

# More Broadband Subscribers, Faster Broadband Speeds

According to Point-Topic's Global Broadband Statistics service ([www.point-topic.com](http://www.point-topic.com)), there were 298 million broadband subscribers worldwide at the end of March 2007. "Given the prevailing growth rates, it is safe to assume that the number has now passed 300 million," says Katja Mueller, research director at Point Topic.

Eastern Europe is continuing to grow strongly, and was the only region to record more than 10 percent growth in this quarter, with Romania passing the million-subscriber mark and Greece growing fastest in percentage terms, expanding by 26.8 percent during the quarter.

The US remains the largest broadband country in the world, adding 2.9 million subscribers in the first quarter and growing to 60.4 million. China is closing the gap, however, with only 4 million fewer subscribers than the US.

The major mover in the top 10 countries is France, which achieved a 9.36 percent growth rate and leapfrogged South Korea to fifth place for total broadband subscribers.

The market research firm In-Stat ([www.in-stat.com](http://www.in-stat.com)) has a slightly lower estimate of broadband subscribers than Point-Topic, putting the worldwide total at 285 million as of May 2007. In-Stat finds that approximately 65 million new broadband subscribers signed up for high-speed access to the Internet in the 12 months from May 2006 to May 2007, and forecasts that subscriptions will nearly double by 2011 to reach a worldwide total of 567 million. The principal market driver for broadband is high-speed Internet access, says Mike Paxton, In-Stat analyst. Online applications such as viewing video clips or TV programming, downloading music files and playing online games are all fueling demand for 'fatter pipes.' Recent research by In-Stat found that:

- DSL and cable modem services be-

Country	Broadband subscribers, 12/31/2006	Broadband subscribers, 3/31/2007
USA	57,488,226	60,362,830
China	51,723,000	56,258,499
Japan	25,882,100	26,533,000
Germany	14,894,100	16,142,750
France	13,994,400	15,304,900
South Korea	14,042,698	14,102,888
UK	13,111,600	13,953,000
Italy	8,826,803	9,348,250
Canada	7,735,621	8,010,139
Spain	6,726,756	7,185,932

**Table 1: Top 10 countries by number of broadband subscribers. Source: Point-Topic**

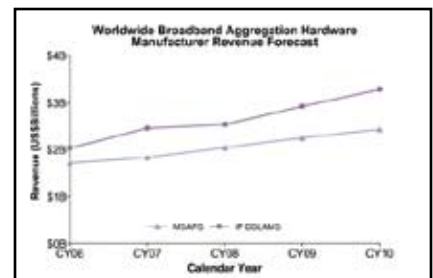
tween them provide 92 percent of worldwide broadband connections.

- By 2011, DSL will account for 58 percent of broadband connections worldwide.
- By 2011, there will be over 55 million fiber-to-the-home households.

Infonetics Research ([www.infonetics.com](http://www.infonetics.com)) reports that worldwide DSL port shipments rose 4 percent in the first quarter of 2007, while overall broadband aggregation hardware revenue fell 13 percent to \$1.5 billion.

Continued strong growth in worldwide DSL subscribers indicates that fundamental demand for broadband connectivity is still on the rise, Infonetics says. Despite a growing percentage of FTTH deployments, fiber-to-the-building deployments using ADSL2+ and VDSL technologies for the subscriber's connection are also increasing significantly. Only in Japan is DSL subscriber-ship falling.

Broadband service providers contin-



**Source: Infonetics Research**

ue to push fiber deeper into the access network and upgrade to higher-speed ADSL2+ and VDSL technologies, in order to support higher bandwidth and IP services such as VPNs, VoIP, and IPTV, according to Infonetics Research analyst Jeff Heynen. These trends brought about a 29 percent increase in IP DSLAM revenues in the first quarter of 2007, and are expected to push IP DSLAM and MSAP revenues to steady growth annually through at least 2010, even though prices for this equipment are falling.

