Tehrani's Predictions for the Broadband Future

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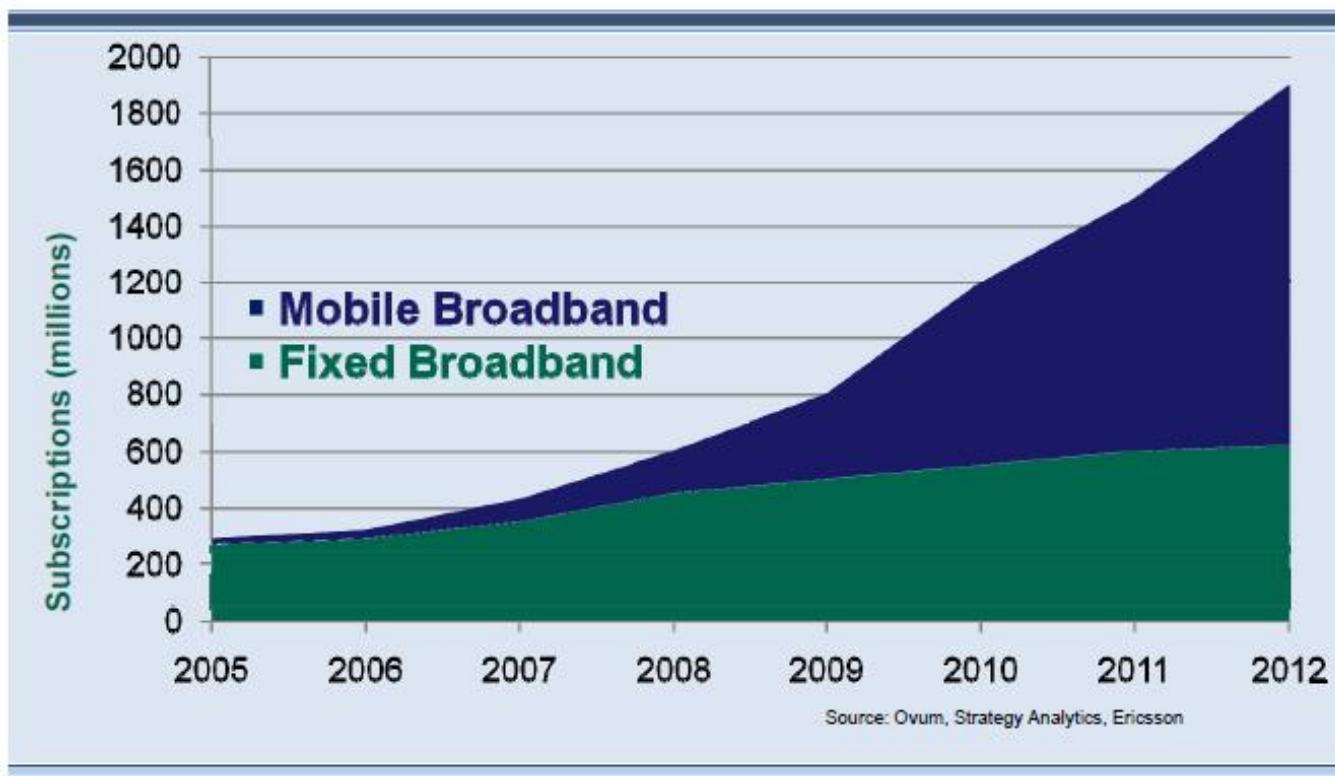
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Well, it started as predictions but somehow morphed into a massive amount of market research worth sharing

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Projected Broadband Growth

Source: Ovum, Strategy Analytics, Ericsson

Device Quick Stats

- 86 million iPhones in 2010, 60 percent growth
- In 2012 more smartphones will be shipped than pcs.
- 3G Penetration 485MM global users +46 percent Y/Y in CQ2
- Growth in the mobile and fixed broadband sectors continued and mobile subscriber penetration now sits at roughly 70%

Source: Morgan Stanley

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LTE

- The customer base for LTE technologies alone should exceed half a billion people by 2015.

- It is expected to contribute nearly $2 billion to the total wireless broadband revenue.

Source: ABI Research 2010

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- Verizon Wireless plans to deploy LTE in 38 markets by year-end.

