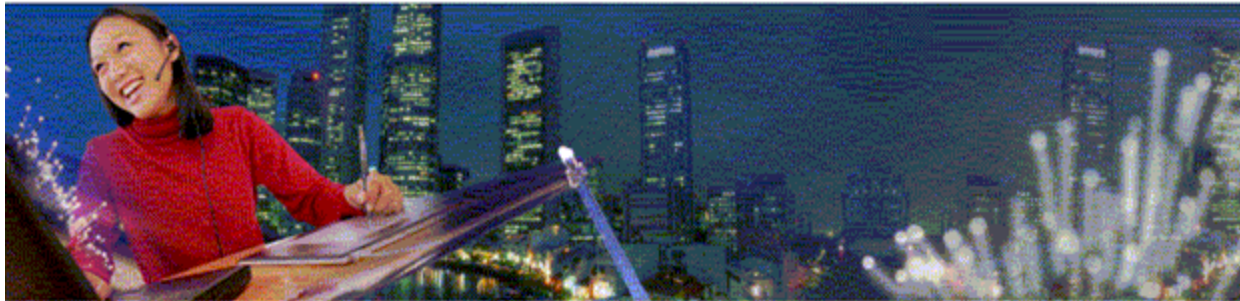


# IPTV Technologies and Deployment Challenges



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## Outline

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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

## IPTV Market Drivers

## Declining Voice Business

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Voice revenues are the Telco cash cow

However, steady erosion from VoIP and wireless

Forecasts show year-over-year revenue drop for  
North America (Yankee Group, 2004)

Year	Consumer (\$ B)	Business (\$ B)
2003	74.4	62.2
2004	69.8	59.9
2005	65.4	57.9
...		
2007	57.2	54.0

## VoIP Attack!

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Cable Multiple System Operators (MSOs) and Independent VoIP providers (*e.g. Vonage*) offering residential and enterprise voice services

– Attractive w/ *Call-waiting, Caller-Id* etc. for < \$30

VoIP subscriber growth predictions (Yankee group):

Year	US (Thousands)	Global (Thousands)
2004	565	997
2005	1791	2992
....		
2009	17091	31404

## Higher ARPU in Video Business

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Customers also willing to pay more for video

Surveys show compared to voice spending alone (~\$50/month), ARPU for:

- Voice + Data: 2x Voice
- Voice + Data + TV/Video: 4x Voice

By offering Pay-per-view and Video-on-Demand, TV providers also expecting to grab share of the video rental market (e.g., Blockbuster)

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## Bundling Offer: Triple Play – Voice, Video & Data

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Bundling of services enables lower package price

- Translates to reduced cost for customers
- Drives higher ARPU on the customer base by selling multiple services

Lowers customer churn

- *Cox Communications* reported reduction **50%** reduction in customer churn (*Instat/MDR 2003*)

Allows operational efficiencies from the integration of OSS systems

Reselling partnerships with Satellite a stop-gap triple-play offer



## So, Why Now?

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Telcos have to defend their territory

- Survival, no longer a matter *choice*

FCC's unbundling relief to ILECs for Fiber to the curb deployments

- Clears the regulatory uncertainty holding the fiber deployment by RBOCs

DSL advances (*ADSL, ADSL2+, VDSL*)

- Higher bit rate, better reach

Mature video standards (*MPEG-4 H.264*)

- Halved bandwidth requirements

## Telco Fight Back..

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Bell South CTO Bill Smith (Lightreading.com, 7/15/2005):

*"From a competitive perspective, voice over IP has been a very good vehicle for cable companies to come in and attack our core business. I think IPTV may be an equally good opportunity for us to go in and attack their core business."*

But, no illusions about the rocky road:

- VoIP: 8 Kbps, 3min (avg call), IPTV: 6+Mbps, 24x7
- Consumer VoIP entry as 2<sup>nd</sup> line
  - *Only one TV service* into the home (i.e., quality is key!)

**IPTV: Challenges and Opportunities Galore!**