

Can WiMAX Weather the Economic Storm?

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ZTE中兴

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April 16, 2009

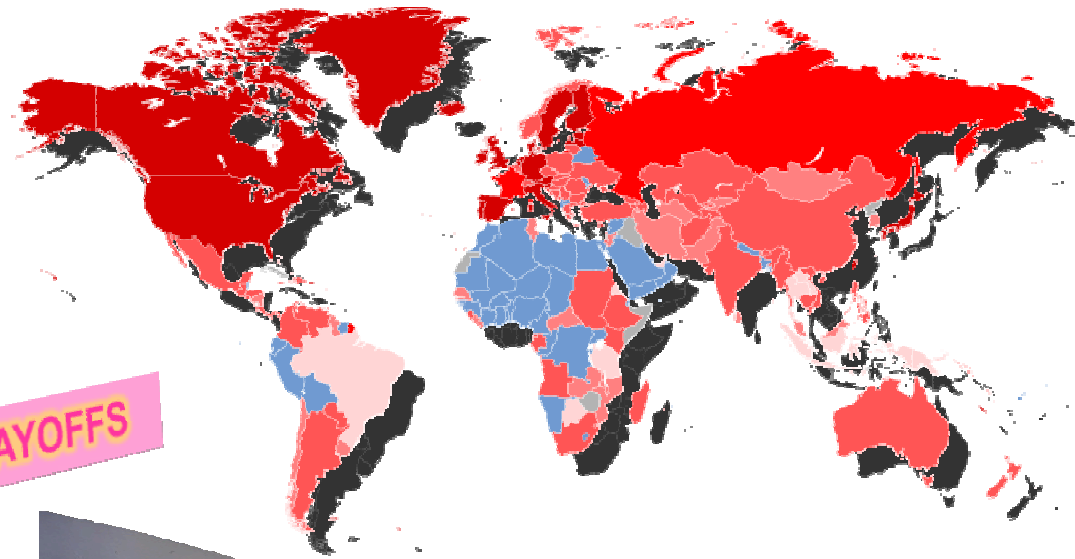
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- Global Economic Crisis
- Is This the Right Time to Build-out for Mobile Broadband?
- WiMAX and Other Mobile Broadband Technologies
- WiMAX – A Versatile Mobile Broadband Technology
- WiMAX is Off and Running



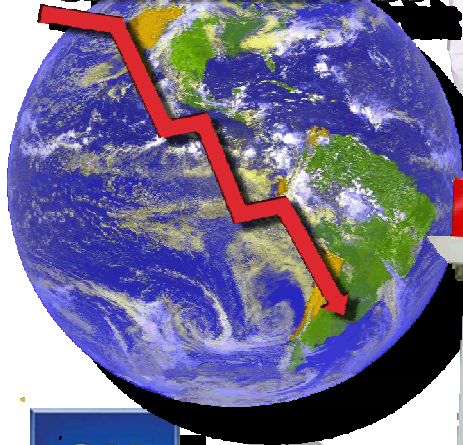
Contemporaneous Economic Downturns

US - Europe - Asia



LAYOFFS

Global Economic Crisis



FORECLOSURE

HOME FOR SALE

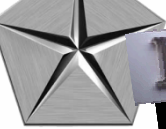
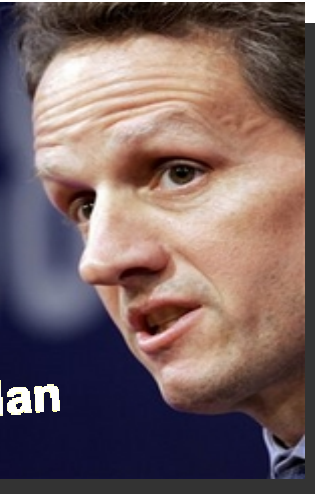