- AT&T Mobility and T-Mobile USA are expanding HSPA+ deployments
  - AT&T will launch LTE by the middle of next year.
  - AT&T Mobility will launch commercial LTE service by mid-2011, and will cover between 70 million and 75 million POPs.

- Sprint Nextel through its partnership with Clearwire will continue to expand its mobile WiMAX play.

Source: ABI Research 2010

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LTE Will See Explosive Growth

- 136,000,000 subscribers by 2014

- 4G technology will grow at a much faster rate than 3G broadband services did. While it took six years for UMTS/HSPA technology to reach the 100 million subscriber milestone, Pyramid expects LTE to hit that mark in just four.

Source: Pyramid Research

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WiMAX Grows but Slows

- WiMAX subscribers reached 13 million as opposed to billions for 3G

- Global market for WiMAX services will grow five times its current size by 2015, but that number is less than previously forecasted

- Forecast for mobile WiMAX services decreased by approximately 15 percent

- ABI Research anticipates 59 million mobile WiMAX users around the world in five years and 12 million users by the end of this year.

Source: ABI Research

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3G Technology

- Mobile users continue to utilize the 3G and 3.5G (HSPA) services on offer

- There are around 650 million 3G/3.5G subscribers worldwide

Source: ChinaCCM.com

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Backhaul – Huge Opportunity

- The need for more backhaul capacity will grow 3 fold between 2009 and 2013

- WiMAX and LTE will require backhaul needs of 80-100 Mbps. Their deployments will increase the need for new backhaul solutions.

- While microwave will remain the most common last mile link medium, Ethernet is playing an increasing role in supporting backhaul needs for cellular and WiMAX networks.

- 90,000 Gbps of capacity in the last mile of the backhaul network will be needed by the end of 2013 to support the worlds cellular and WiMAX networks.

- In Asia/Pacific, the cellular backhaul last mile backhaul capacity for LTE will be 2,500 Gbps in 2013.

Source: in-stat.com

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- More than 70 percent of Americans are happy with their existing broadband service. The usual explanation for this state of affairs (besides blaming people for being "dumb") is that there are no applications driving consumer demand because broadband is too slow to allow for higher bandwidth applications.

- With over 40 million broadband homes since 2008 with more than 6 Mbps of connectivity, one would expect that there would be more applications that require and thrive at 6 Mbps.

Source: Gary Kim ,TMC contributor

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Video – Massive Growth

Internet video is now over one-third of all consumer Internet traffic, and will approach 40 percent of consumer Internet traffic by the end of 2010, not including the amount of video exchanged through P2P file sharing.

Source: Cisco 2010

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Video Dominates Internet

- The sum of all forms of video (TV, video on demand, Internet, and P2P) will continue to exceed **91 percent of global** consumer traffic by 2014.

