

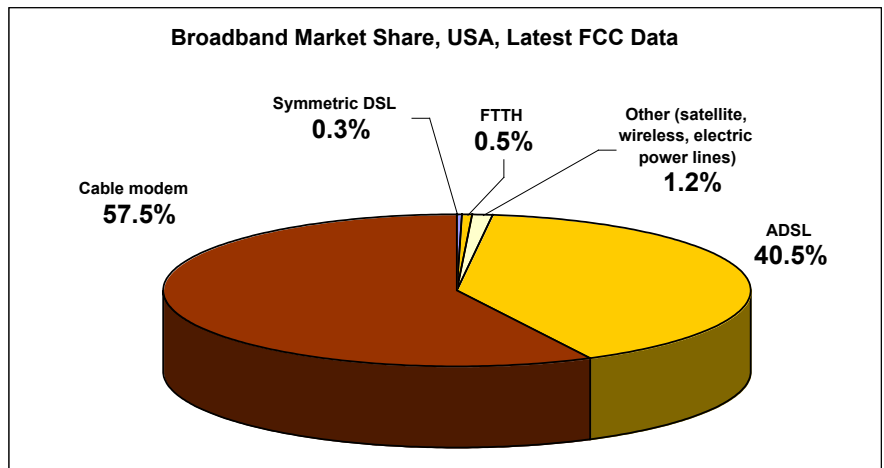
Focus this month: Entertainment, especially IPTV, Driving Market Growth Worldwide

FCC: "High-Speed" Internet Connections Increased 33 Percent in 2005

The most recent data released by the Federal Communications Commission show that high-speed Internet connections (200 Kbps or higher downstream) in the U.S. increased by 33 percent, or 12.3 million lines, in calendar year 2005.

Of the 50.2 million total high-speed lines reported as of December 31, 2005, 42.9 million served primarily residential end users. The breakdown by technology was: Cable modem, 57.5 percent; ADSL, 40.5 percent, symmetric DSL, 0.3 percent; fiber to the home, 0.5 percent; other (satellite, wireless, electric power lines), 1.2 percent. Nearly two out of three broadband users – 62 percent – had downstream speeds of at least 2.5 Mbps. However, DSL appears to be gaining on cable; for the first time, the increase in ADSL lines (5.7 million lines) exceeded the increase in cable modem connections (4.2 million lines).

The FCC estimates that households in 99 percent of the ZIP codes in the



With broadband defined as only 200 Kbps downstream, cable modems and ADSL accounted for most of the "broadband" connections in 2005, the FCC's latest report says.

U.S. have access to some type of broadband service. However, as this magazine (and a recent report by the Government Accountability Office) have pointed out, only one household in a ZIP code has to have broadband access in order for the

ZIP code to be regarded as covered (see December 2005 cover story). A better measure of access: The FCC's finding that 78 percent of households who could receive telephone service from ILECs had access to DSL.

With a Third of US Households "Really" Broadband-Enabled, More Net Apps are Popular

As broadband access becomes commonplace in the U.S., Internet use is evolving, according to market research firm In-Stat (www.in-stat.com). Nearly half of respondents to a recent In-Stat survey said they were telecommuting, with the incidence even higher among the sought-after high-income households. This is an ideal audience for enhanced home-office communications packages from telcos.

In-Stat also found significant differences in the ways various ethnicities use broadband. For example, African American respondents have the highest adoption of gaming, and Asian Americans

