

NGN - BASE FOR EXPERIENCE PROVIDERS

SEPTEMBER 5th 2006

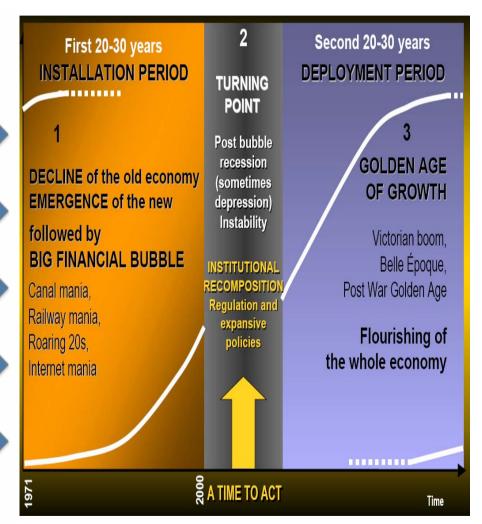
FRANCISCO FUENTES
TECHNOLOGY STRATEGY
CISCO SYSTEMS

We are at a Turning Point

Historic Junctures

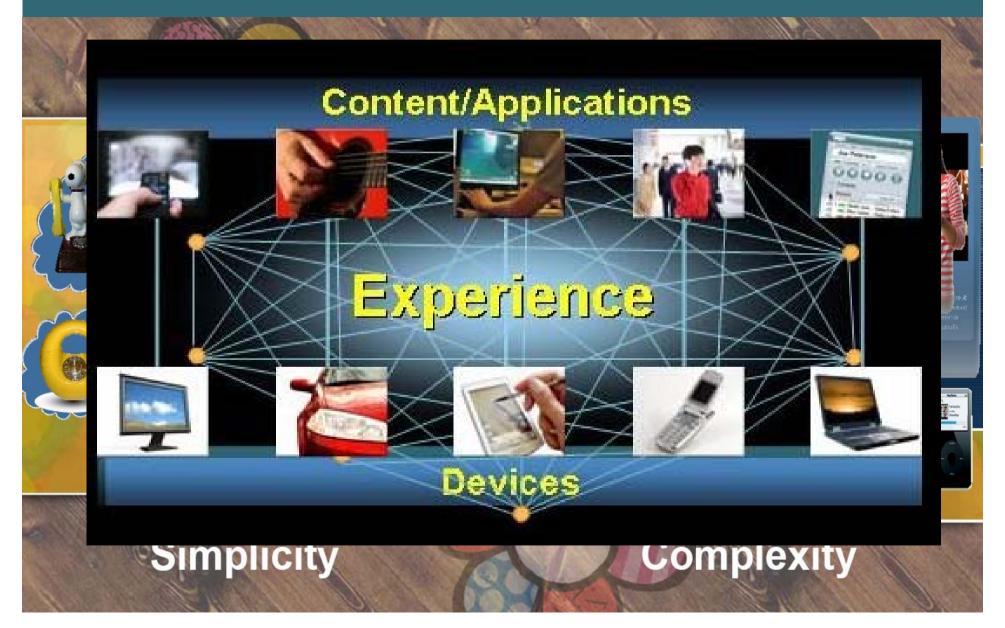
	Innovation	Market Correction	Mass Deployment
1771	Industrial Revolution	Panic 1797	Water-powered manufacturing & transportation networks Rise of public companies
1829	Steam & Railways	Panic 1874	• Economies of scale • Repeat of tariffs / free trade
1875	Steel, Electricity, & Heavy Engineering	Global Collapses of 1890s	Transcontinental rail & communication Gold standard, global finance
1908	Automobiles, Oil, & Mass Production	Great Crash of 1929	• Interstate / international highways • IMF, World Bank
1982	Information & Telecommunications	Global Collapse 2001	Current period of adjustment