- Internet video alone will account for 57 percent of all consumer Internet traffic in 2014.
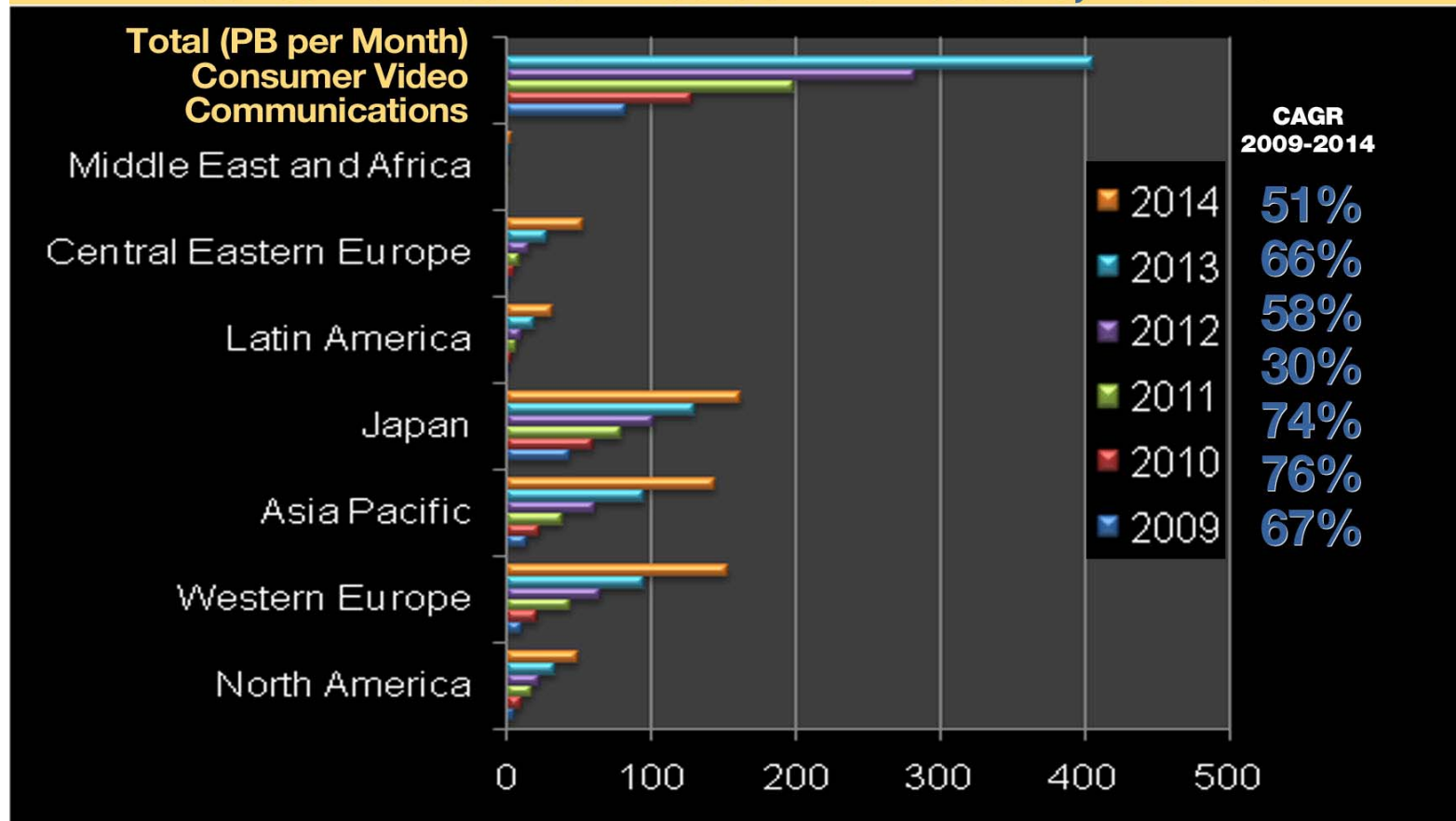
Source: Cisco 2010

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Video

Video-on-demand (VoD) traffic will double every two and a half years through 2014. Consumer IPTV and CATV traffic will grow at a 33 percent CAGR between 2009 and 2014.

Source: Cisco 2010

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Consumer Internet Video Communications, 2009-2014

Source: Cisco, VNI 2010

IP Traffic & Video

- Annual global IP traffic will exceed three-quarters of a zettabyte (10^{21}) or 767 exabytes in four years.

- Global IP traffic grew 45 percent during 2009 to reach an annual run rate of 176 exabytes per year or 15 exabytes per month.

- In 2014, global IP traffic will reach 767 exabytes per year or 64 exabytes per month.

- The average monthly traffic in 2014 will be equivalent to 32 million people streaming Avatar in 3D, continuously for the entire month.

Source: Cisco, 2010

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- Global IP traffic will quadruple from 2009 to 2014. Overall, IP traffic will grow at a compound annual growth rate (CAGR) of 34 percent.

- It would take over two years to watch the amount of video that will cross global IP networks every second in 2014.

- It would take 72 million years to watch the amount of video that will cross global IP networks during calendar year 2014.

Source: Cisco, 2010

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- Global Internet video traffic will surpass global peer-to-peer (P2P) traffic by the end of 2010. For the first time since 2000, P2P traffic will not be the largest Internet traffic type.

- The global online video community will surpass 1 billion users by the end of 2010. This number of people is exceeded only slightly by the populations of China (1.3 billion) and India (1.1 billion), making this user group equivalent to the third largest country in the world.

Source: Cisco, 2010

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- Thanks to technology advances and the broadband connections that make watching online video a better experience than in the past, American viewership of streaming live video has grown 648%, to more than 1.4 billion minutes, in the past year.

