowest 4 kHz of bandwidth on twisted pair wiring. Any service sharing a line with POTS must either use frequencies above POTS or convert POTS to digital and interleave with other data signals.

RADSL

While one is transmitting data over the telephone wire or local loop, line conditions on the local loops vary all the time. Rate Adaptive Digital Subscriber Line (RADSL) is able to adapt to the changing line conditions on the local loops. In fact, RADSL is able to adapt to these changing conditions as they are happening.

SDSL

Single line Digital Subscriber Line: HDSL over a single telephone line. This name has been adopted by a single manufacturer, not a standards group, and may not stick. It important to distinguish, however, as SDSL operates over POTS and would be suitable for symmetric services to premises of individual customers.

STS-1

SONET basic transmission rate of 51.84 Mbps.

T1

Same as DS1.

VADSL

Very high-speed ADSL: same as VDSL (or a subset of VDSL, if VDSL includes symmetric mode transmission)

VDSL

Very-high data-rate Digital Subscriber Line: Modem for twisted-pair access operating at data rates from 12.9 to 52.8 Mbps with corresponding maximum reach ranging from 4500 feet to 1000 feet of 24 gauge twisted pair.

WAN

Wide Area Network: Private network facilities, usually offered by public telephone companies but increasingly available from alternative access providers (sometimes called Competitive Access Providers, or CAPs), that link business network nodes.

xDSL

Generic term referring to the various flavors of the DSL technology.

Yes, I'm interested in ordering MegaBit Services

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Glossary

DSL Glossary

Access Network
That portion of a public switched network that connects access nodes to individual subscribers. The Access Network today is predominantly passive twisted pair copper wiring.

Access Nodes
Points on the edge of the Access Network that concentrate individual access lines into a smaller number of feeder lines. Access Nodes may also perform various forms of protocol conversion. Typical Access Nodes are Digital Loop Carrier systems concentrating individual voice lines to T1 lines, cellular antenna sites, PBXs, and Optical Network Units.

ADSL
Asymmetric Digital Subscriber Line: Modems attached to twisted pair copper wiring that transmit from 1.5 Mbps to 9 Mbps downstream (to the subscriber) and from 16 kbps to 640 kbps upstream, depending on line distance.

BDSL
Same as VDSL.

B-ISDN
Broadband Integrated Digital Network: A digital network with ATM switching operating at data rates in excess of 1.544 or 2.048 Mbps. ATM enable transport and switching of voice, data, image, and video over the same infrastructure.

Core Network
Combination of switching offices and transmission plant connecting switching offices together. In the U.S. local exchange Core Networks are linked by several competing Interexchange networks; in the rest of the world (now) the Core Network extends to national boundaries. CSA Carrier Serving Area.

DS0
Digital Signal 0: 64 kbps digital representation of voice.

DS1
Digital Signal 1: Twenty four voice channels packed into a 193 bit frame and transmitted at 1.544 Mbps. The unframed version, or payload, is 192 bits at a rate of 1.536 Mbps.

DS2
Digital Signal 2: Four T1 frames packed into a higher level frame transmitted at 6.312 Mbps.

DSL
Digital Subscriber Line: Modems on either end of a single twisted pair wire that delivers ISDN Basic Rate Access.

E1
European basic multiplex rate which packs thirty voice channels into a 256 bit frame and transmitted at 2.048 Mbps.

Feeder Network
That part of a public switched network which connects access nodes to the core network.

HDSL
High data rate Digital Subscribe Line: Modems on either end of one or more twisted pair wires that deliver T1 or E1 speeds. At present T1 requires two lines and E1 requires three. See SDSL for one line HDSL.

ISDN
Integrated Services Digital Network: A digital network with circuit and packet switching for voice and data communications at data rates up to 1.544 or 2.048 Mbps. Basic Rate Access (BRA) provides two B channels at 64 kbps each and a D channel at 16 kbps. Primary Rate Access (PRI) provides twenty three (U.S.) or thirty (Europe) B channels and a single D channel at 64 kbps.

