Challenges in Carrier IPTV

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Carrier Architecture

SHO : Super Hub Office  VHO : Video Hub Office

IPTV System

National Content Insertion

Long Haul Network

Metro Network

Access Network

Home Network

Internet Backbone

VHO

BSA

PC

RG

Third Party Content Insertion

Local Content Insertion

SAI

IPTV System

SHO

VHO

internet Backbone

IPTV System
Network Errors

- WAN and metro
  - Random loss
  - Link events
  - Router events
  - Maintenance events

- Access
  - Unprotected
  - FTTN
    - Noisy environment

- Home network
  - Noisy, error prone
Scaling Constraints

- Large scale object replication
  - VOD
  - Updates
  - Ad’s
- CPU
- Fast Channel Change (FCC)
  - Bandwidth for FCC
- CAC – call admission control for streams (e.g., VOD)