Freddie Mac

FannieM



Bailout Plan

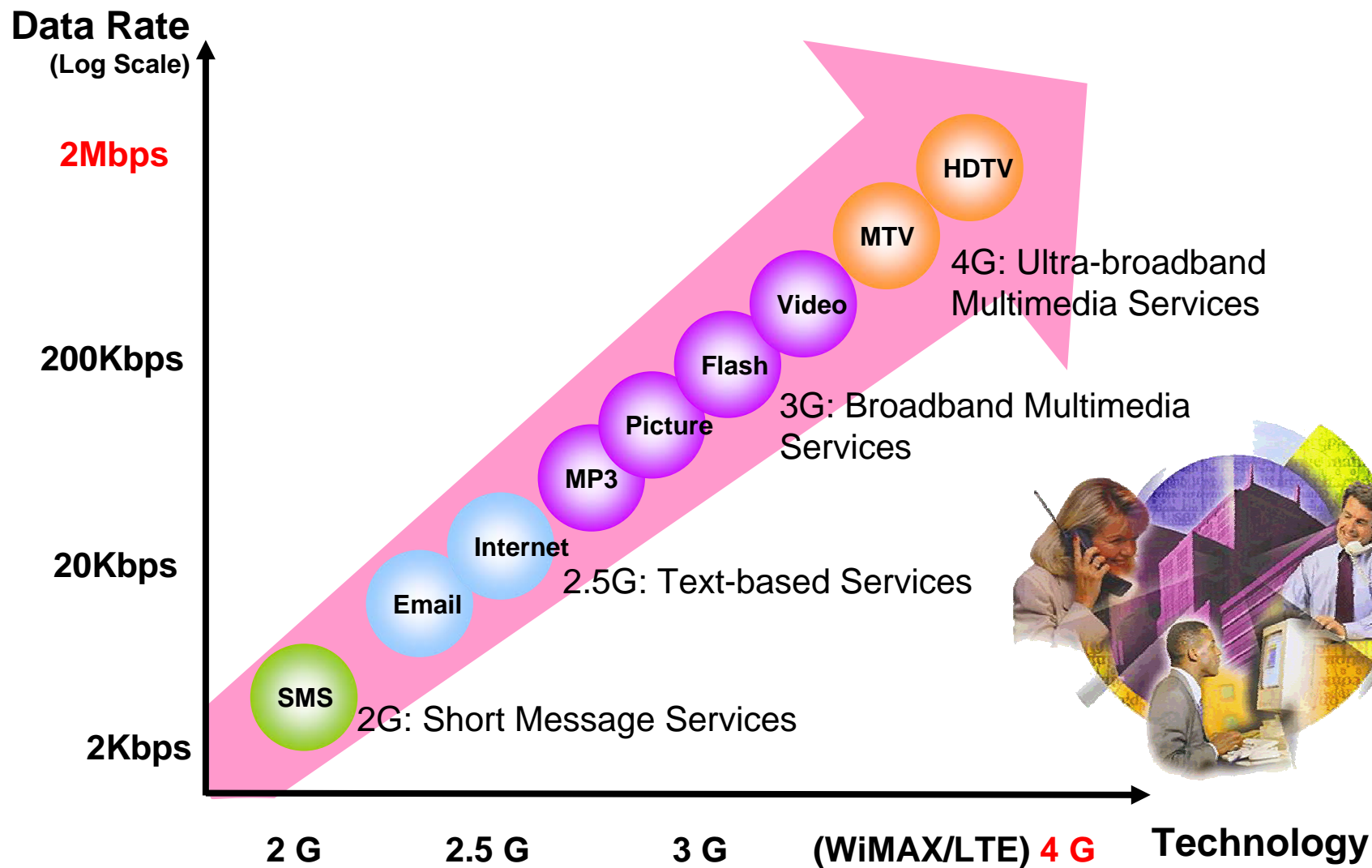


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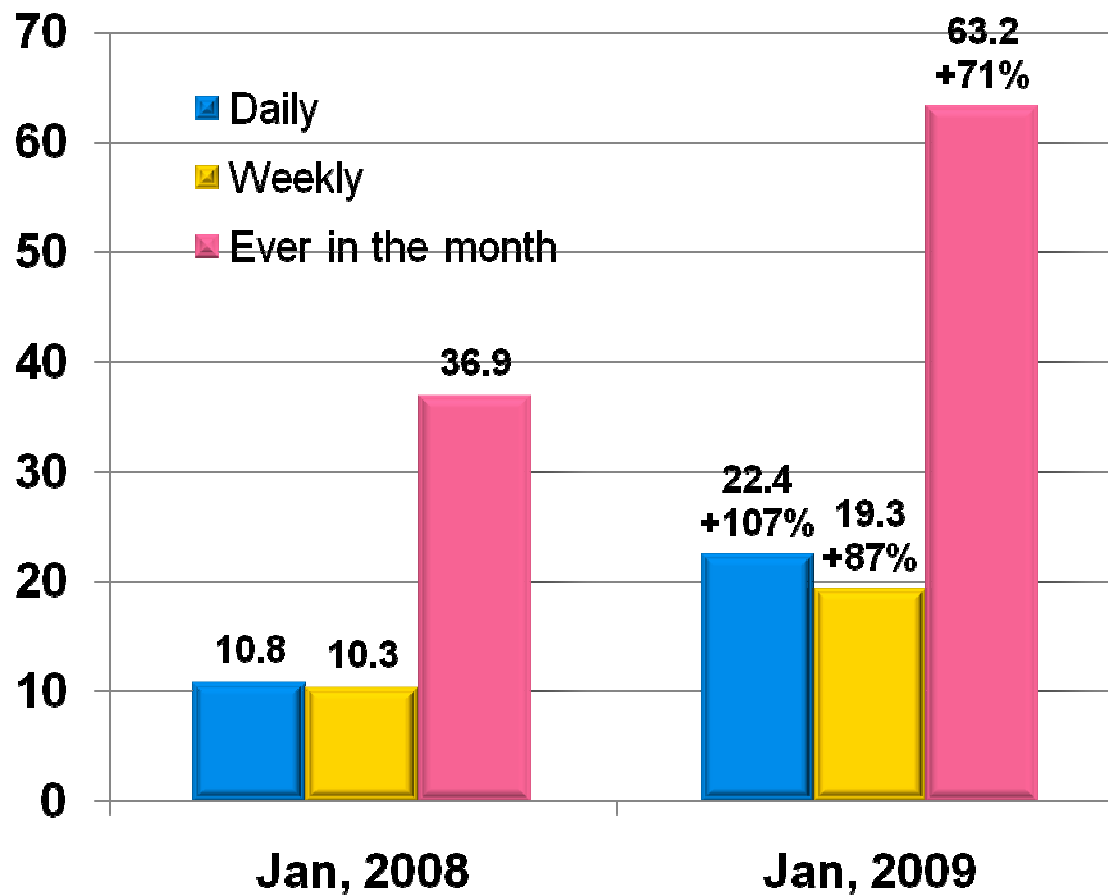
User Experience & Lifestyle Shift