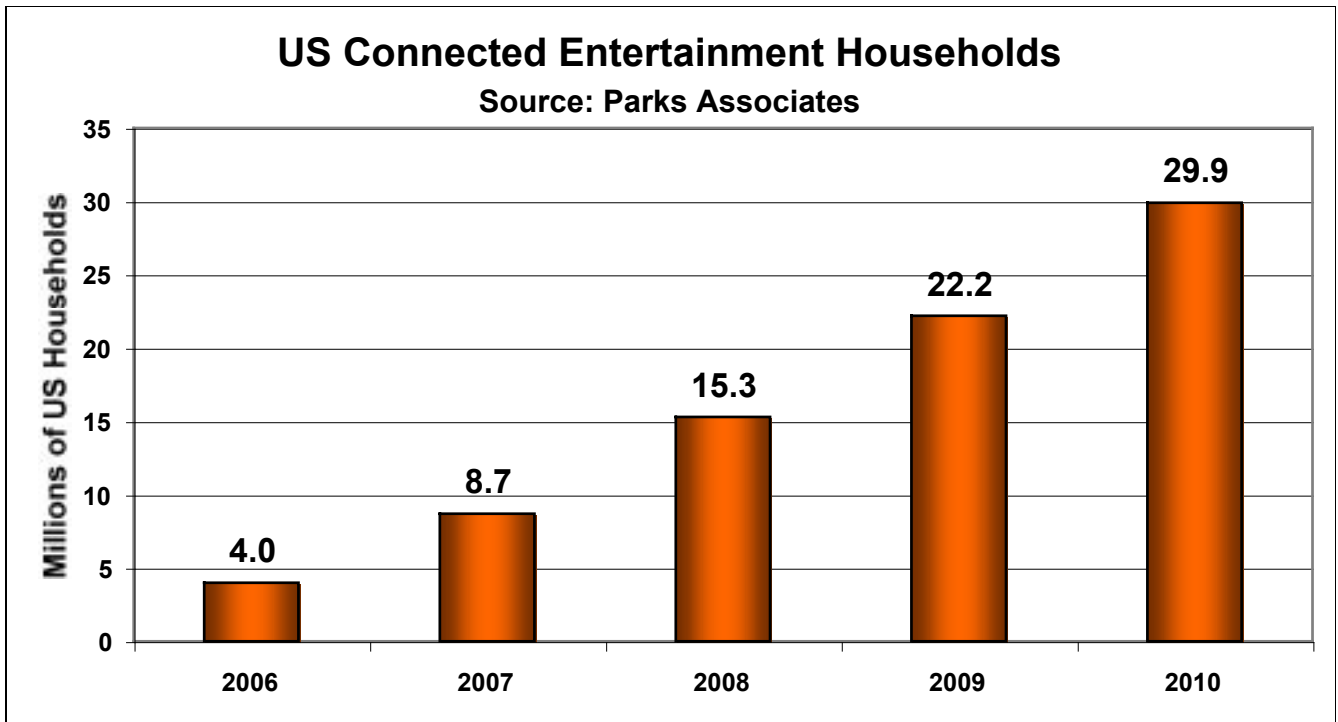
have the highest usage of Web cameras. Report highlights include:

- Online gaming is highly popular, with 57 percent of survey respondents playing games over the Internet. Leading-edge and early buyers expect to increase their gaming compared to others – suggesting that gaming will continue to be used more among early-cycle buyers than late-cycle buyers.
- Of all Internet applications, online shopping will have the largest increase in use over the next year.
- Younger respondents particularly

those aged 18 to 24, are leaders in the adoption of gaming, video downloads, and personal Instant Messaging (IM).

When it comes to video services, telcos face a somewhat skeptical customer base. Only 5 percent of satellite or cable TV subscribers responding to an In-Stat survey said they would definitely switch to a telco TV provider. Another 13 percent said they would probably switch, but 52 percent were undecided. Many consumer decisions to switch to a telco TV provider will hinge on the breadth of services and the cost savings offered.

Broadband Drives US Market for In-Home Entertainment Networks



Thirty million U.S. households will have connected entertainment networks by 2010, according to a new report from Parks Associates (www.parksassociates.com). A connected entertainment network is a network composed of either a PC connected to at least one consumer electronic (CE) device or multiple interconnected CE devices such as a whole-house DVR system.

Japan is Now the Third Largest Broadband Country

Japan's telecommunications sector is continuing to witness strong growth, with the expansion of 3G services and the uptake of fiber to the home, according to a new report by Paul Budde Communication (www.budde.com.au). There have also been big strides in digital and mobile broadcasting, VoIP and triple-play services.