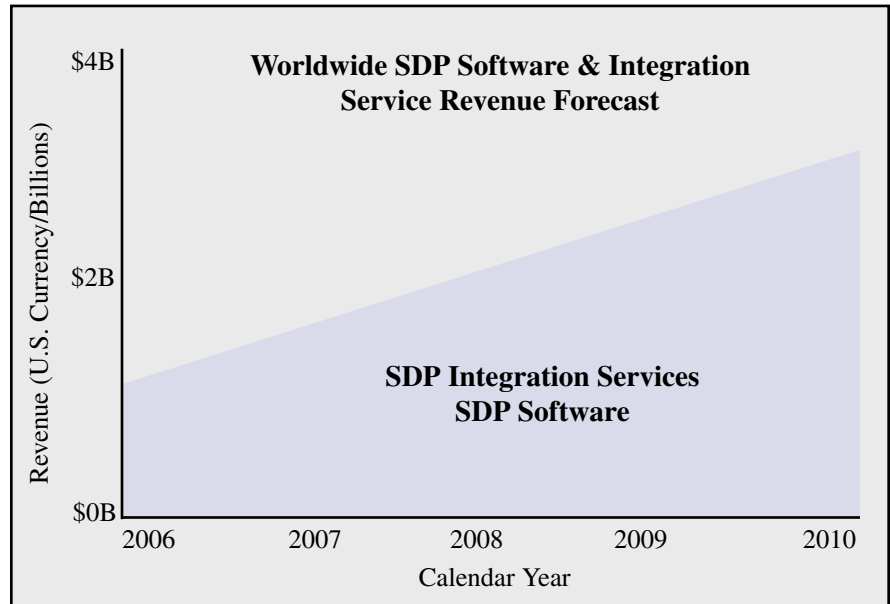
# Service Delivery Platform Market to Reach \$3.5 Billion in 2010

The rapidly growing service delivery platform (SDP) market, including software and integration services, is forecast to hit \$3.5 billion in 2010, according to a new report from Infonetics Research ([www.infonetics.com](http://www.infonetics.com)).

A growing number of mobile and fixed-line operators are deploying SDPs, or incremental services based on existing SDPs, in order to remain competitive with facilities-based competitors and stave off competition from Web-based application providers like Google and Yahoo.

New services like IPTV, video on demand (VOD), video telephony and fixed-mobile convergence (FMC) help carriers thrive in the competitive communications environment. But all of these new services require significant investments to purchase new hardware components and integrate them into signaling, OSS and BSS networks.

The solution is service delivery platform software and integration services, says Infonetics. "Getting new services out to subscribers and monetizing them is the name of the game for service providers in a hyper-competitive environ-



Source: Infonetics Research

ment that includes facilities-based and Web-based application providers, and SDPs help them achieve that goal," says report author Jeff Heynen.

On the mobile side – which currently accounts for 85 percent of SDP revenues – SDPs are being used to deliver con-

tent charging, mobile gaming, mobile video, multimedia messaging and location-based services. On the fixed-line side, which is smaller but faster growing, SDPs are being used to deliver click-to-call, voice portals, virtual call centers and unified communications.

## Revenue Opportunity: Digital Home Support Services to Reach Nearly \$1B by 2011

Total US consumer spending for home technical support services will reach nearly \$1 billion by the end of 2011, according to a report from Parks Associates ([www.parksassociates.com](http://www.parksassociates.com)). This new study predicts that remote or on-site IT support services for home computers and networks will grow from approximately \$450 million in 2007 to \$977 million by year-end 2011, and that in-home services for install-

ing and configuring new PCs will generate revenues exceeding \$700 million.

Parks Associates analyst Kurt Scherf says, "Customer service and support are not just critical challenges for retailers, manufacturers, and service providers to overcome but also significant revenue-generating opportunities for forward-thinking companies."

The elements critical to delivering

end-to-end digital home support, according to Parks, include simplifying hardware installation, improving service provision, automating troubleshooting services, building metrics-gathering solutions, and enhancing help desk support systems, which could include the development of dynamic knowledge databases and other operation support system (OSS) features.