Source: Carlota Perez, Technological Revolutions and Financial Capital, 2002



Source: Prof Wolter Lenstra

Telecoms Business is changing



Consumer driving the Market

Voice

Video

Community

- Skype: 150M+ users
- 2 Years
- Skype

- YouTube: 120M streams/day
- · 9 months



- 50M+ visitors per month
- 3 years



The power of the "AND"

Benefits of the Computing Model

Benefits of the Communications Model

Creativity

Speed

Low Cost

Examples

- Email
- Commerce
- Portals
- Search

Ubiquity

- Consistency
- Control

Availability

Examples

- Telephony
- SMS

Next Generation Networks

 Next Generation Core is delivered by the means of changing the equipment for transmission and switching

Driven by potential efficiencies in supplying the existing services

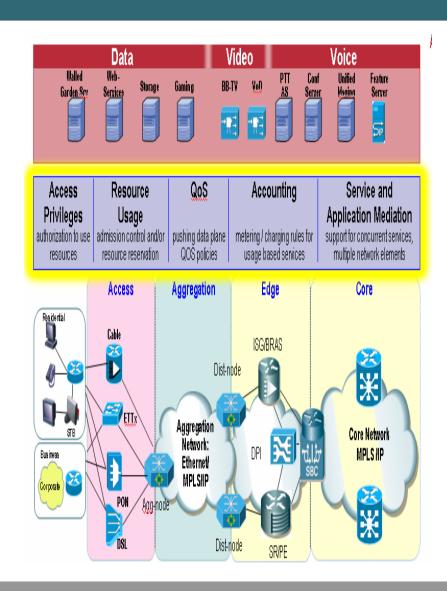
 When it is touching the access it is referenced as Next Generation Access

Higher bandwidth, Greater symmetry, Lower contention, Supporting higher peaks

 Next Generation Service Exchange Platform is the platform managing the services

Intelligence decoupled from Network

Real Time provision, customisation and control of services



Next Generation Networks Next Generation Core

CAPEX

Reduction/elimination of network layers (e.g. SDH, ATM)

Network consolidation

Use of standards for NGN networking equipment

Efficiency gain with IP

OPEX

Fewer Network Elements

Fewer Interfaces

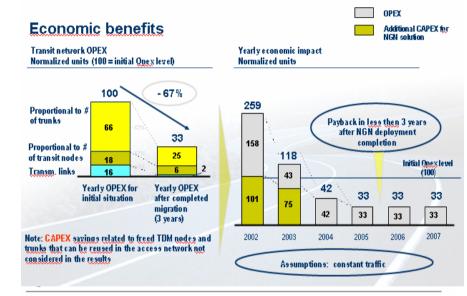
Large savings in network maintenance.

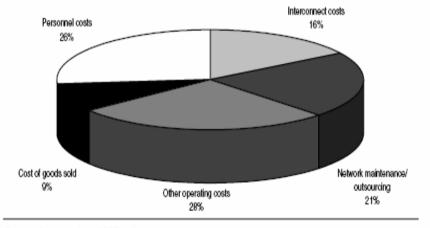
Other Operating Costs

Property (Footprint reduction)