Mobile Internet Growth Despite Recession

Accessed News & Information by Unique Users (in millions)

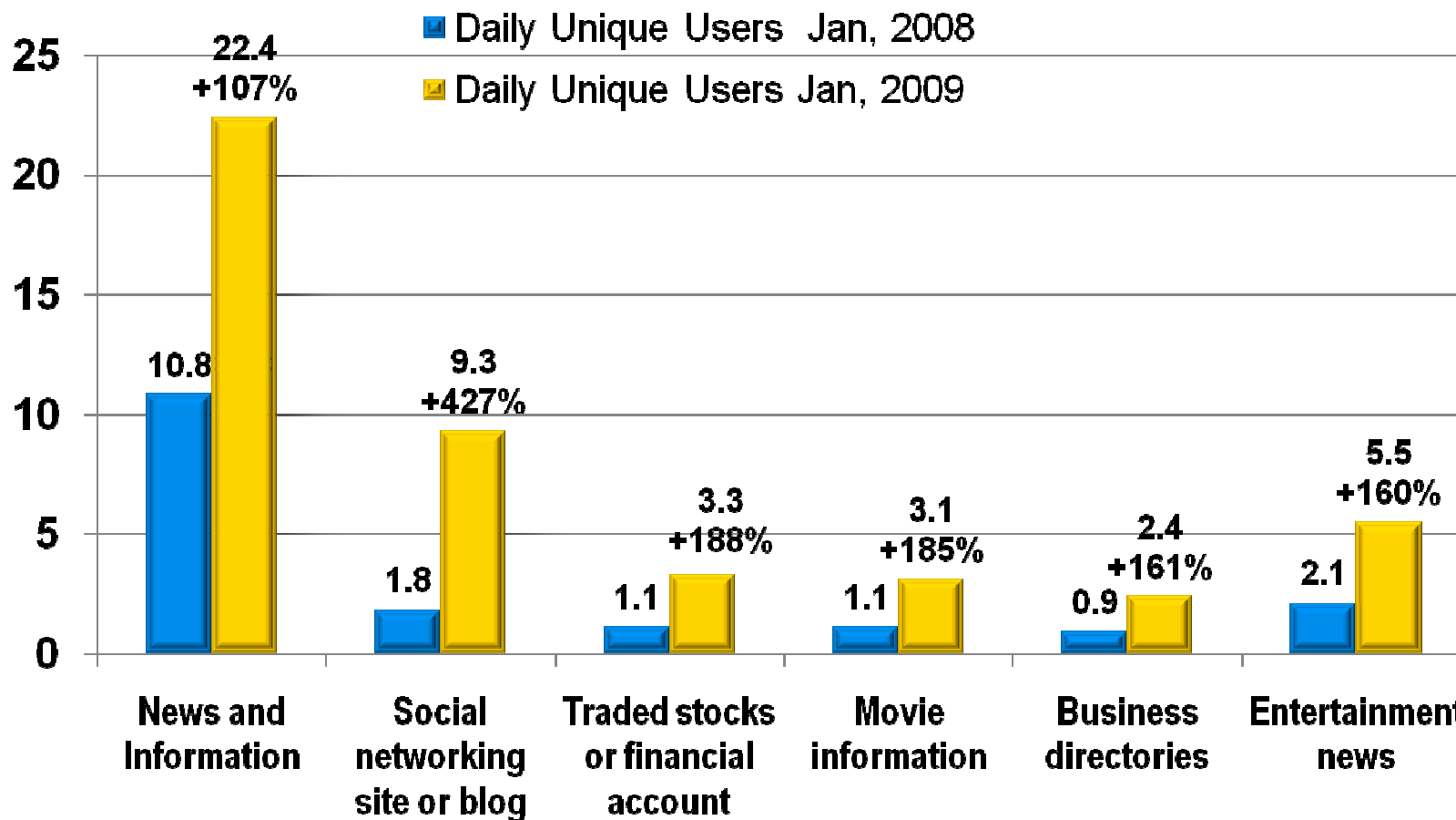


Source: comScore, Inc.

Fast-Growing Mobile Data by Categories



Fastest-Growing Categories by Unique Users (in millions)



Source: comScore, Inc.