- In contrast, the time that Americans spent on non-live sites YouTube and Hulu.com increased 68% and 75%, respectively, over the same time period.

Source: comScore

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- Data shows that live video sites are 72% more likely than the average online video feed to gain the eyeballs of the coveted "males age 18-34" demographic.

- Young males make up about 30% of the total live video viewing audience.

Source: comScore

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3D and HD

- Advanced Internet video (3D and HD) will increase 23-fold between 2009 and 2014.

- By 2014, 3D and HD Internet video will comprise 46 percent of consumer Internet video traffic.

Source: Cisco

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Social Media

- 859 million unique users
- 32 percent year over year growth
- 232 billion minutes of people's time/year and that is growing by 50 percent Y/Y.

Source: Morgan Stanley

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Alexa Top Sites

The 1 month rank is calculated using a combination of average daily visitors and pageviews over the past month. The site with the highest combination of visitors and pageviews is ranked #1.

1. Google
2. Facebook
3. YouTube
4. Yahoo!
5. Windows Live
6. Baidu.com (The leading Chinese Search engine)
7. Wikipedia
8. Blogger.com
9. Q.Q.com
10. Twitter

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Twitter

- In June, Twitter COO Dick Costolo announced that Twitter attracts 190 million visitors per month and generate 65 million Tweets a day.

- These numbers are up from 180 million self-reported unique visitors per month in April and 50 million Tweets per day in February.

- 370,000 new users per day!

Source: TechCrunch

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Facebook Phenomenon

- More than 500 million active users

- 50% of active users log on to Facebook on any given day

- Average user has 130 friends

- People spend over 700 billion minutes per month on Facebook

Source: Facebook

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Activity on Facebook

- There are over 900 million objects that people interact with (pages, groups, events and community pages)

- Average user is connected to 80 community pages, groups and events

- Average user creates 90 pieces of content each month

- More than 30 billion pieces of content (web links, news stories, blog posts, notes, photo albums, etc.) shared each month.

Source: Facebook

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Global Reach

- More than 70 translations available on the site

- About 70% of Facebook users are outside the United States

- Over 300,000 users helped translate the site through the translations application

Source: Facebook

Platform

- More than one million developers and entrepreneurs from more than 180 countries

- Every month, more than 70% of Facebook users engage with Platform applications

- More than 550,000 active applications currently on Facebook Platform

- More than one million websites have integrated with Facebook Platform

- More than 150 million people engage with Facebook on external websites every month

- Two-thirds of comScore's U.S. Top 100 websites and half of comScore's Global Top 100 websites have integrated with Facebook

Source: Facebook

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Mobile

- There are more than 150 million active users currently accessing Facebook through their mobile devices.

- People that use Facebook on their mobile devices are twice as active on Facebook than non-mobile users.

- There are more than 200 mobile operators in 60 countries working to deploy and promote Facebook mobile products.

Source: Facebook

Top Five brands leveraging Facebook

- Zynga (Texas Hold Em, Mafia Wars)

- Starbucks

- Coca-Cola

- YouTube

- Kraft (Oreo)

Source: Facebook

M2M Growth

- Machine to machine (M2M) devices and applications are an area of wireless data usage with a projected compound annual growth rate (CAGR) of over 25% per year through 2014 and a projected need for up to 50 billion M2M devices by 2025.

- Cellular M2M (machine-to-machine) connections continue to show steady growth, and are expected to exceed 297 million in 2015. In the latest update to ABI Research's forecasts, the 2009 forecast of about 225 million connections by 2014 has also been raised to 232.5 million.

Source: ABI Research

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M2M

- The cellular machine-to-machine (M2M) market is on the upswing, expecting to reach: $3.8 billion by 2015

- Number of wireless M2M (machine to machine) embedded devices will rise to Almost 412 million by 2014.

Source: Juniper Research

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Regulation

- AT&T has spent over $6 million on lobbying in the first quarter of this year alone.

- Google spent just $4 million on lobbyists throughout all of 2009.

Source: Public Knowledge, Washington-based Public Advocacy Group

Broadband Stimulus

$1.2 Billion In Broadband Stimulus Funding announced in August 2010.

126 projects will be funded, most of which focus on rural wireless and DSL expansion.