Power costs, IT costs

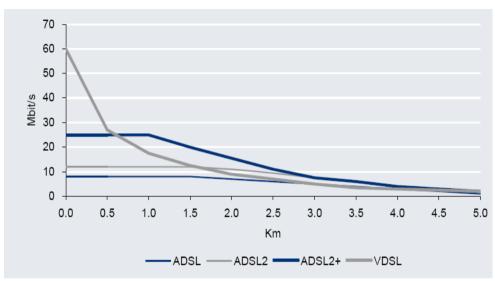
Influenced by the Transition Period

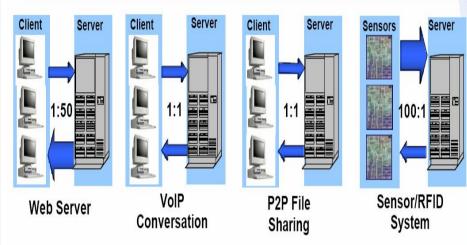




Source: Company data, CSFB estimates

Next Generation Networks Next Generation Access





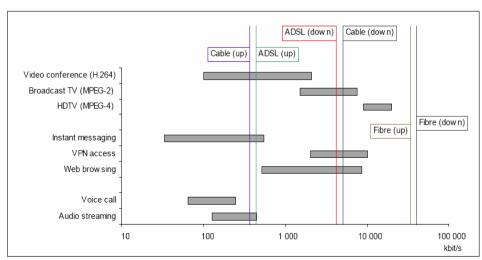


Fig 12 Typical bandwidth requirements for future homes

Service	Bandwidth required	
2 MPEG-4 HDTV streams	24Mbit/s	
Internet	8Mbit/s	
Voice	0.25Mbit/s	
Video telephony	5Mbit/s (duplex)	
Total	37.25 Mbit/s	

Source: ING

Next Generation Networks Next Generation Service Exchange Platform

IDENTITY MANAGEMENT User / Device ID Location / Presence Service Registration Audit / Logging Assured Authentication

WHO?

POLICY MANAGEMENT Subscriber Policy Application Policy Per-Sub Service

WHAT?

SEF

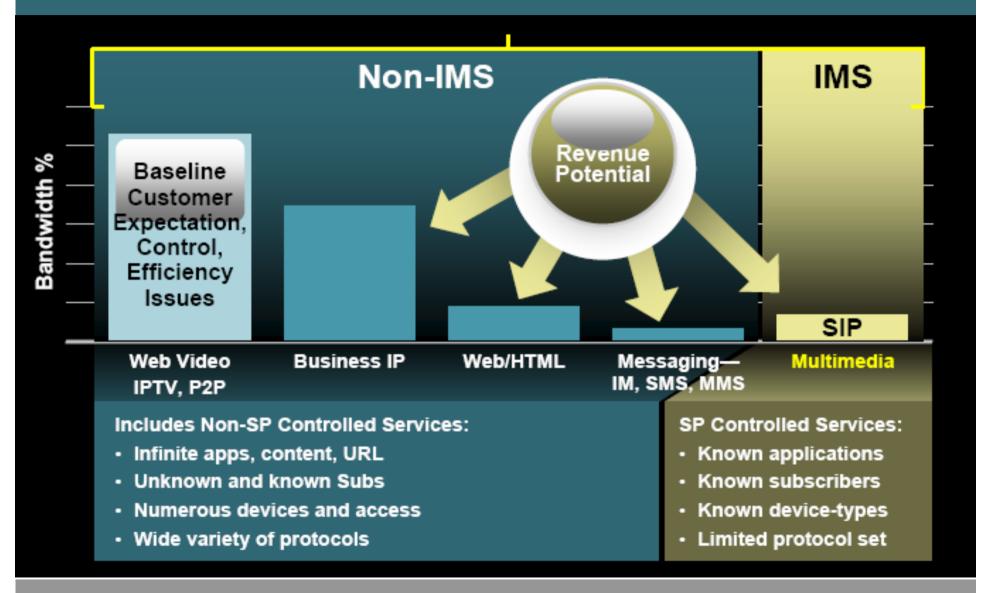
MOBILITY MANAGEMENT Device Roaming Service Mobility User Mobility

WHERE?

DYNAMIC SESSION MANAGEMENT Session Initiation & Call Control Rich-Wedia Control Bandwidth & QoS per Session Accounting / Billing

HOW?