N-ISDN

your ISDN line, you may transfer those to your MegaBit connection and again use them as your LAN interface. However, the DSL connection must be terminated with CO compatible equipment.

34) Do I need a CSU/DSU for MegaBit Services?

No. There is CPE needed at the MegaSubscriber location. The device is commonly called a modem but it is not "officially" a modem. The technical term for the device is an ADSL Termination Unit-Remote or ATU-R. This device must be connected with a similar device in the serving Central Office. The customer is required to purchase and maintain this device.

Technical FAQs

Yes, I'm interested in ordering MegaBit Services

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to the Internet?

Yes, but under very controlled circumstances. If the customer has a router working in conjunction with the 10 BaseT connection and can capture an IP address, then they can subnet behind the router.

Some ISPs or Corporate Hosts may assign a statically mapped or fixed IP address to the MegaSubscriber. This scenario, when used in conjunction with a router can allow a number of other users access by subnetting the IP address. We are providing a Layer Two service and if the ISP or MegaCentral location assigns the address we cannot control how the end devices use the address.

If the MegaCentral host assigns a dynamically assigned IP address and provides an "always on" service, the end users, if they terminate the 10 BaseT connection in a router, may be able to configure subnets after determining what the IP address is. Again, this is an issue how the host end and the subscriber ends are configured.

In most cases, the connection is a single user to a single host.

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28) Can a customer run analog modems and fax machines on the same line as the MegaBit Service line?

Yes, the voice line supported by MegaBit Service is just like any other POTS line. You can connect the voice line to any device registered with the FCC to support either voice or data transmission.

Technical FAQs

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29) Can subscribers have multiple voice lines along with MegaBit Services?

MegaBit Services support only one voice line on the same pair of wires carrying data to the subscriber.

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30) What is a Virtual Private Network (VPN)?

A VPN creates the effect of a private, leased line network, but without the associated design, deployment, cost and vulnerability issues. Dedicated circuits are established between the host location, the closest Central Office and the subscriber location. Dedicated circuits are not established between various subscriber locations. Routing tables are established to route the data traffic over the high speed DSL facilities on a priority basis in order to ensure that the level of service provided is similar to that offered by a true private network.

Technical FAQs

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31) Can I use my Sun Ultra to connect to MegaBit Services?

Yes. You can use any computer that has an Ethernet interface to connect with an external modem. Additionally, if you have a PC with a PCIA bus, you may purchase an internal card instead of the external modem, eliminating the need for an Ethernet connection.

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32) Can I connect to AOL with my IP address?

Most ISPs assign IP addresses using either RADIUS or DHCP servers. It is up to your ISP if they will allow you to connect with an IP address that has been assigned to you.

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33) Will my ISDN CPE work on MegaBit Services?

ISDN CPE is not compatible with MegaBit Services. The only hardware compatible at this time is hardware that has been tested and recommended by U S WEST. If you have routers, bridges or hubs on the LAN side of

Technical FAQs

23) What are the minimum PC requirements for using MegaBit Services?

The minimum configuration for a PC is a 486 with a certain amount of RAM and available hard disk space. Please visit our technical requirements section for more information.

24) Could I beta test your product?

While we appreciate your offer to test our products, we have already tested our services extensively in our labs located in Minneapolis, Minnesota and Denver, Colorado. Additional tests have been performed on U S WEST facilities to the residences of company employees. However, we will maintain your offer on file, and should the need for beta testing arise in the future, we will contact you.

Technical FAQs

25) Why can't I get service?

Unfortunately, even when you input the first three digits of your phone number, and you get a message that MegaBit Services are available in your exchange, , there still may be hurdles to obtaining service. Most of the inhibitors to receiving MegaBit Services are technical in nature. We, at U S WEST, are developing solutions to make access to MegaBit Services more easily attainable by all. However, the following obstacles to receiving service do exist in some areas:

- If your phone wire is served by Digital Loop Carrier (DLC) equipment, you will not be able to receive MegaBit Services. A DLC is a multiplexing device in the telephone network used to provide economical voice service to high growth and suburban areas. A solution to provide xDSL based data services will be available in prototype 2Q98. Extensive network testing and evaluation is required to provide service out of DLC devices.