By early 2006, Japan had over 24 million broadband subscribers, making it the third largest broadband country in the world after the US. Softbank, via its Yahoo! BB service, has been the driving force behind the booming Japanese broadband market. Its leadership in the rollout of ADSL services took the Japanese market by storm and the push is continuing. Enthusiasm for ADSL appears to be waning, however, as FTTH starts to present a serious option for broadband service in the country. The FTTH subscriber base hit the 5 million milestone in early 2006. By comparison, there were 15 million ADSL subscribers

in the country, representing about 65 percent of the total broadband market.

The IP telephony market in Japan has continued to run hot, with around 9 million VoIP subscribers by the end of 2005, and an anticipated 28 million by the end of 2007.

Though the 2G mobile telephone sector has entered a maturing market phase, the overall Japanese mobile market is dynamic, given the buoyancy of the mobile data segment. The popularity of built-in camera mobile phones has been especially interesting. Wireless Internet and mobile services have helped to keep the mobile market stimulated. Into 2006, Japan was still leading the world in wireless Internet subscribers.

In one of the biggest challenges for the telecom industry in Japan, the government wants to see the domestic fixed-line telephone network completely replaced with a fully integrated IP system, possibly as early as 2010.

Broadband proliferation is driving

connected entertainment inside the home, according to the report. In addition, new tools are making the networks easier to set up and run, and alleviating consumers' concerns about this new technology.

For the near term, video service providers are deploying whole-house DVRs and CE and home networking manufacturers are deploying digital media adapters. But in order to realize the opportunities in the connected-entertainment space, providers will have to collaborate in efforts like the Digital Living Network Alliance (DLNA).

To move beyond the early-adopter stage, CE manufacturers will have to ally with content and service providers, software developers, and silicon designers to build elegance and usability into the product design and bring popular digital content to consumers' fingertips anywhere in the home, Parks Associates says.

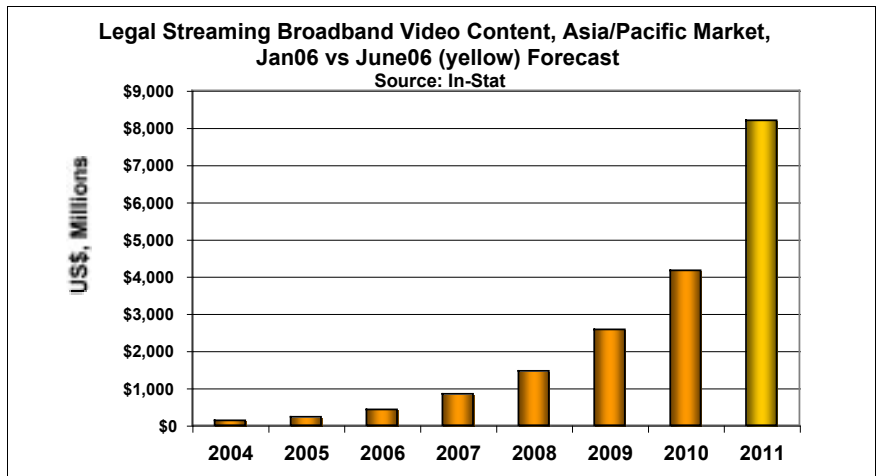
Focus on Asian IPTV

IPTV is finally reaching the mainstream, but opinion is divided about where it will go in the next few years. Growth potential is high, but is the cup half full or half empty in Asia? Two reports highlight the issues.