Projects funded include:

- Windstream Communications - $66 million for eight projects across seven states;
- TDS Telecom - $85.9 million in grants for 39 projects;
- Vtel Wireless - $116.8 million to help build an LTE network across rural New Hampshire, Vermont, and parts of New York.

Source: Rural Utilities Service

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Boost for Broadband

How stimulus money for broadband projects will be spent, in billions

Grants for broadband networks
$3.9

Loans/grants to build in rural areas
2.5

Maps of state broadband access
0.4

Programs to encourage internet use
0.3

Upgrades for PC centers at community colleges and libraries
0.2

Sources: Commerce Department; Agriculture Department

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Tablets

- Tablets have about four percent penetration of U.S. households. That doesn't mean there is a tablet for each member of the household, but that there is at least one such device present in the home, according to Nielsen.

- E-book readers now have about 6 percent household penetration, netbooks about 8 percent penetration, and portable media players about 16 percent penetration. Portable game players have about 21 percent household penetration.

Source: Nielsen

- Morgan Stanley estimates that roughly 13 million Apple tablets will be sold this year out of 15 million total tablet sales worldwide.

- In 2011 Morgan Stanley estimates that Apple's numbers will rise to 30 million and non-Apple tablets will be responsible for 20 million sales.

- Apple's app store has over 290,000 applications including 30,000 apps designed specifically for the iPad.

Source: Nielsen

- Driven by sales of the iPad, worldwide media tablet sales to end users are forecast to reach 19.5 million units in 2010, according to Gartner, Inc.

- Media tablets are poised for strong growth with worldwide end user sales projected to total 54.8 million units in 2011, up 181 percent from 2010, and surpass 208 million units in 2014.

Source: Gartner

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ITU Report Finding on the Use and Cost of Phone and Internet Services

- The agency expects the number of mobile cellular subscriptions to top 5 billion this year.

- The ITU found that 10 countries that pay the least for broadband (less than 1 percent of gross national income) have high income levels, such as Hong Kong, Luxembourg, Denmark, Norway, the U.K., and the U.S.

- The nations with low incomes, including many in Africa, pay as much as 167 percent of their gross national income per person.

Source: news.cnet.com

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ITU Report Finding on the Use and Cost of Phone and Internet Services

- Prices on broadband services fell on average around 42 percent across 161 countries last year

- Overall, the price of mobile cellular access declined 25 percent, while landline phone service prices dropped around 20 percent.