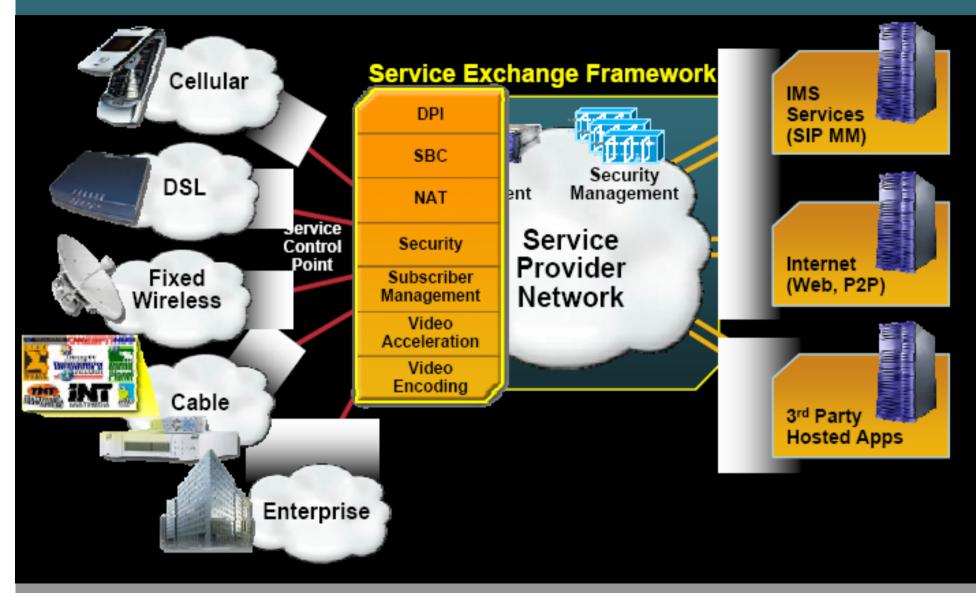
Next Generation Networks Needs to address the whole Spectrum



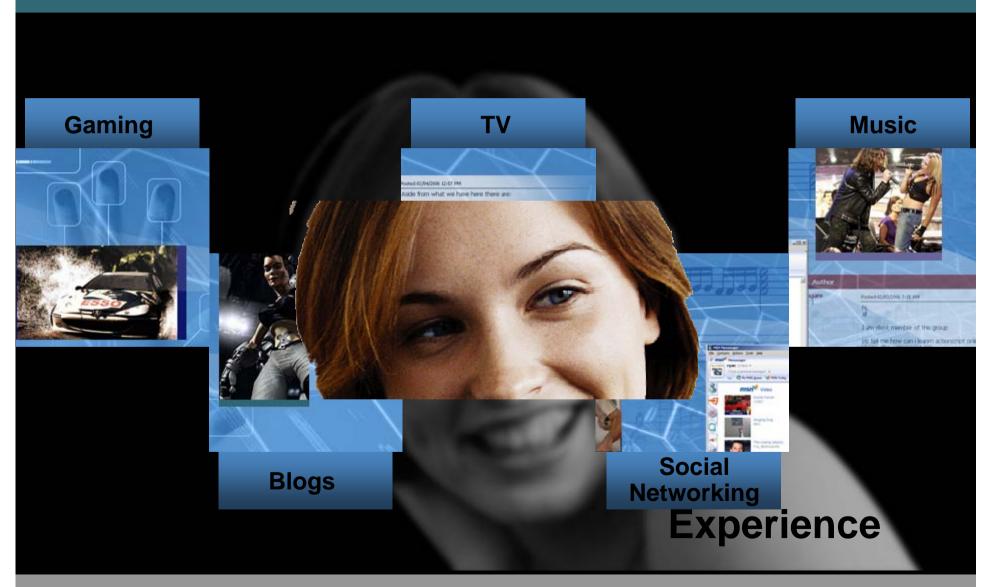
Next Generation Networks Achieve Convergence at different Layers

Devices Applications	VoD, nPVR, Web, FMC, Gaming Email, Voice Mail, Local/LD	Application Layer Convergence	Integration of new billable services	
Systems	IMS, SEF, Directory, Policy, Identity, Proxy, Authentication	Service Layer Convergence	Service continuity across networks	
Network Infrastructure	Core, Metro, Access, Premise, Servers, Cache, Gateway	Network Layer	Eliminate network layers to increase	
Plant/ Optics	Amps, Nodes, Optical Repeaters, Coax Cable	Convergence	OPEX/CAPEX efficiencies	

Summary Architecture of the Future



Summary Become an Experience Provider



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