Home Gateway: key to convergence of BB and consumer industry

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For IST FP6 Project MUSE
Some devices in the home network…

Home network
...need to be connected to the internet...
…via an ATM based access network
The communication device between home and outside world

- **Home network**
- **Access network**
- **Internet network**

First mile:
- Modem
- Home gateway

Access network:
- xDSL
- DSLAM/
- Access Multiplexer

Aggregation network:
- BRAS/
- Edge Node
Reachable networks

- Corporate Network
- Internet
- VoIP Gateway
- PSTN
- V.92
- Access network
- BRAS
- VoATM Gateway
- DSLAM
- xDSL
- PSTN
- VoIP Gateway

Reference

Muse confidential
Simple entrance of the home; simple local network
Simple entrance of the home; simple local network

- xDSL
- USB
- DSL Modem
- Internet Connection Sharing
Inserting a gateway

- xDSL
- DSL Modem
- USB
- Access gateway
- Ethernet
- Local Area Network
Combining modem and access gateway

Local Area Network

Home Gateway

Ethernet
Making the home connections wireless
A variety of devices can be interconnected
Service gateway: intercepting the digital control/info
Services and applications

- Surfing/shopping/education
- Limited surfing
- Entertainment/Gaming
- Wireless audio/Video
- Audio/Video sourcing
- (Streaming) audio/video (VoD)
- Home cinema communication/
  Personal audio/video
- IP based (video) phoning
- Fixed/Mobile Integration
  transparency in/out
CPE reference configuration

MUSE

MediaNet

Customer Premises Equipment (CPE)
Interfaces to the PSTN

- **ADSL, ADSL2, ADSL2+, RE-ADSL**
  - Few Mbit/s downstream, few kbit/s upstream; up to 5km

- **SHDSL**
  - 2Mbit/s upstream and downstream; up to 3 km

- **VDSL**
  - Tens Mbit/s downstream; up to 400m

- **Fiber interfaces**

- **FTTx**

- **Others**
Interfacing to the home network

- USB
- Ethernet: IEEE802.3
- Wireless Ethernet: IEEE802.11b, 802.11g
- Others
Functions of the home gateway

- Connecting: at L2 or at L3
- Forwarding/routing/bridging
- NAT/NAPT
- Connection admission
- PPP/DHCP
- VPC/LAN/VLAN handling
- QoS
- Queueing/Prioritization
- Security
- Firewall
- Management
- SNMP – TR69/GUI/alarms/logging
- Signalling
- H.323/SIP
UPnP: identify and control devices

I am here;
My data are...
I can be contacted at...
Event/action

Home appliances

CPN

Home Gateway

xDSDL
OSGi: client server control setup

Service control

Home appliances

Java

CPN

Home Gateway

Java

xDSL
Teleworking

- Corporate Network
- Internet
- VoIP Gateway
- PSTN
- VoATM Gateway
- Access network
- DSI AM
- xDSL

Reference: Muse confidential
Video on demand

Reference

Muse confidential
Voice/Video over IP calling
Showing home movies or photos
The end

Thanks for your attention

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Thomson Telecom Belgium N.V.
Speedtouch products