Source: news.cnet.com

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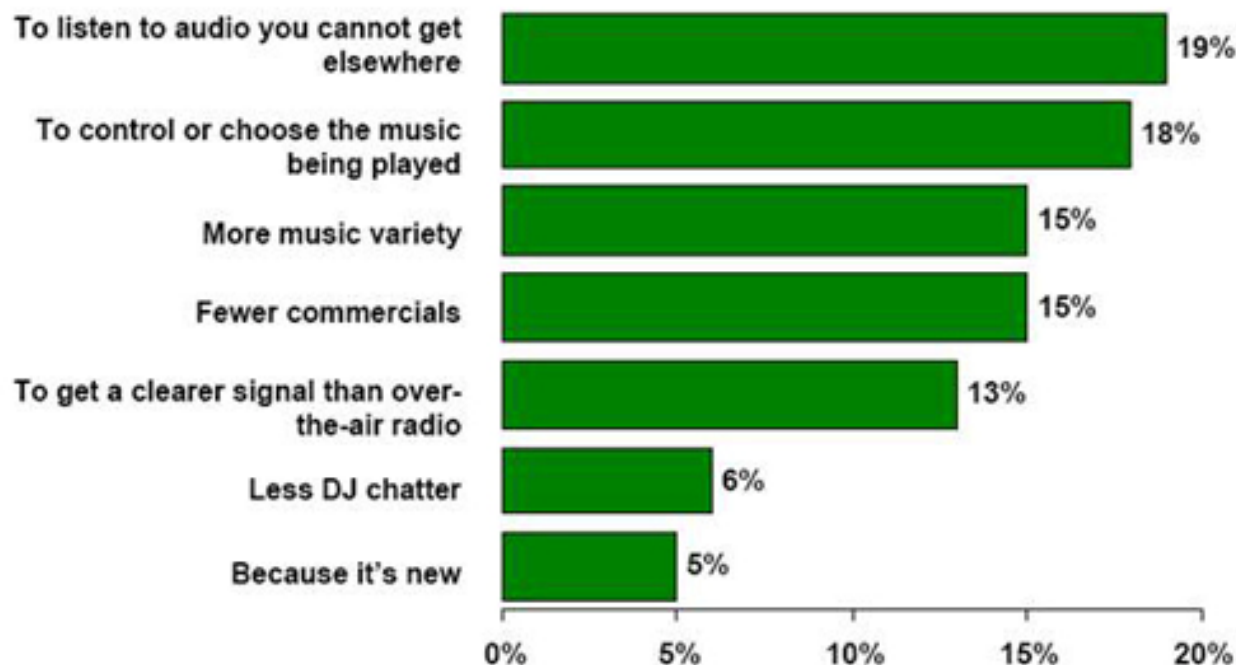Digital Media Growth Projections 2005-2020
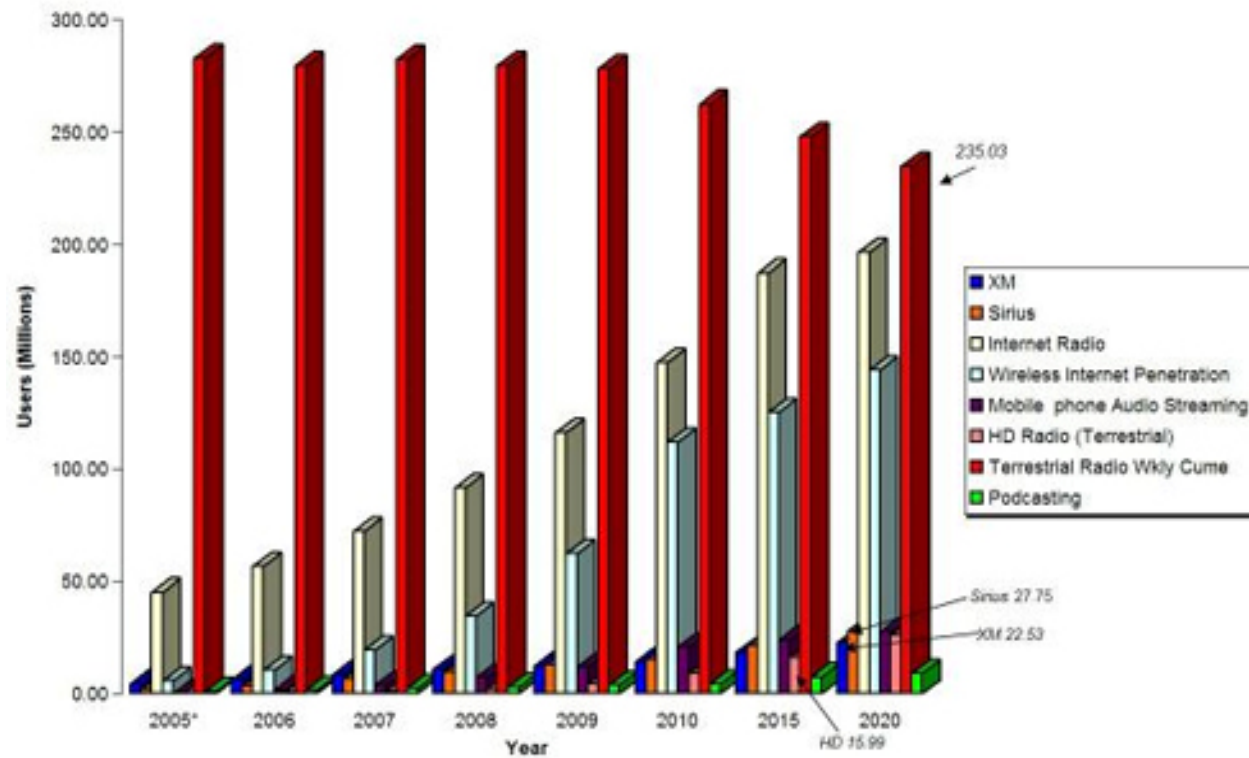
Source: radiostreamingnews.com

"Variety" and "Control" Are Top Reasons for Listening to Online Radio

"Of the following reasons you might listen to Internet radio, what is the ONE main reason you listen?"