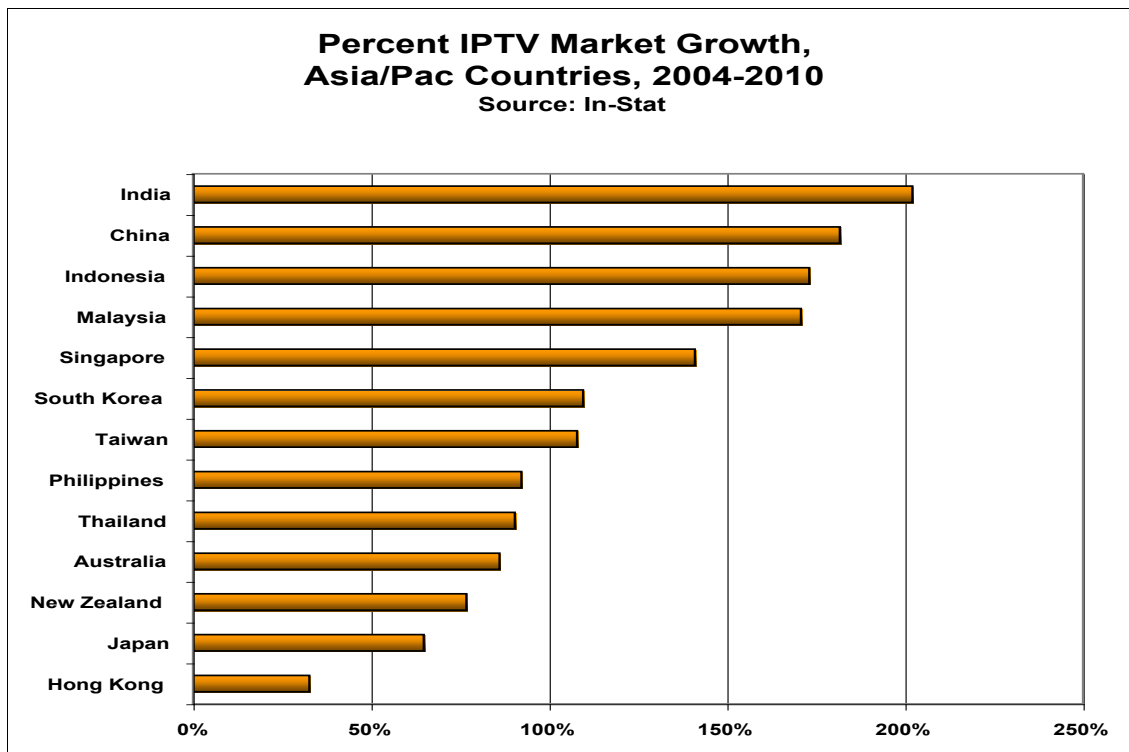
In-Stat: Asia/Pacific is Leading the Way in IPTV

Market research firm In-Stat (www.in-stat.com) says the Asia/Pacific region is leading the global revolution of IPTV in infrastructure deployments, applications development, and subscriber adoption. High broadband penetration and regulatory support are helping to foster the fastest-growing IPTV market in the world. Asian providers are bundling IPTV with other offerings, and are expecting IPTV to reduce customer churn and increase average revenue per user.

By 2011, In-Stat expects the Asia/Pacific market to reach 39 million IPTV subscribers, with revenues of \$8.1 billion.



Bullish: Earlier this year, In-Stat projected IPTV revenue growth through 2010 to \$4.2 billion annually in the Asia-Pacific marketplace. That would double in 2011 according to latest projections. In-Stat says legal streaming video content contributes only 18 percent of total video data volume over broadband in the region in 2005 and that telcos had 20 percent of the market.



China and India show high growth rate from a low base. Last year, Japan and Hong Kong each had over 40 percent of the region's IPTV market, but growth rates (not absolute installs) are expected to be far higher in China (1.5 percent of the market in 2004) and India (0.4 percent in 2004).