- If the telephone wires to your location from the U S WEST Central Office exceed the distance limit of 18,000 feet, you will not be able to receive MegaBit Services. Other factors such as temperature, wire gauge and condition of the wire may raise or lower the effective distance at which the service can be offered

- If bridge taps, wire gauge changes and/or load coils incorporate part of your phone wire, there may be delays in receiving service. We need to identify and deal with them before you are able to receive MegaBit Services.

Finally, please keep in mind that even though some customers may not be able to access MegaBit Services, they may be eligible for another of U S WEST's transport services. For more details please visit our Other Internet Solutions page at www.megaspeed.com.

If you would like to speak to a U S WEST representative for more information about alternative high-speed solutions, please call 1-888-MEGAUSW.

Technical FAQs

26) Are we dealing in a peer-to-peer environment when using MegaBit Services?

No. MegaBit Services are provisioned for a dedicated, point to point connection between a host and a subscriber location. The connection is a virtual private network and does not support peer-to-peer communication.

27) Can a subscriber have multiple machines at home all connecting

information on U S WEST's suite of Internet services, please check into Consumer Internet Services. You may also be interested in other data transport products that U S WEST offers. Please visit our Other Internet Solutions page for those options.

Technical FAQs

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14) Who is responsible for the IP addressing?

The subscriber's host site or MegaCentral location is responsible for the address.

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15) Does U S WEST assign and register the required addressing and domain conventions?

No. All of the registration of addresses and domain conventions must be assigned, administered and managed by the subscriber's host location.

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16) What is the line coding for RADSL?

Rate Adaptive Carrierless Amplitude/Phase modulation line coding.

Technical FAQs

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17) Does MegaBit Service support Layer Two Tunneling Protocol (L2TP)?

MegaBit Service is a bridged Layer 2 service. If L2TP is supported on the end points and can be transported across the network, then it should work.

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18) What needs to be done to the customer's computer to use MegaBit Services?

An Ethernet card must be installed in the customer's computer.

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19) Can customers plug their computer into their regular telephone jack to use MegaBit Services?

Yes. On one end the MegaBit modem plugs into an RJ11 jack (a regular telephone jack) and on the other end the modem plugs into a RJ45 jack with a 10Base T interface Network Interface Card (NIC).

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20) Is there a distance limit for MegaBit Services like there is for ISDN?

Yes. At this time the customer must be within 18,000 feet from a serving Central Office.

Technical FAQs

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21) If customers are in a central office that is equipped for MegaBit Services and their addresses are within the 18,000 feet distance limitation, can they have the service?

Probably. However, we need to go through the pre-qualification process to ensure that there aren't any other technical issues.

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22) Will the MegaBit Services user be able to access the worldwide Public Switched Telephone Network for standard voice calls to and from standard telephones?

We intend to deliver standard voice services with switched access anywhere you can call today.

One of the greatest benefits of the MegaBit offerings is that the data avoids the contention of the voice network since it is transferred over a dedicated data network.

Technical FAQs

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9) What are some of the differences between the DSL technologies and ISDN?

The DSL technologies offer a dedicated, point to point connection that is always on, while ISDN requires call set-up and dial access time in order to be activated. Also, with our MegaBit Services offering based on DSL technology, there is flat rate pricing whereas ISDN connections are usually priced at a per minute usage basis. Finally, the DSL based technologies are easier to provision at the Central Office than ISDN is.

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10) Is this DSL technology a better alternative than cable-modems or the new line of 56 Kbps analog modems?

These technologies are quite complementary. We see cable-modems and the 56 Kbps modem technology as attractive solutions for the more infrequent business and consumer Internet access users where a shared capability with others is acceptable. The DSL technologies will provide a dedicated networking solution to large and small businesses and the power-user-at-home marketplace.

Technical FAQs

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11) What about cable modems?

No discussion of DSL technologies would be complete without a review of cable modems. These modems use cable TV companies' coaxial networks as the transport medium. DSL technologies use the Regional Bell Operating Companies' (RBOC) twisted wire pair network.

