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# ***Fiber!***

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## ***to the People***

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### ***Verizon's ambitious fiber-to-the-premises initiative will transform customers' experiences with innovative voice, data, and video services.***

On May 19, 2004, Verizon announced that it was embarking on the most significant transformation in over a century of the technology used to carry phone calls, data, and video to and from homes and businesses. This new technology – known as fiber to the premises (FTTP) – uses fiber-optic cable and optical electronics to directly link homes and businesses to Verizon's network.

Verizon is building this network of the future to provide customers with unmatched network reliability, incredible speed, and exciting new options for voice, data, and video connections. Fiber-optics will unleash a range of advanced communications services. This new suite of fiber-optic services is called Verizon FiOS<sup>SM</sup>.

While the use of fiber-optic technology is common throughout the telecom industry, Verizon is the first company to use fiber to directly connect homes and businesses on a widespread scale.

Since rolling out its FTTP network in 2004, Verizon has passed over one million homes and businesses with the new technology. Verizon plans to pass an additional two million homes and businesses by the end of 2005, with more to

come. Verizon is now building its FTTP network in parts of 14 states – California, Delaware, Florida, Indiana, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Texas, and Virginia.

To help build the network across the country, Verizon will hire 3,000 to 5,000 new employees by the end of this year. And, Verizon has opened new customer call centers in Providence, RI; Dallas, TX; Hampton, VA; Thousand Oaks, CA, and Dewitt, NY. Building the FTTP network also will spur new jobs and investment across the country for vendors that partner with Verizon.

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#### ***FiOS delivers!***

*"Keller sits at the forefront of the fiber frontier, and our citizens and businesses stand to benefit from an entirely new era of technology that will positively impact their quality of life."*

*Julie Tandy, Mayor of Keller, TX*

*"Verizon's fiber-to-the-premises initiative expands the company's broadband capabilities and will create more union jobs. Verizon is giving the CWA access to jobs of the future and the opportunity to be a vital part of a promising growth area."* [\*Andy Milburn, Vice President, District 6, Communications Workers of America\*](#)

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## ▼ FiOS Internet Service

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Verizon is offering groundbreaking high-speed Internet services over its fiber-to-the-premises network. FTTP will deliver data speeds of up to 30 megabits-per-second (Mbps), which is at least 10 times faster than consumer broadband speeds typically available today. FTTP has the capability of providing over 100 Mbps in both downstream and upstream transmissions.

Connection speeds (downstream / upstream) and pricing offered to FiOS Internet consumers are:

- 5 Mbps / 2 Mbps for \$34.95 a month as part of a package, or \$39.95 a month stand-alone.
- 15 Mbps / 2 Mbps for \$44.95 a month as part of a package, or \$49.95 a month stand-alone.
- 30 Mbps / 5 Mbps for \$179.95 a month as part of a package, or \$199.95 a month stand-alone.

Small businesses in parts of California, Florida, and Texas also can sign up for FiOS Internet:

- 15 Mbps / 2 Mbps for \$59.95 (dynamic IP address) and \$99.95 (static IP address).
- 5 Mbps / 5 Mbps for \$169.95 (dynamic IP address) and \$209.95 (static IP address).
- 30 Mbps / 5 Mbps for \$349.95 (dynamic IP address) and \$389.95 (static IP address).

All FiOS Internet service packages include:

- Ultra high-speed Internet access
- Free installation by Verizon technicians
- Free networking router
- MSN™ Premium Internet software
- 24/7 live technical support
- Up to nine verizon.net e-mail accounts
- Access to newsgroups
- Personal Web space of 10 MB

Digital subscriber line (DSL) service will remain Verizon's most widely available form of high-speed Internet access for the foreseeable future, as the company ramps up FTTP deployment.

## ▼ FiOS TV Service

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Verizon FiOS TV will offer customers a competitive alternative to cable TV or satellite. Customers will be able to buy FiOS TV as a stand-alone service or packaged with voice and FiOS Internet service.

This next-generation technology will have customers watching television in a whole new light. It will be all digital. And with a robust lineup of high-definition programming (HDTV) – FiOS TV customers will get an amazingly clear entertainment experience.

And customers can control it all with Verizon's powerful interactive programming guide. Even more, a digital video recorder (DVR) will give customers more control over their viewing experience, allowing them to record, pause, and rewind any program – even live TV. With an abundant library of video on demand (VOD) titles, customers will be able to watch what they want, whenever they want. And they will have other features like pay-per-view and parental controls.