Strong Demand for Mobile Entertainment

Top Mobile Internet Website Categories - BRIC, US, Europe							
Top 5 Website Categories (% Mobile Internet Users)		Brazil	Russia	India	China	US	Europe
	1	Email (57%)	Entertainment (34%)	Games (38%)	Entertainment (55%)	Email (65%)	Email (46%)
	2	Music (27%)	Search (29%)	Email (33%)	Games (36%)	Weather (41%)	Search (25%)
	3	Entertainment (25%)	Email (24%)	Entertainment (21%)	Music (31%)	Search (29%)	News/Politics (24%)
	4	Games (18%)	Music (24%)	Music (18%)	News/Politics (26%)	News/Politics (26%)	Weather (24%)
	5	News/Politics & Movies (tied 12%)	Games (24%)	Sports (15%)	Business/Finance (18%)	City Guides/Maps (24%)	Sports (22%)

Source: Neilson, Mobile Media Marketplace report - BRIC, US, Europe, Q1 2008

Broadband Stimulus Package

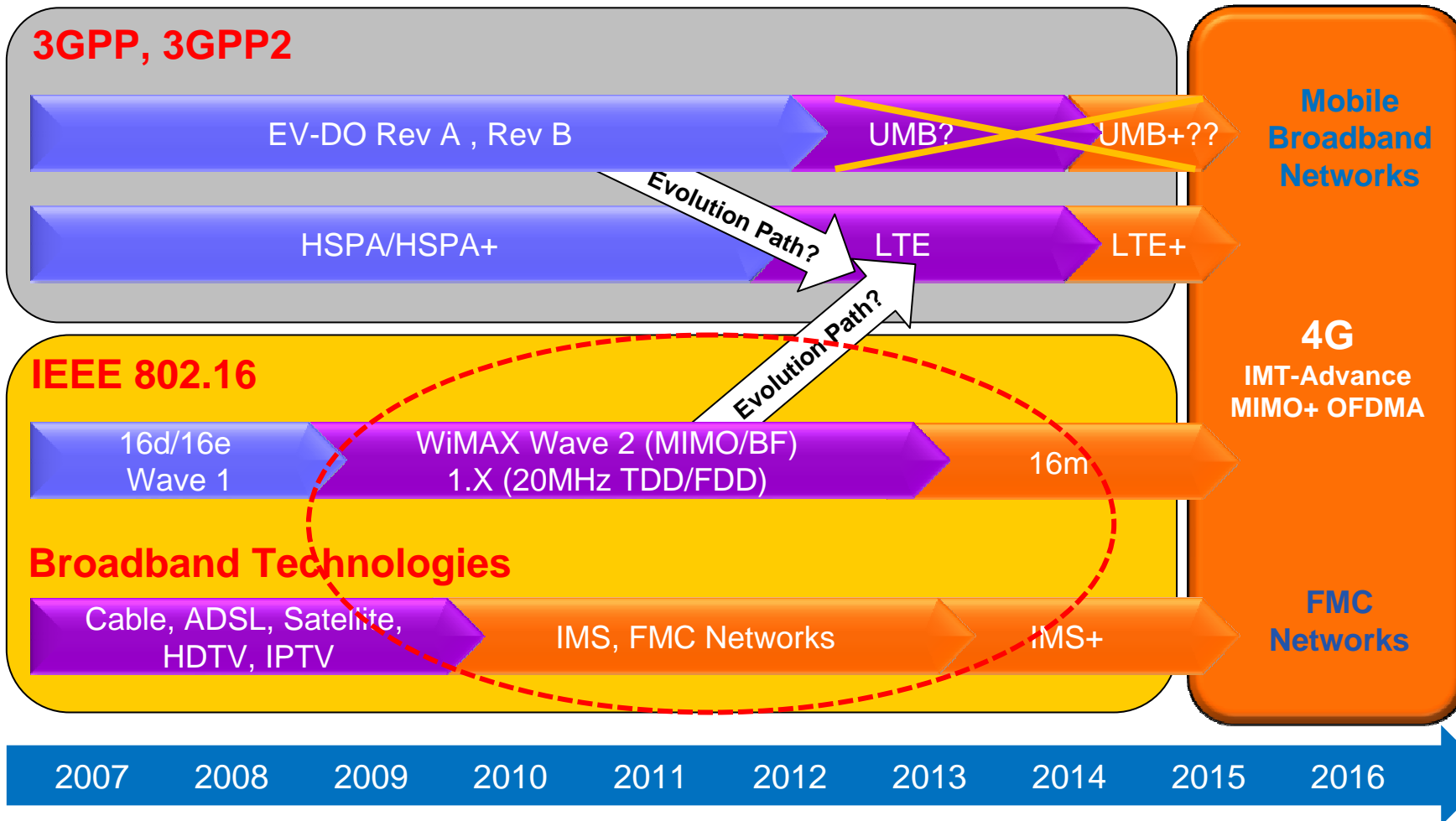


\$787 billion economic stimulus bill

- \$7.2 billion for improving the U.S. broadband infrastructure
 - \$2.5 billion for the Rural Utilities Service (RUS)
 - \$4.7 billion to the U.S. National Telecommunications and Information Administration (NTIA)
 - \$1 billion going to wireless broadband projects
 - \$350 million would go toward a national program to map areas that don't have broadband access.
- To qualify for the bulk of the broadband money:
 - A wired broadband provider has to deploy a service offering 45 Mbps on the downlink
 - A wireless broadband provider need 3 Mbps
- WiMAX technology is ready for deployment
 - Downlink > 3 Mbps, Uplink > 500Kbps



