Home Networking
IEEE CCNC06

January 9, 2006

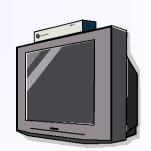## *Peter Lowrie*
Executive Director

Lightspeed CPE

- **Residential Gateway (RG)**
  - Integrated VDSL2 Modem
  - QoS Classification & Policy Engine
  - SIP ALG, VoIP-ready ATAs
  - IGMP proxy

- **System-on-Chip (SoC) Set Top Box (STB)**
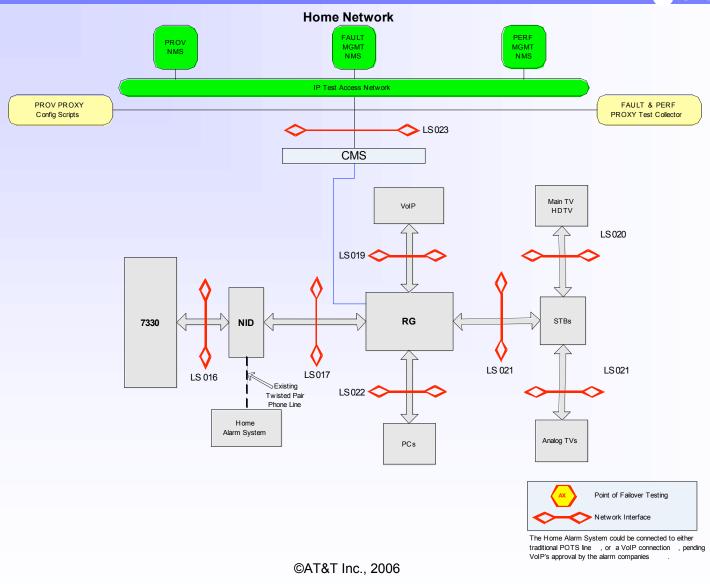 - VC-1 & H.264 decoding, DRM
  - HD/SD, DVR
  - IPTVe client middleware
  - Applications
    - Interactive TV
    - Simple Games

Home Network Interfaces
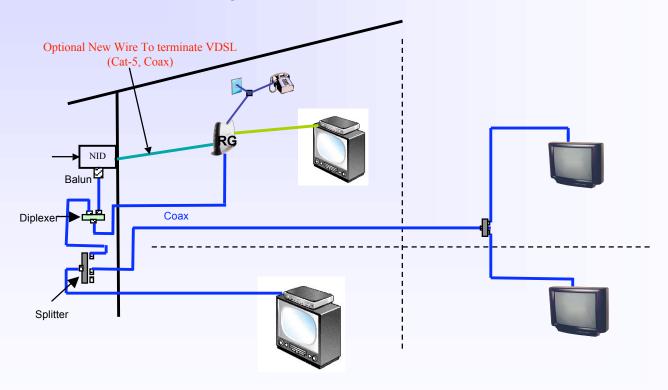
Home Network

PROV NMS

FAULT MGMT NMS

PERF MGMT NMS

IP Test Access Network

PROV PROXY
Config Scripts

FAULT & PERF
PROXY Test Collector

LS 023

CMS

VoIP

Main TV
HDTV

LS 020

LS 019

7330

NID

RG

STBs

LS 016

LS 017

LS 021

LS 021

Existing
Twisted Pair
Phone Line

LS 022

Home
Alarm System

PCs

Analog TVs

AX — Point of Failover Testing

Network Interface

The Home Alarm System could be connected to either
traditional POTS line , or a VoIP connection , pending
VoIP's approval by the alarm companies .

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3

Physical Layer Complications

- Coaxial cable (MoCA, HPNA v3, others)
- Twisted pair phone wiring (HPNA v3)

Optional New Wire To terminate VDSL
(Cat-5, Coax)

RG

NID

Balun

Diplexer

Coax

Splitter
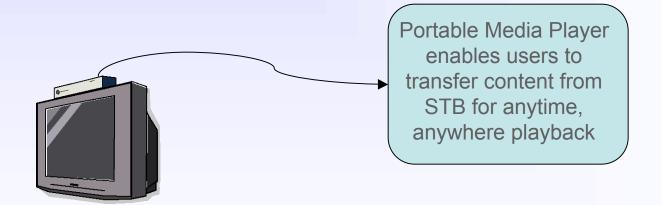
- Power line (HomePlug AV)
- Future alternatives (Wireless)

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Future Vision

From sharing internet access…

Portable Media Player enables users to transfer content from STB for anytime, anywhere playback

…to sharing video content!

Installation and QoS Management

- Skill sets required for installers are changing
  - Current focus is on outside plant
  - New area of home networking is full of surprises!
- Consumers willing to install home networking for sharing internet access or access to a printer
- Network management of QoS for video service must be transparent to user
- Connection of CE devices raises issues
  - Investigating our options on business model

IEEE CCNC06 Panel

- Today, consumers are enjoying the benefits of home networking to share internet access among several computers and devices in their home. In many cases the consumer self-installed the network equipment, but in some cases the operator provided or installed the equipment. As movies and television (AV) content is on the verge of being distributed on home networks, who will support the new equipment and provide the user experience (e.g. navigating between content sources and programs). With consumer's high quality expectations from traditional AV delivery, operators contend they must own and control the home networks for AV distribution. On the other hand, consumer electronics manufacturers wish to appeal directly to consumers with products allowing a high confidence of self installation. The panelists represent a number of industry positions to answer "who owns the home network?"

Suggested Outline

- Lightspeed "triple play" services
- Tomorrow's home network
- Installation of the home network
- Customer options
- Customer care
- Q & A