Verizon is negotiating with a variety of networks to acquire programming for FiOS TV. Programming agreements already signed include:

- **NBC Universal Cable** – 10 networks, including Bravo, CNBC, CNBC World, MSNBC, SCI FI Channel, Trio, USA, ShopNBC, Telemundo, and mun2. Also included are NBC and Universal HD, a service that features high-definition films, TV shows, performing arts, sports, and special events.
- **Showtime Networks** – 11 networks, including Showtime, Showtime Too, Showtime Showcase, Showtime Beyond, Showtime Extreme, Showtime Women, Showtime Next, Showtime Family Zone, The Movie Channel, TMC xtra, and Flix. Also included are Showtime HD and The Movie Channel HD,

Showtime On Demand, and The Movie Channel on Demand.

- **Starz Entertainment Group** – 13 movie channels, including Starz and Encore brands, Starz On Demand, and Starz HDTV.
- **NFL Network** – The first 24-hour network dedicated to the National Football League and the sport of football. Also included are NFL Network in HD and NFL on Demand.
- **Discovery Communications** – 14 networks, including Discovery Channel, TLC, Animal Planet, Travel Channel, Discovery Health Channel, Discovery Kids Channel, Discovery Times Channel, The Science Channel, Discovery Home Channel, Military Channel, Discovery en Español, FitTV, BBC America, and Discovery HD Theater. Also included is Discovery On Demand.
- **A&E Television Networks** – 7 networks, including A&E, The History Channel, The Biography Channel, History International, Military History Channel, The History Channel en español, and Crime & Investigation Network. Also included is video-on-demand content from all of A&E's services.
- **TVN Entertainment** – Video-on-demand programming, including new studio releases, a library of previous releases, independent movies, family and kids programming, and specialty VOD networks.
- **Varsity TV** – The only 24-hour network dedicated exclusively to teenagers, featuring teen-created and professionally produced programming.
- **Gospel Music Channel** – The first 24-hour network devoted to all styles of gospel music.
- **Soundtrack Channel** – Channel featuring music videos from movie and television soundtracks.
- **MavTV** – A new network targeting men aged 15-24, with an emphasis on sports and gaming.
- **GoITV** – The only bilingual (English/Spanish) channel in the U.S. dedicated to soccer.
- **Si TV** – The only English-language Latino network in the nation featuring hip and irreverent culturally relevant programming.

## ▼ **Hardware / Software partners**

**Westell Technologies** has a multi-year contract to manufacture the Verizon One™ communications command center, which fully integrates voice and data services into a single device. The Verizon One device will include several technologies – a broadband modem, 802.11g wireless router, 5.8 Ghz cordless telephone, and a color touch screen. Using the touch screen, customers will be able to:

- Call with one touch from their online address book or SuperPages directory listings.
- Check the weather, news headlines, movie listings, sports scores, stocks, and more.
- Leave notes for other household members with the free-style memo pad.
- Access and manage an online calendar.

Verizon One also will be configured to support additional features for customers subscribing to Verizon's iobi<sup>SM</sup> Home service, which lets customers manage all of their communications via a single user interface. Verizon will begin offering the Verizon One device to its broadband customers in June 2005.



**Tellabs** and **Motorola** will provide the central office and customer premises optical electronics for the project – such as Optical Line Terminals, Optical Network Terminals, and video-optimized Optical Amplifiers – also known as the “active” elements of FTTP technology. Motorola also will help build the video capability of the FTTP network, providing head-end technology and digital set-tops.

**ADC, Corning Cable Systems, Fiber Optic Network Solutions, Pirelli Communications Cables and Systems North America, Preformed Line Products, Sumitomo Electric Lightwave, and Tyco Electronics** will provide the fiber-optic cabling and other outside plant equipment for the project, also known as the “passive” elements of FTTP technology.

Verizon will use the **Microsoft TV** platform with FiOS TV service, which will support high-definition television, digital video recording, on-demand programming, and an interactive program guide.

**Yahoo!** will provide a fully integrated web portal to Verizon Online’s FiOS and DSL subscribers.

## ▼ **The Basics of Fiber Optics**

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**How does FTTP work?** Fiber-optics cables consist of bundles of hair-thin glass strands. Laser-generated pulses of light transmit voice, data, and video signals via the fiber at speeds far exceeding today’s copper-wire systems.

**What equipment is needed for FTTP?** Several key components are needed for a FTTP network:

- **Optical Line Terminals (OLT)** – Located in Verizon’s central switching office, this equipment serves as the point of origination

for FTTP transmissions coming into and out of the national Verizon network.