# Why We Need More Fiber

## Video: "It's the Network"

The following is excerpted from the keynote address given in June by Verizon chairman and CEO Ivan Seidenberg at the NXTComm07 Tradeshow & Exhibition in Chicago this June.

**C**ommunications technologies are the disruptive force in the 21st century economy. All of the defining experiences of the digital lifestyle – social networking, media sharing, e-commerce, mobile media – depend on our advanced networks and the practical applications that deliver their power to customers.

Together, our broadband, mobile and global IP networks comprise a powerful delivery system for the media-rich, interactive content that is transforming television, the Internet, commerce, medicine and education.

Network investment pushes the whole industry forward by fueling innovation in consumer electronics, equipment, content, and software. It also generates economic benefits far beyond our industry by transforming the way business gets done – squeezing out costs, speeding up time, and connecting millions of people around the globe to the opportunities of the information economy. Every job created through broadband investment creates four jobs in the broader economy. And wireless has become one of the world's great growth engines. One major study done for the CTIA finds that 2.5 percent of all the jobs in the United States today depend on the wireless industry.

Every segment of our industry has shown a great capacity to evolve and grow, as the market has moved from voice to data to IP to video.

This year, more than 50 percent of Americans will have a broadband connection. More than 75 percent have wireless phones. These are big numbers. But what's more important is how cus-

tomers are expanding what the terms "broadband" and "mobility" mean.

The Pew Foundation says that 8 percent of Americans are what they call "omnivores" – "deep users" of Web 2.0 and mobile media.

Forty-four percent of cell phone owners use them for data, video and the Internet. A typical family with a couple of kids uses some or all of a growing array of digital devices – HDTVs, laptops, game-players, mobile phones, BlackBerry. The heaviest users consume – and increasingly, produce – more media in one weeknight than we ever dreamt of a few short years ago.

And we have barely begun to imagine all the ways that rich graphics, two-way broadband and virtual reality will transform medicine, education and creative industries.

This surge in visual, interactive content – delivered to any screen, anytime, anywhere -- has changed our industry forever. A single video requires 1,000 times the bandwidth of an audio file. A high-definition video requires up to 10 times the bandwidth of a regular video – that's equivalent to downloading 2,300 songs or 35,000 web pages.

It has taken many years of investment and innovation to prepare our wireless, wireline and global IP networks to handle this exponential growth in demand for broadband and mobility, but now, it is our industry that is pushing the envelope on speed and providing a pathway to the future. \*We see all this energy and momentum at work in my company.

### In Wireless

Our 3G broadband network now reaches

200 million people across the country. This year, we're upgrading with Rev. A, which will give a big boost to upload speeds and enhance the mobile broadband experience.

And by the end of the decade, we'll be ready for 4G, which will embed wireless broadband into all kinds of consumer electronics. One forecast predicts that, by 2012, there will be 50 million consumer devices in use that have embedded wireless capabilities. So the innovation curve in wireless is just beginning.

In the wired network, you'll recall that it wasn't so long ago that the high-tech industry was challenging the telecom industry to solve the bandwidth "bottleneck" and deliver 100 megabits to the home. Tech and media leaders like Michael Dell, John Chambers and Mark Cuban have all spoken out on the need for 100 megabits to the home.

### Today, 100 Megabits Is Just The Beginning

Verizon's fiber-to-the-home network will reach 9 million homes by the end of 2007 and 18 million by the end of the decade. FiOS Internet service delivers up to 50 megabit speeds today and is capable of 100 megabits and beyond. In fact, we're already trialing 100 megabit service today over our existing BPON architecture.

Starting this fall, we'll start to move from megabits to gigabits. We will begin to use GPON technology in all FiOS deployments, which will increase speeds downstream by four times and upstream by eight times.