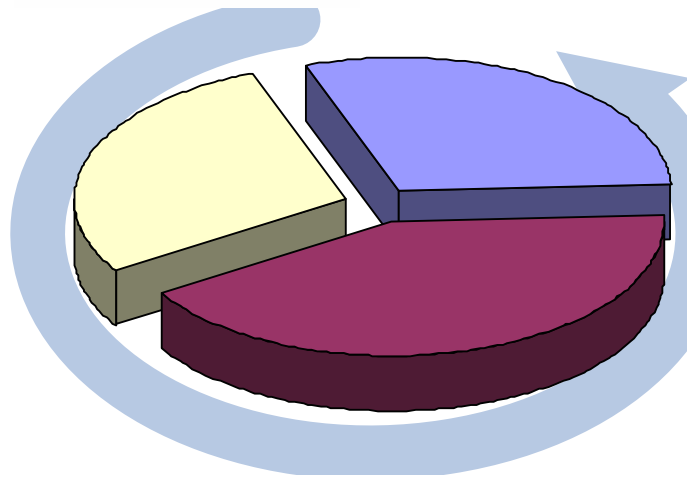
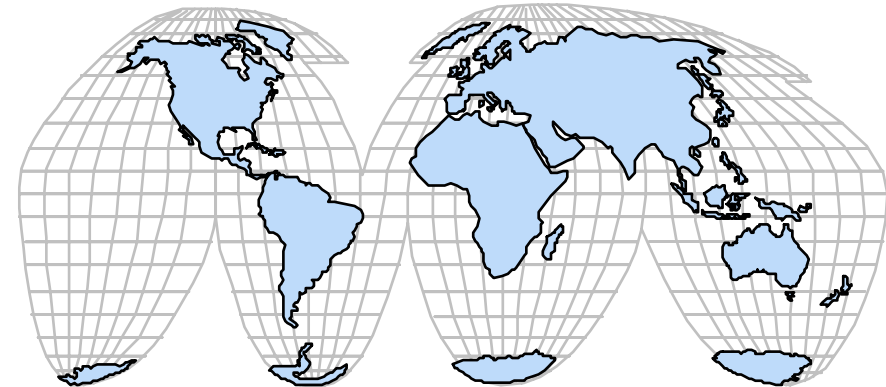
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Healthy WiMAX Ecosystem

WiMAX Forum projects that India will boast more than 27.5 million WiMAX users by 2012, over 70 % Mobile WiMAX or portable subscribers



Operators

- clearw're
- UQ Communications
- KT
- BT
- Sprint
- P1

System Vendors

- ZTE中兴
- SAMSUNG
- MOTOROLA
- NOKIA
- alvarion

CPE Vendors

- ZTE中兴
- SAMSUNG
- MOTOROLA
- NOKIA
- ZyXEL

CPE Vendors

- intel
- BEQUEEM
- Kuncom
- GCT
- SEQUANS

Rgutory Bodies

- Ofcom
- FCC
- IMIU

Standard Bodies

- WiMAX Forum
- IEEE WirelessMAN
- ITU



Ecosystem is Growing & Beginning to Scale

Over 400 WiMAX deployments in 130 countries, over 100 Mobile WiMAX deployments
Over 480 WiMAX-enabled devices in development by over 80 suppliers
Major WiMAX spectrum auctions on the horizon

WiMAX is Available

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Main Application Scenarios of WiMAX

Broadband Access

- ◆ Fixed & Nomadic
- ◆ 2.5G, 2.3G, 3.3G, 3.5G
- ◆ Wireless ADSL, WiFi-like application
- ◆ Fixed operators as BT, TI, etc
- ◆ Data services
- ◆ Non-seamless coverage, hotspot coverage
- ◆ Terminal: Modem, IAD, WiFi+WiMAX, CPE

Mobile Broadband

- ◆ Medium-speed or High-speed
- ◆ 2.3G, 2.5G
- ◆ HSPA-like application
- ◆ Cellular operators as Sprint, KT, etc.
- ◆ Data & VOIP services
- ◆ Seamless coverage
- ◆ Terminal: cards, handsets, hand-held consumer devices