- **Optical splitters / splitter hubs** – A focal point for the main fiber feed in a neighborhood or development, where the optical signals from a fiber link are split off to serve multiple customers over individual strands of fiber.
- **Optical Network Terminals (ONT)** – The termination point for fiber at the home or business, where the optical signal is converted into voice, data, or video feeds to equipment in the customer’s premises. A battery backup will provide power for voice service during any loss of commercial power.

**What will FTTP do?** Serving primarily residential and small-to-medium-sized business customers, FTTP will provide voice service and associated features, while offering nearly unlimited bandwidth for an array of data and video applications. It also will accommodate new broadband products and services not possible with today’s network.

**What are the advantages of FTTP?** Fiber has a number of advantages over copper-wire:

- FTTP provides nearly unlimited bandwidth.
- FTTP provides more reliable service that is less susceptible to inclement weather and is easier to maintain.
- FTTP enables a wide variety of uses, from interactive content and home shopping to telecommuting to telemedicine and audio / video on demand.
- FTTP is extremely flexible to meet customer preferences – new products and services can be activated remotely, either permanently or on demand.



June 10, 2005



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**Verizon is deploying its FTTP network in these communities<sup>1</sup>: (\*indicates where FiOS<sup>SM</sup> Internet service may be available)**

### **California**

Adelanto  
Apple Valley  
Beaumont\*  
Bermuda Dunes  
Camarillo  
Chino  
Chino Hills  
Desert Hot Springs  
Hermosa Beach  
Huntington Beach\*  
Indio  
La Quinta  
Lake Elsinore  
Malibu\*  
Murrieta\*  
Ontario  
Palm Springs  
Perris  
Redondo Beach  
Sun City\*  
Temecula  
Victorville

### **Delaware**

Angola  
Delaware City  
Glasgow  
Hockessin  
Kirkwood  
Middletown  
Newark  
Red Lion  
St. Georges  
Talleyville

### **Florida**

Alafia\*  
Beach Park\*  
Brandon\*  
Carrollwood\*  
Hillsborough Co.  
Keystone\*  
Land O Lakes\*  
New Tampa\*  
Pasco Co.

Tampa\*  
Wesley Chapel\*

### **Indiana**

Fort Wayne  
New Haven

### **Maryland**

Annapolis  
Arden on the Severn  
Arnold  
Bethesda  
Bowie  
Boyd's  
Brink  
Brookeville  
Burtonsville  
Cabin John  
Chevy Chase View\*  
Claggettville  
Clarksburg  
Cloverly  
Colesville  
Columbia  
Crofton  
Crownsville  
Damascus  
Dorrs Corner  
Fairland  
Forest Glen  
Four Corners  
Gambrills  
Garrett Park\*  
Germantown  
Glen Echo  
Glenmont\*  
Glenn Dale  
Guilford  
Herald Harbor  
Kensington\*  
Kettering  
Laurel  
Millersville  
Mitchellville  
North Bethesda  
North Silver Spring

Oakmont  
Old Mill  
Olney  
Parole  
Pointer Ridge  
Pooks Hill  
Potomac  
Severna Park  
Shipley's Choice  
Silver Spring  
Spencerville  
Wheaton  
White Oak  
Woodmore

### **Massachusetts**

Andover\*  
Bedford\*  
Belmont\*  
Boxford  
Burlington\*  
Canton  
Dedham  
Georgetown  
Hamilton  
Holliston\*  
Hopkinton\*  
Lexington\*  
Lincoln  
Littleton  
Lynn  
Lynnfield\*  
Marlborough  
Middleboro  
Nahant  
Natick\*  
Needham  
Newton  
North Reading\*  
Reading\*  
Sherborn  
Stoneham  
Swampscott  
Tewksbury  
Topsfield\*  
Tyngsborough

Wakefield  
Wellesley  
Wenham  
West Newbury\*  
Westborough  
Westwood  
Winchester\*  
Woburn

### **New Hampshire**

Bedford  
Derry  
Epping  
Londonderry  
Portsmouth  
Salem

### **New Jersey**

Allendale  
Alpine  
Bernards  
Cherry Hill  
Closter\*  
Colts Neck  
Demarest  
Denville  
Emerson  
Evesham  
Ewing  
Fair Haven  
Franklin Lakes  
Hanover  
Harding  
Harrington Park  
Haworth  
Hopewell Township  
Lawrence  
Little Silver  
Long Hill  
Mahwah  
Medford  
Mendham Borough  
Mendham Town  
Middletown  
Midland Park  
Montvale