And by the end of the decade – when

our cable competitors say they'll be transitioning to DOCSIS 3.0 – we'll be preparing for the next generation of electronics that will take the home consumer to the next level of broadband, at speeds that rival what we deliver over our most advanced business networks today. We're also increasing the power of our global IP networks, over which more and more of the world's commerce takes place:

Here in the U.S. we're building an all-optical ultra-long haul network to deliver the reliability, resiliency and 40 gigabit speeds that will make the Internet run better and faster. This year, we'll add about 6,000 miles to that network, putting us more than half-way to our goal of a 50,000-mile network across the country.

We connect customers in major cities across the U.S. with a converged packet architecture that carries all kinds of service – voice, video, data and Internet – to a common IP network.

And yesterday, we announced that we'll be extending this technology to major cities in Asia/Pacific and Europe, which will help our multinational customers make the transition to IP and – ultimately – to bandwidth-on-demand.

Obviously, we believe in the transformational power of superior networks. People talk about the virtual world of cyberspace, but networks are made up of real stuff – fiber, cables, routers, switches, servers, optical components, computer chips – that makes the information economy run.

Do customers care about great networks? You bet they do. What we're seeing is that every new generation of network technology creates whole new genres of services that turn network power into great experiences for customers.

Nowhere is that interplay clearer than in the wireless market. Three years ago, we launched a wireless service that put video on the handset. Two years ago, it was downloadable music. This year, it's broadcast quality TV.

Customer acceptance has been tremendous. More than 23 million of our

wireless customers have broadband-capable devices.

Wireless broadband cards are now embedded in laptops from major manufacturers like Dell, Panasonic, HP and Lenovo.

In the first quarter of 2007, users downloaded 30 million songs, most of them over-the-air to the handset – something you can do only on a 3G network.

Thousands of government agencies rely on our mobile data services, many of which are in the public safety arena – from local police departments to FEMA and, most recently, to the FBI.

**Do customers care about great networks? You bet they do. What we're seeing is that every new generation of network technology creates whole new genres of services that turn network power into great experiences for customers.**

We just introduced the new Global BlackBerry, which gives you e-mail access and a single local phone number wherever you go. It's only been about six weeks, but so far, sales have surpassed our forecasts, especially among business customers – literally thousands of whom are using it today.

Every day, some 30 M American workers are on the go. And whether they're going 10 miles or 10 time zones away, we think offering this kind of convenience, anytime access, and – ultimately – convergence of the customer experience is a major area of opportunity for our industry.

This morning, we announced three new fixed-mobile services for business

customers that create a seamless environment – single phone number, single mailbox, and instant call set-up – for work, home and mobile office.

And as we transition to the technology known as IMS, we will usher in a new generation of converged networks, products and applications.

We used to say that the three things you need when you leave your house are your cell phone, your car keys and your wallet. With the next wave of innovation in converged services, the day isn't far off when all you'll need to take is your cell phone.

And of course, the new frontier for innovation is the access network.

DSL got us into the Internet business. Fiber puts us in the TV and multimedia business – with faster Internet speeds, higher-quality high-definition content, and more interactive capabilities than any other platform, plus the ability to grow as customers find creative ways to use this new medium. It's hard to believe that we launched FiOS less than three years ago. Today, FiOS is in 1,700 communities in 16 states.

Five years ago, Verizon had 1.6 million broadband customers. Less than 10 percent of telecom revenues came from data. Today, we have over 7 million broadband customers, hundreds of thousands of video subscribers, and – for the first time in a long time – consumer revenues are growing.

Five years ago, we had 32.5 million wireless customers, who averaged just under 400 minutes of use every month. Wireless was almost entirely a voice service, with data accounting for a little more than one percent of revenues. Today, we've almost doubled the number of customers, to 60.7 million, and grown minutes-of-use to more than 700 a month. But look at these statistics from our first quarter about our fastest growing services: 22.3 billion text messages 450 million picture messages 106 million downloads of music, videos, games and ringtones ... none of which existed a few years ago.