Scalable Network Deployment

CPE with Fixed Outdoor Antenna
Outdoor Antenna



>3KM
>3KM

Initial Phase
Initial Phase

Indoor CPE



~1KM
~1KM

Expand Phase
Expand Phase

Mobile device



~0.5KM
~0.5KM

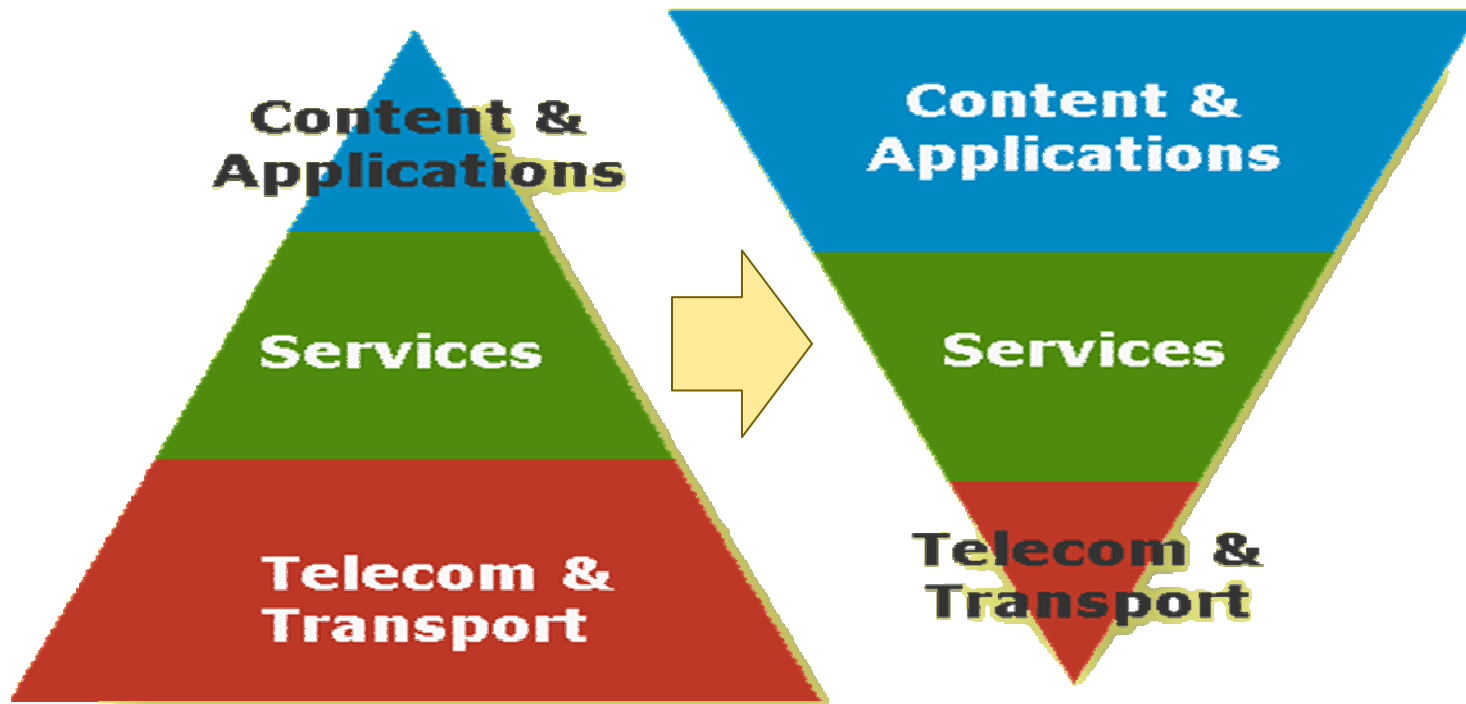
Mature Phase
Mature Phase



Trend of Telecom-to-Internet Business Models

Telecom

Internet

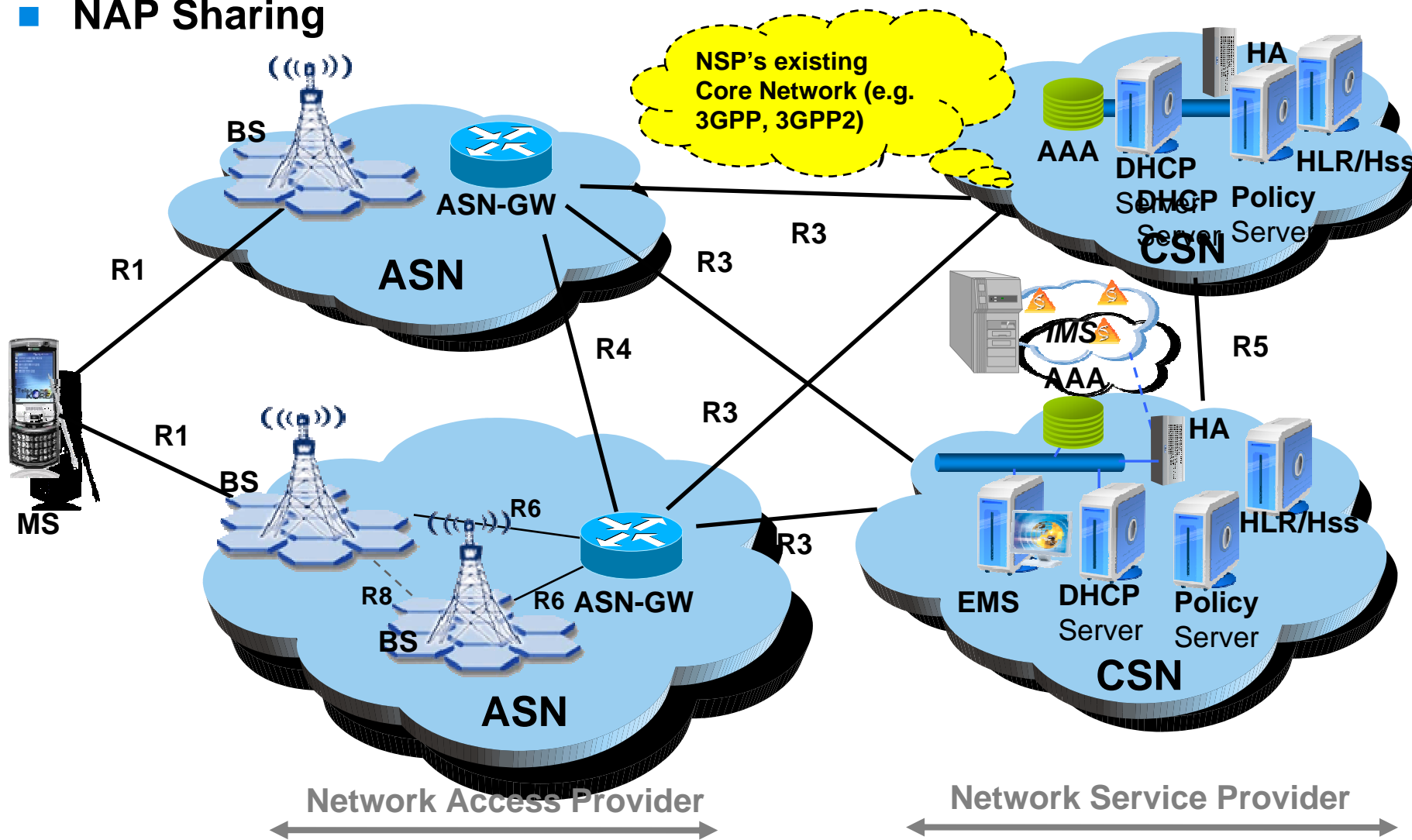


Provided by Sprint Nextel



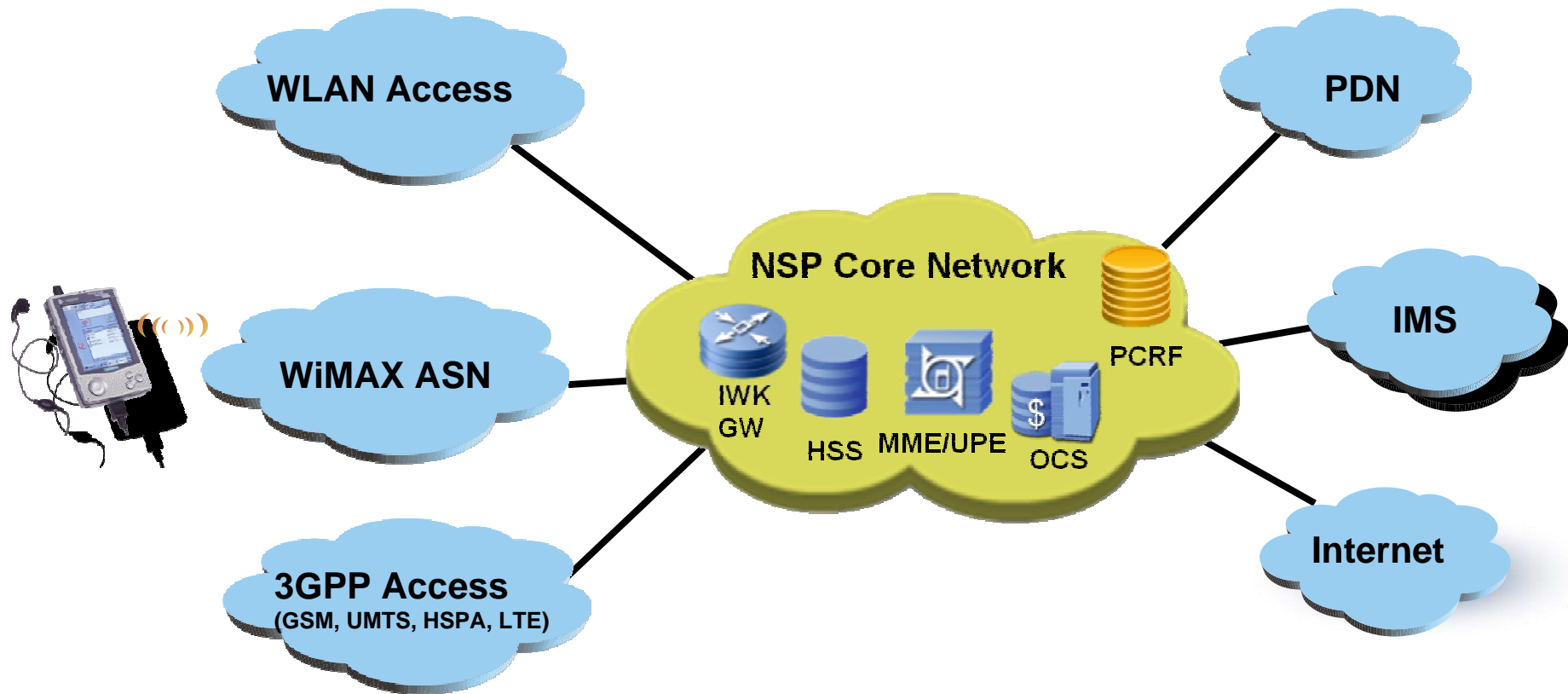
Flexible Network Architecture

NAP Sharing





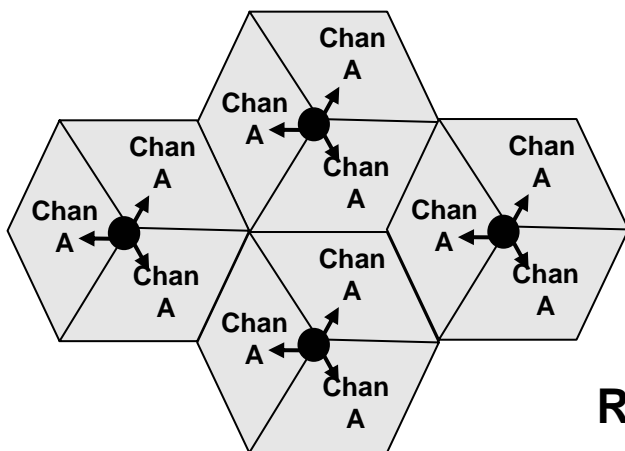
Flexible Service Provider Business Models



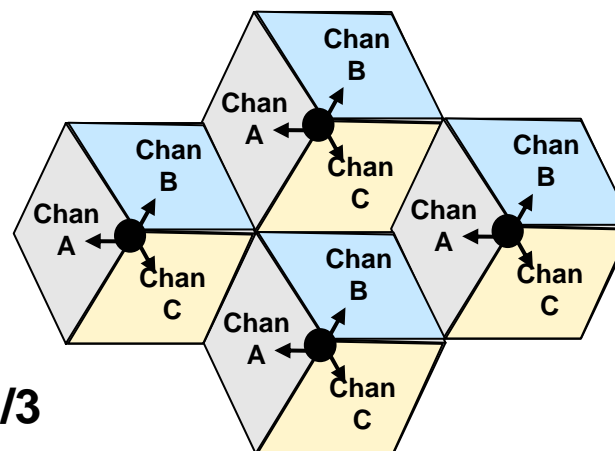


Flexible Support for Global Spectrum

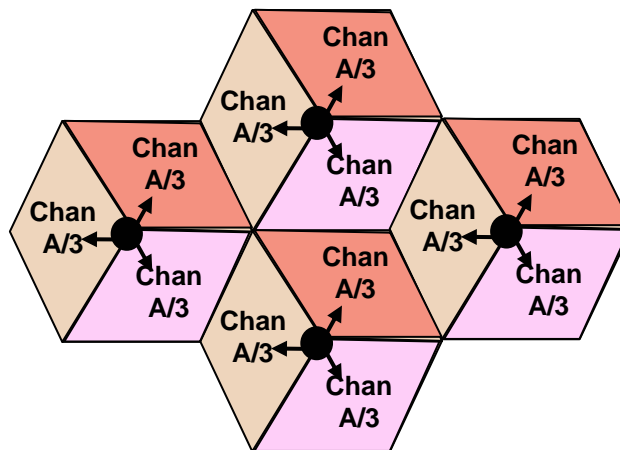
Reuse = 1



Reuse = 3



Reuse = 1/3



Flexible Duplexing