Reason	Percent
To listen to audio you cannot get elsewhere	19%
To control or choose the music being played	18%
More music variety	15%
Fewer commercials	15%
To get a clearer signal than over-the-air radio	13%
Less DJ chatter	6%
Because it's new	5%

Source: radiostreamingnews.com

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OTT Video

- OTT video to be $5.7B market by 2014.

- BIA/Kelsey projects that OTT will surpass cable within three years, reaching 62 million homes by 2013 as consumers demand greater customization and control of their content.

- Hulu is the most watched OTT service, with 53 percent of all OTT users accessing it. Notably, 42 percent of those viewers already watch at least some Hulu programming on their TV's.

Source: FierceOnlineVideo

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Telecommuting – Flare, Quad – Etc.

- More than 34 million US adults telecommute at least occasionally.
- 63 Million Americans Will Telecommute By 2016
- Collaboration Tools Anchor Telecommuting Success
- Telecommuting could save employees, companies, and communities over $600 Billion a year.

Source: US Telecommuting Forecast, 2009 To 2016
By Ted Schadler with Matthew Brown, Sara Burnes

Cloud

- Merrill Lynch predicts that the cloud computing market will reach $160 billion by 2011.

- IBM claims Cloud cuts IT labor costs by up to 50% and improves capital utilization by 75%.

Source: http://blog.sonian.com/cloud-buzz-blog

Telepresence

- Frost & Sullivan last year forecast that the telepresence and videoconferencing market would reach $4.7 billion by 2014. The firm unveiled a study this year saying the global market for telepresence, more specifically, last year was $396.2 million and that it is expected to reach $825.9 million in 2015.

- From now through 2014, spending on hosted solutions are expected to grow faster than any other sector of the business video market. By the end of the forecast period, annual revenues for these hosted 'software-as-a-service' offerings are projected to top a half-billion dollars annually.

Source: Source: INTERNET TELEPHONY magazine

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Tommy Hilfiger Uses Telepresence for Virtual Fitting Rooms

Tommy Hilfiger, one of the largest designer apparel brands globally, has signed a five-year managed services contract with BT.

BT will provide a videoconferencing solution which includes the industry's first 'virtual fitting rooms', which the company jointly developed with TANDBERG, now part of the newly formed Cisco TelePresence Technology Group. These rooms enable immediate global "in-person" communication and collaboration among Tommy Hilfiger's designers and manufacturing facilities.

The virtual fittings rooms - based upon BT's Unified Communications Video solution coupled with Cisco's TANDBERG technology - include add-ons such as mobile cameras and recording facilities to enable the design team – based in Amsterdam and New York – to collaborate faster and more effectively with the manufacturing team in Hong Kong. Teams will be able to discuss the development of every single piece of the collection face-to-face without having to take long-distance flights.

Source: BTPLC.com

Telepresence solution reduces travel time and costs, increases speed-to-market and lowers carbon emissions for leading premium lifestyle brand, Tommy Hilfiger

Tech and Global Economy: Skype

In September 2009, a Queens judge solved the problem of a civil trial that involved a plaintiff in India by simply having the man testify using the Internet telephone/video provider Skype, saving thousands in costs and days of people's time.

The testimony is believed to be the first of its kind in New York State, and perhaps the country.

"No more wasting time. All we need is a Web cam and Skype," Queens Supreme Court Justice Martin Ritholtz said. "It's so easy technologically."

A few glitches in the video feed aside, Jasmer Singh, 53, was able to testify about a 2001 auto accident in which he was seeking more money from Allstate to cover medical expenses from a computer store in Punjab Province in India.

But because of the timely testimony, the jury was able to rule in a day, awarding Singh $15,000 for pain and suffering. He had been seeking as much as $120,000.
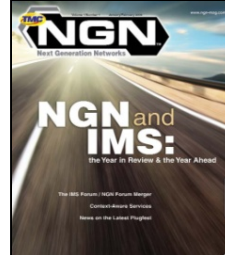
Source: New York Post

Broadband is Transforming the Globe

- Disrupting photography, telephony, commerce
- Low income areas exporting poverty/joblessness
- Raising Global standard of living
- Cloud anything, security, professional services

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