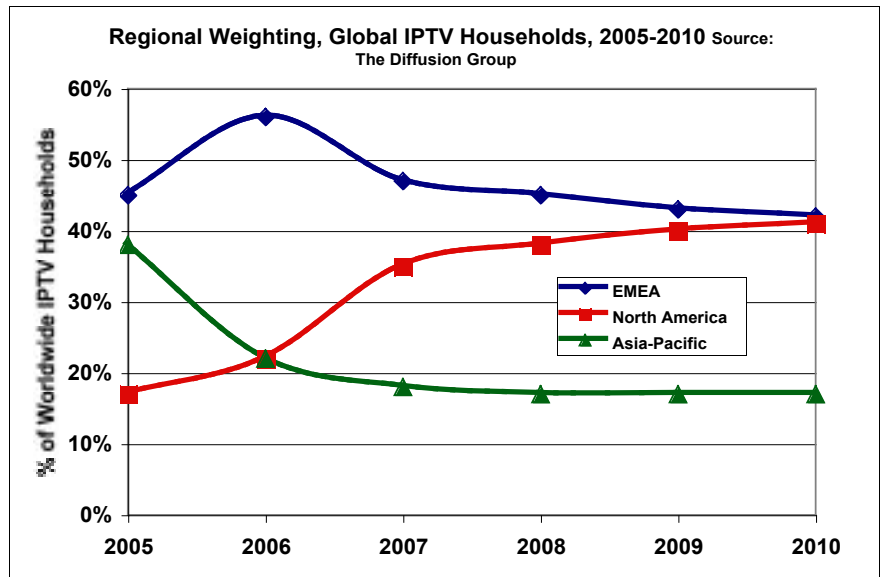
The Diffusion Group: Asia to be Last in IPTV

According to the latest report from The Diffusion Group (www.thediffusiongroup.com), global IPTV subscriptions are expected to jump from two million to 34 million between 2005 and 2010. North America will experience the most rapid rate of growth with a compound annual growth rate (CAGR) of 78 percent, followed by Europe, the Middle East, and Africa (EMEA) with a CAGR of 61 percent, and Asia/Pacific with a CAGR of 41 percent.

IPTV deployments in several key European countries are on schedule, with new launches expected in smaller Eastern European and Nordic countries. The EMEA region is expected to top 14 million IPTV households by 2010.

The number of North American IPTV households is also expected to near 14 million by 2010, with the US accounting for 80 percent of these subscriptions. While small rural operators have executed the majority of 2005 and 2006 IPTV deployments, The Diffusion Group expects the new deployments by Verizon and AT&T to greatly increase subscribers starting in 2007.

Asian IPTV deployments, however, are expected to account for only 5.6 million subscriptions by 2010. "Although Hong Kong's PCCW continues to push IPTV deployments, and despite ongoing IPTV trials in both China and India, consensus expectations regarding the growth of the Asian IPTV market are simply not achievable," says report author Herve Utheza, who points to the impending launch of Digital Terrestrial Television (DTT) in China as the primary reason for poor IPTV demand in the region.



Europe leads the world in IPTV deployments now, but its worldwide share is expected to drop sharply as North American deployments expand in the next few years, according to The Diffusion Group.

South Korea Switches to Fiber, While India and Eastern Europe Adopt Broadband

While South Korea no longer has the highest broadband population penetration in the world – it's been overtaken by the Netherlands, Denmark and Iceland – its broadband market is gearing up for technology substitution, says new research from Point Topic (www.point-topic.com). Fast is no longer fast enough. Subscribers to FTTx services have grown by 17.9 percent in Q1 2006, increasing their market share to 15.2 percent. At the same time, the DSL market experienced a 1.6 percent loss of subscribers. Cable modem services gained just over 1.9 percent.

With buoyant markets in Eastern Europe, Central Europe and Northern Africa and impressive growth in China, India and Vietnam, the worldwide broadband market surged to 229 million lines in the first quarter of 2006.

China is adding more broadband subscribers than the U.S. – 3.7 million in the first quarter, compared to 3.3 million in the U.S. The Indian market is much smaller than either one in absolute terms but is growing faster: in Q1 2006, Indian broadband subscriptions grew by 56.8 percent to pass the one million threshold.

The success of local loop unbundling in 2005 meant that Germany retained the lead in Europe, with Deutsche Telekom driving the broadband market. Broadband markets in Eastern Europe, the Middle East and Africa are also growing rapidly – about 14 percent in Q1 2006, with large disparities between individual countries. Estonia and Slovenia have come close to breaking into the ranks of Western European countries in terms of broadband penetration.