- TDD, FDD & H-FDD

Flexible Channel BW

- 5, 7, 8.75, 10 MHz

Multiple Freq. Bands

- 2.3 GHz, 2.5 GHz
- 3.5 GHz
- Sub 1-GHz

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WiMAX is Off and Running

Operators of different types have embraced WiMAX

- Fixed telcos, such as large cable operators, CLECs, even a few mobile operators, and new entrants, have embraced WiMAX, particularly in emerging markets
- Mostly fixed or portable broadband services – the next frontier for growth
- Low TCO with lower CAPEX and OPEX

Time-to market advantage

- Demands for fast Internet access
- Technology to deliver speed to market fast
- Latest technology to provide competitive edge over 3G

WiMAX Case Study: Products & Services



- ◆ 70% of the city is currently blanketed in WiMAX signals
- ◆ Prices for the service start at \$10 for 24 hours of unlimited usage, \$25 for monthly home Internet service, and \$30 for monthly on-the-go service, both home networks and mobile \$50 per month



WiMAX Enabled Terminals and Devices



- ◆ High speed Internet
- ◆ Wireless Gaming, Video, HDTV, etc.



2007

2008

2009

2010

2011

More Than 250 Operator Trials & Deployments





Mobile Broadband Future



Broadband services today setting a new benchmark for mobile broadband solutions



Mobility and broadband convergence – the future digital lifestyle



4G time-to-market leadership by WiMAX



4G standard for all parties

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Thanks!

Talking to the future

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