There are two major issues that impact the deployment and use of cable modems. The first is that only about 7% of existing coaxial distribution systems are capable of two-way traffic. The cable industry is investing heavily to upgrade their facilities to a hybrid fiber/coax based network. Most coaxial networks are designed for one-way downstream distribution only, requiring the expensive replacement of distribution nodes. The second is that all subscribers on a distribution network (from 500 to several thousand homes) share the bandwidth, which can reduce an individual's throughput to analog modem dial-up speeds.

Another cable modem topic of discussion is that un-terminated cable TV jacks (no TV connected and no terminating resistor cap screwed on) act as antennas on the distribution node. Any RFI-generating (radio frequency interference) equipment near an un-terminated jack injects noise into the entire distribution network. AC motors (vacuum cleaners), computer monitors, fluorescent lights, and a host of other household items generate RFI. This is not critical for TV viewing, but can adversely affect modem throughput.

Technical FAQs

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12) Do customers need to be loop qualified (like ISDN requires)?

Yes, loop qualification is required. The process will be similar to the one for ISDN only quicker since less information is necessary in order to be qualified.

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13) What if a location does not meet the loop qualification requirements?

Unfortunately, if a location does not meet the loop qualification requirements, the subscriber cannot get MegaBit Services. We are working with various vendors to develop a more robust solution for customers in order to provide service to those locations where access is denied at present. In the interim, if a subscriber is interested in more

to the user for his or her specific application. There are multiple line coding techniques used by the DSL vendors. Each of these techniques has strengths and weaknesses within a telephony network. Some DSL technology is intended for use in campus environments and others work well within a building. Technology for telephony must be compliant with certain standards to prevent interference and cross talk.

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4) What are some of the differences between HDSL technology and the other xDSL technology termed ADSL?

HDSL is a technology using 2B1Q line coding and offering bi-directional data transmission with both upstream and downstream traffic traveling at the same rate.

ADSL also offers bi-directional data transmission but the downstream traffic travels faster than the upstream traffic. For example, the user's upstream connection may be at 128 Kbps while the downstream connection would be at 1.5 Mbps. In certain applications, such as surfing the Internet, the user needs more bandwidth while downloading information from the Internet and therefore the ADSL technology works well.

Technical FAQs

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5) Which variation of xDSL technology is U S WEST offering?

Our initial offering was based on HDSL technology. While our HDSL based offering was beneficial to our customers since we were able to install an established technology, it was also limiting our ability to offer service to many customers who were located farther than 12,000 feet from their Central Office. With this in mind, we decided to deploy a RADSL solution that would increase our availability scope while also offering customers even higher speeds.

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6) What is RADSL?

While one is transmitting data over the telephone wire or local loop, line conditions on the local loops vary all the time. Rate Adaptive Digital Subscriber Line (RADSL) is able to adapt to the changing line conditions on the local loops. In fact, RADSL is able to adapt to these changing conditions as they are happening.

Technical FAQs

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7) Will the DSL circuit be used like a leased line, allowing mail and web servers to be connected to the Internet full time?

Yes. Our MegaBit Services are logical, point to point connections and you would be connected full time to an ISP or to a Corporate host. The connection from the Corporate host or ISP is a shared connection. Other MegaBit Services end users ride the same connection.

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8) Everyone is very excited about this new service, but it seems just like ISDN. What's the big deal?

MegaBit Services do have some things in common with IDSN. However, each has a place in INTERPRISE's portfolio of services which is designed to fully meet its customer's expectations. Customers who require the switched, multi-point capability that ISDN provides, for applications such as videoconferencing, for example, will find ISDN an attractive solution. Future applications of DSL will offer a multi-point solution. We have tens-of-thousands of existing ISDN users today, and some of them may decide to change to our DSL offerings while others will continue to find ISDN perfectly matched to their applications.

Many customers needing the ability to access their corporate LAN or the Internet for long periods of time will find the always on and higher-bandwidth capabilities of the DSL technologies very attractive.