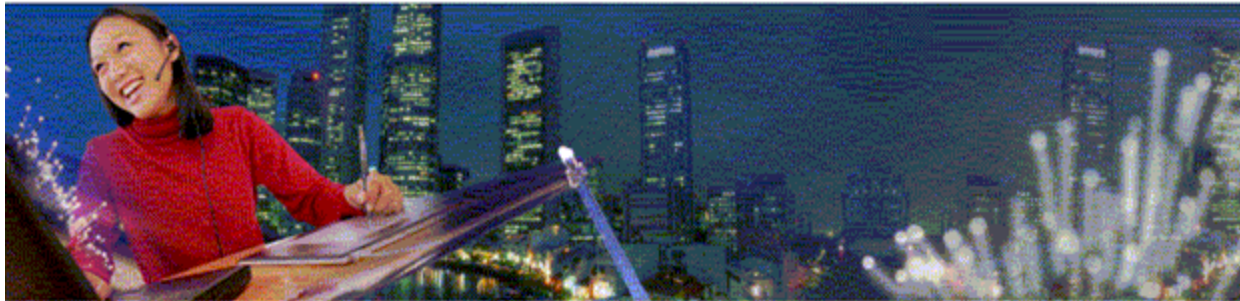


# IPTV Technologies and Deployment Challenges



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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

## Competitive Threat

## Cable MSOs

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Formidable competitor

- Huge customer base. Already offering digital TV, PPV, VoD, VoIP etc.

**Business Challenge:** Scalability issue for on-demand content. Analog TV channels consume precious 6MHz bandwidth

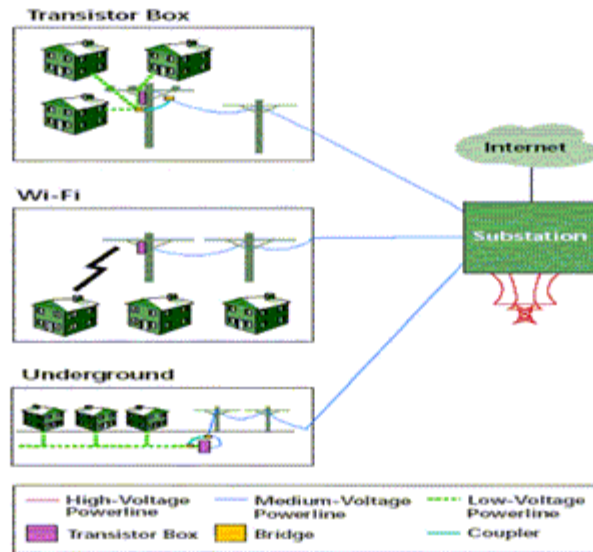
- Upstream channel is limited in b/w

Cable operators plan to move to all digital infrastructure to counter IPTV threat

- CableLabs **N**ext **G**eneration **N**etwork **A**rchitecture (NGNA) initiative underway
  - Significantly higher capacity will allow higher data download speeds (DOCSIS 3.0), True on-demand TV service
- Combining Cable Modem, STB functionality, Home networking (802.11x) , gaming into single **Residential Gateway** will offer economies of scale
  - Huge investment into the existing STBs (**\$3-4B**). Newer STBs will enter the market with gradual pace

# Broadband over Powerline (BPL)

Variations of Access BPL  
Source: The Yankee Group, 2005



## BPL (Contd.)

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FCC's endorsement is increasing the awareness of technology

- **Speed:** Advertised speeds are up to 45 Mbps shared among multiple homes. Next generation technology capable of 200 Mbps.
- **Shared bandwidth:** Low-voltage line services approximately five to 10 houses in populated areas
- **Distance-sensitive:** Like DSL, BPL speeds lose momentum over distance. A signal can usually be carried between 0.5 mile and 1 mile. Problem in rural areas

### **Barrier:**

- Interference
  - Most controversial element of the technology. Operation in 2-80Mhz spectrum interferes with ham radio operation
  - Vendors claim notching mitigates the problem
- Late to market
- Slow moving standard process