Five years ago in the enterprise space, data and Internet made up about 25 percent of revenues. Today, it's 50 percent. IP and managed services are growing at a 25 percent clip. Our fastest-growing service is Private IP, which was just launched five years ago. And fully 40 percent of our customers opt for us to manage their networks for them – by hosting their servers, managing their security, even managing their IT applications.

All of these new services have boosted our revenue growth from a flat rate five years ago to four percent today. And I am confident that all this investment and innovation is a down payment on even greater things to come for the future.

Innovation has changed the way we think and the way we work. We've always been a network company, but now

that term has a broader meaning – not just the physical wires and towers we operate, but also the human networks we create by expanding our virtual presence in people's lives.

The best thing is, the biggest opportunities may not even be in view yet. As we think creatively about how to focus our technical know-how on the things that matter most to customers, we'll begin to tap our industry's potential to address the great social needs of our time:

- Saving energy.
- Reinventing education.
- Transforming medicine through IT.
- Empowering people with disabilities.
- Connecting families.
- Creating economic opportunity.

We see examples all around us of how a new idea that addresses an unmet need can invent whole new categories of service. YouTube was founded in Febru-

ary 2005. Today, it receives some 100 million hits a day and its average traffic is growing by 7 percent every week.

Video games have been around for years, but Nintendo's "Wii" reinvents the category and extends it to a whole new segment of the market.

Advances in lasers, fiber and miniaturization not only grow our business, they open new frontiers in biomedicine, medical imaging, and robotics.

Innovative leaders expand the market and enlarge our sense of the possible. That's what all of us here at NXTComm have the opportunity to do – to the great benefit of customers, as well as investors who participate in this growing industry. We are fortunate to be part of a vibrant global industry that is creating the future, and I look forward to continuing to work with all of you to deliver all the potential that these exciting new technologies have to offer.

## New Alliance Seeks the "Road to 100G"

Leading network technology providers recently announced an alliance to accelerate the adoption and development of next-generation networking platforms. The "Road to 100G" Alliance ([www.roadto100g.org](http://www.roadto100g.org)) was founded by leaders in networking component segments that are critical to the success of ultra-high-bandwidth applications.

"The industry is experiencing unprecedented demand for bandwidth, driven primarily by the emergence of new IP-based consumer services," said Bill Weisinger, Chairman of the Road to 100G Alliance. "The ecosystem created by the Road to 100G Alliance will facilitate and accelerate the release of new platforms that support these new services."

"The design and development of high bandwidth networking solutions that efficiently transport a broad range of media types creates many new challenges," explained Simon Stanley, Founder and

Principal Consultant, Earlswood Marketing Ltd., "The creation of an Alliance that promises to develop an ecosystem to address these challenges from a system perspective may be just the thing the industry needs to accelerate the build-out of a new infrastructure."

The Alliance's charter is to provide a framework encouraging the development of solutions optimized for high-density communications applications. The Alliance plans to provide ongoing education, application support and common reference design data to accelerate the deployment of high-performance enterprise, metro, carrier, and long haul network solutions. The Road to 100G Alliance also plans to sponsor programs, events and communications relating to the validation of these advanced networking platforms.

The founding members of the Alliance are Bay Microsystems, Inc., Enig-

ma Semiconductor, IDT (Integrated Device Technology, Inc.), IP Infusion (an ACCESS Company), and Lattice Semiconductor. All members are leaders in their respective technology fields including network processing, search acceleration, traffic management, high-density backplane switching, configurable logic, search memories, intelligent network software, and high speed network I/O.

The Alliance will work to make high-capacity network elements interoperable. Products from the Alliance members can deliver integrated solutions today that are capable of up to 40 Gbps line rates, scaling to 100 Gbps over time. The establishment of a 100G ecosystem will serve network equipment vendors and their service provider customers with valuable services and will facilitate a more aggressive creation of the next-generation networking infrastructure.