Northvale  
Norwood  
Oakland  
Oakland  
Old Tappan  
Paramus  
Park Ridge  
Parsippany-Troy Hills  
Passaic  
Pennington  
Ramsey  
Red Bank  
River Vale  
Rockaway  
Rockaway Boro  
Rockleigh  
Rumson  
Saddle River  
Sea Bright  
Shrewsbury Borough  
South Hackensack  
Tinton Falls  
Upper Saddle River  
Voorhees  
Waldwick  
Westwood  
Wyckoff\*

### **New York**

Ardsley  
Armonk\*  
Baxter Estates  
Bayville  
Bedford Village\*  
Bethlehem  
Bronxville  
Cedarhurst  
Centre Island  
Chappaqua\*  
Cicero  
Clarkstown  
Colonie  
Cove Neck  
DeWitt  
Dobbs Ferry\*  
East Williston  
Eastchester  
Elmsford  
Fairview\*  
Fayetteville  
Flower Hill  
Franklin Square\*  
Garden City  
Grand View  
Great Neck Estates  
Great Neck Plaza  
Great Neck\*  
Greenburgh  
Harrison\*  
Hastings  
Haverstraw  
Hempstead  
Hewlett Bay Park  
Hewlett Harbor  
Hewlett Neck  
Huntington  
Huntington Bay

Irvington  
Katonah\*  
Kensington  
Kings Point  
Lake Grove  
Lake Success  
Larchmont  
Lynbrook  
Mamaroneck\*  
Manlius  
Massapequa\*  
Mineola  
Munsey Park  
New City\*  
North Hempstead  
North Hills  
Nyack\*  
Orangeburg\*  
Orangetown  
Oyster Bay\*  
Pearl River\*  
Piermont  
Plandome  
Plandome Heights  
Plandome Manor  
Pleasantville\*  
Pomona  
Poquott  
Port Chester  
Port Washington\*  
Ramapo  
Russell Gardens  
Rye Brook  
Rye\*  
Saddle Rock  
Sands Point  
Scarsdale\*  
Smithtown  
South Nyack  
Syosset\*  
Syracuse  
Tarrytown\*  
Thomaston  
Tuckahoe\*  
Upper Nyack  
Wantagh\*  
White Plains  
Williston Park  
Woodsburgh

### **Oregon**

Beaverton  
Hillsboro  
Tigard

### **Pennsylvania**

Aleppo  
Baldwin  
Beechview  
Bell Acres  
Birmingham\*  
Bridgeville  
Brookline  
Buckingham\*  
Caln\*  
Castle Shannon  
Cecil

Charlestown\*  
Collier  
Dormont  
Downingtown\*  
Doylestown\*  
East Bradford\*  
East Brandywine\*  
East Caln\*  
East Goshen\*  
East Pikeland  
East Vincent  
Exton\*  
Franklin Park  
Glenfield  
Green Tree  
Hampton  
Haysville  
Indiana Township  
Kilbuck  
Leet  
Lower Makefield\*  
McCandless  
Middletown\*  
Mt. Lebanon  
New Britain\*  
Newtown\*  
Northampton\*  
O'Hara  
Ohio Township  
Osbourne  
Phoenixville  
Plumstead\*  
Pocopson  
Ross  
Schuylkill  
Scott  
Sewickley  
Sewickley Heights  
Sewickley Hills  
Shaler  
South Fayette  
Upper Makefield\*  
Upper Providence  
Upper St. Clair  
Uwchlan\*  
Warwick  
West Bradford\*  
West Chester\*  
West Goshen\*  
West Pikeland\*  
West View  
West Vincent  
West Whiteland\*  
Westtown\*  
Wrightstown\*  
Yardley\*

### **Rhode Island**

North Kingston  
Warwick

### **Texas**

Allen  
Carrollton  
Colleyville\*  
Coppell  
Flower Mound

Fort Worth\*  
Garland  
Grapevine\*  
Highland Village  
Irving  
Keller\*  
Lewisville  
Lucas  
Murphy  
Parker  
Plano  
Rowlett\*  
Sachse\*  
Southlake\*  
Westlake\*  
Wylie\*

### **Virginia**

Annandale\*  
Arcola  
Ashburn  
Chesterfield County  
Falls Church\*  
Franconia\*  
Henrico County  
Herndon  
Leesburg\*  
McLean\*  
Oakton  
Reston  
Richmond  
Springfield\*  
Tyson's Corner\*  
Virginia Beach

<sup>1</sup>Initial FTTP availability may be limited in these communities.



June 10, 2005