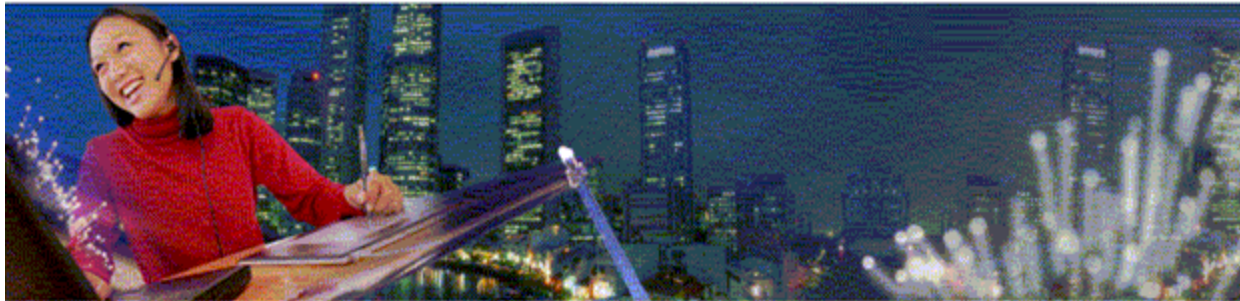


IPTV Technologies and Deployment Challenges



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Outline

What is IPTV?

Market Drivers

Triple Play/IPTV – A Quick Introduction

Technology Enablers

Network Transport Architectures

Challenges

Competitive Threat

IPTV Vendors and Service Provider Strategies

Conclusion

Major IPTV Vendors

IPTV Vendors

STB

Thompsons,
Scientific Atlanta,
Motorola, Amino,
Pace, Entone

Network Transport

Lucent, Cisco,
Alcatel, Juniper

VoD Servers

Kasenna, nCube,
Seachange,
Midstream, Bitband

Middleware

Microsoft, Myrio,
Orca, Minerva

Encoder

Harmonic, Envivio,
Skystream,
Tandberg, Tut
systems

Commerical Insertion

Scopus, Teriyon

DSLAM

Lucent, Alcatel,
Huawei,
UTStarcom, ZTE

Service Provider Strategies

SBC

After FCC's announcement, laid out the *Project Lightspeed* milestones

- Aims to reach 18M households by 2007
- Plans to use Fiber to the curb (FTTC) system and use DSL in the last mile

Awarded contract to Alcatel (\$1.7B) and Microsoft (\$400M) for the complete IPTV system

Negotiated its own content distribution rights with content provider

Distribution network:

- Two national content aggregation centers (master headends), (LA, Midwest), 40 IP video hubs (regional headends), and 140 IP video serving offices (local distribution points).
- Will cover about 50% of SBC's territory.

Currently testing IPTV service in Austin area. Plans to other markets in *3rdQuarter, 2006*

Bell South

Plans to expand its FTTC network to pass *1.25M* customers in 2005

90% lines are in pairs and within *9K* ft.

- Plans to ADSL2+ based “*bonding*” to get higher speeds

Currently co-markets with *DirectTV* to provide bundle

- Goal to cover 80% of customer base by 2009

IPTV feature-rich video offer under limited trails

- Currently trialing Microsoft's middleware in lab

Verizon

Most aggressive pursuers of FTTP deployment among bell companies

- Deploying FTTP network in 12 states. Expects to pass *3M* homes by the end of 2005

FiOS TV service under limited trials in Virginia, NY

Recently obtained statewide franchise in Texas

Taking a cautious approach to enter the video delivery business

- Plans to offer RF-based video service

Awarded contract to *Microsoft* for middleware and to *Motorola* for network infrastructure and CPE

PCCW Hong Kong

Hong Kong Incumbent telco operator

Largest IPTV deployment to date(Nov 2005)

- 500K subscribers (30% of worldwide IPTV subscribers)
- Offers a la carte programming instead of bundled package
- Revenue sharing model with content owners, no minimum subscriber guarantee

ADSL based service

- Works well due to dense population, shorter copper loops
- Open system with software centric solution based on HP/IBM servers

Sharing its operational, technical expertise with other IPTV providers such as Telefonica, China Netcom

Triple Play Penetration

Broadband Providers Closest to the Voice, Video and Broadband Triple Play

Source: The Yankee Group, 2004