# Video Take Rates for FTTH Services Expected to Exceed FTTN

A new report by SNL Kagan ([www.kagan.com](http://www.kagan.com)) forecasts modest take rates for telco video services through 2011, with the five-year home penetration rate expected to be in line with the initial results posted by digital cable and satellite services.

SNL Kagan forecasts that take rates for fiber-to-the-home (Verizon's strategy)

will exceed those using fiber-to-the-node architectures coupled with DSL technology (AT&T's primary strategy). "There are two significant gating factors to the telcos' entrance into the space: speed to market and the cost of upgrading infrastructure to deliver video services," said Ian Olgeirson, senior analyst for SNL Kagan. "This will

restrain them from grabbing much larger chunks of the market in the foreseeable future. It's a difficult task that will require long-term commitment and investor patience." An additional factor is compiling programming packages, with the telcos initially facing competitive disadvantages on both cost and scope.

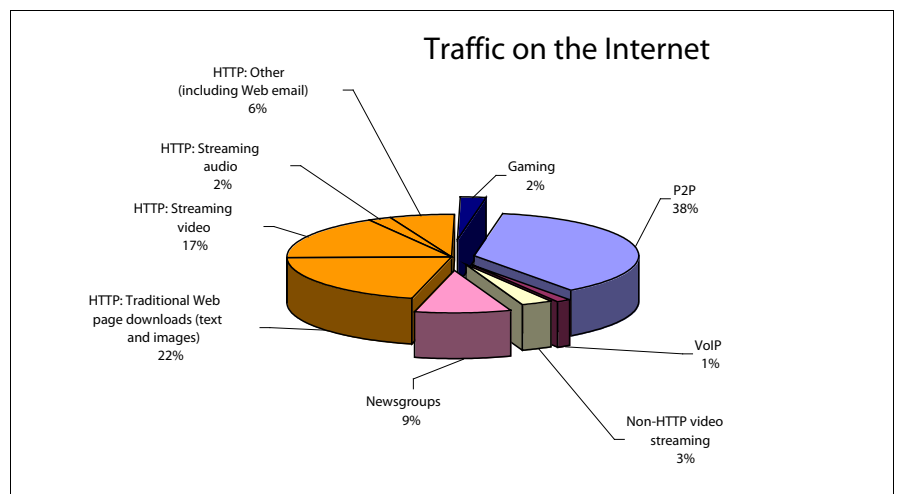
## Due to Internet Video, Web Traffic Overtakes Peer-to-Peer

Ellacoya Networks ([www.ellacoya.com](http://www.ellacoya.com)), a provider of carrier class broadband service optimization solutions for IP networks, released findings based on usage data of approximately one million broadband subscribers in North America. After more than four years during which peer-to-peer (P2P) applications have overwhelmingly consumed the largest percentage of bandwidth on the network, HTTP (Web) traffic has overtaken P2P and continues to grow.

As a result of streaming audio and video in Web downloads, HTTP now accounts for approximately 46 percent of all traffic on the Internet. P2P continues as a strong second place at 37 percent of total traffic. Newsgroups (9 percent), non-HTTP video streaming (3 percent), gaming (2 percent) and VoIP (1 percent) are the next widely used applications.

Traditional Web page downloads (text and images) now represent only 45 percent of all Web traffic, with streaming video representing 36 percent and streaming audio 5 percent of all HTTP traffic. YouTube alone comprises approximately 20 percent of all HTTP traffic, or nearly 10 percent of all traffic on the Internet.

"The popularity of browser-based video such as YouTube is having a significant impact not only on overall



**Hypertext Transfer Protocol, or classic HTTP, accounts for only 46 percent of all Internet traffic. Of that, less than half (21 percent of the total) are "traditional" page views.**

bandwidth consumption but also on the distribution of application traffic on the network," said Fred Sammartino, vice president of marketing and product management at Ellacoya. "The

way people use the Internet is changing rapidly - from browsing to real-time streaming. We expect to see new applications over the next year that will accelerate this trend."

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Herb Hauser – President, Midtown Technologies, Inc.

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