

System Components (in short)



Content Acquisition & Linear Streamer

- 20 DVB-S/-S2/-T/-C/-ASI inputs
- Support for Multichannel decryption
- PSI, SI data extraction & streaming
- MPTS-SPTS re-multiplexing, PID-filtering, IP aggregation
- GigE inputs/outputs



Chameleon GN 50

High Density DVB-IP Gateway

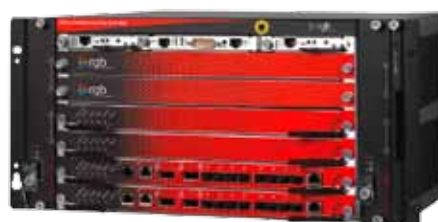
- 24 DVB-S/-S2/-T/-C/-ASI inputs
- Support for Multichannel decryption
- PSI, SI data extraction & streaming
- MPTS-SPTS re-multiplexing, PID-filtering, IP aggregation
- GigE inputs/outputs



Tangram GT 01

Transcoding, Format Conversion

- Video-Audio Transcoding
- Statistical Remultiplexing, Transrating
- Ad insertion
- Up to 88 HD or 864 SD programs in one chassis (future release end of 2011)



VMG

Adaptive Streaming

- Video ingest: H.264 over MPEG2 TS/UDP
- Output: Apple HTTP Live Streaming, Microsoft smooth streaming, Adobe RTMP, Adobe Zeri
- Capacity: 432 streams packed
- Encryption: AES 128 for HLS, PlayReady for Silverlight



AMS Packager

HbbTV Content Management Server

- OS: Linux, Windows, MacOS
- Browser: Mozilla Firefox, Opera, Internet Explorer
- PHP kernel, XML interfaces
- Carriergrade, scaleable > 1Mio. subs
- Standard or Blade server Hardware



AiMS Server

WISI Communications GmbH & Co. KG

P.O. Box 1220
75219 Niefern-Oeschelbronn, Germany

Phone: +49 72 33-66-280

Fax: +49 72 33-66-350

E-mail: export@wisi.de

Internet: www.wisi.de

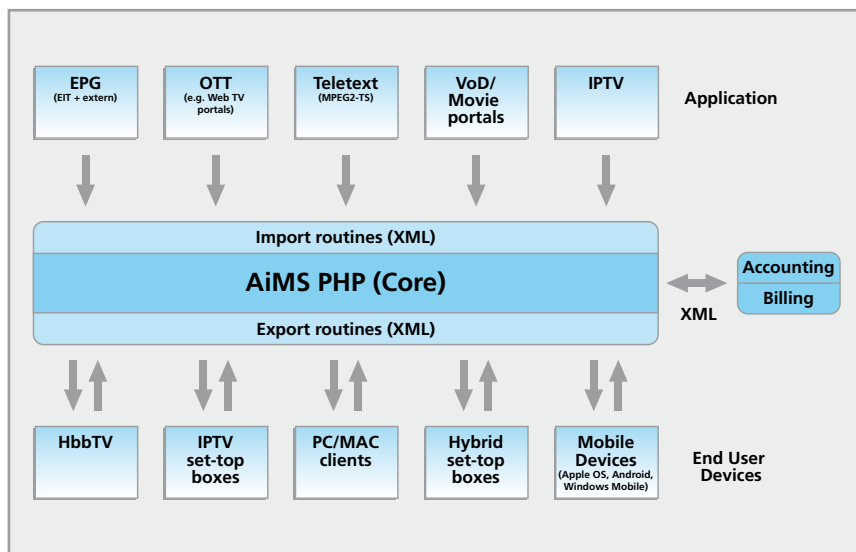


HbbTV - Content Management Multi Screen



excellence in digital ...

HbbTV Content Management



General features:

Applications:

- Advanced Teletext
- EPGs
- Catch up TV/VoD portals
- OTT Portals

Operating system:

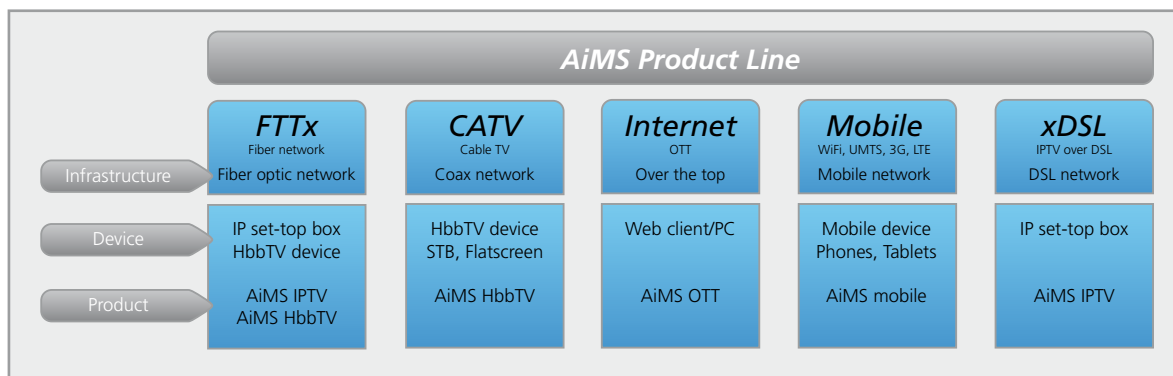
- Windows, Linux
- MacOS

Browser:

- Mozilla Firefox
- Internet Explorer
- Opera

AiMS functional overview

AiMS & AiMS HbbTV manage IPTV & Connected TV content (HbbTV)



AiMS HbbTV

AiMS HbbTV combines Television with content from the Internet and enables access to Internet services only. AiMS HbbTV transmits HbbTV content also via the broadcast channel. The content is displayed via a HbbTV enabled browser integrated in a HbbTV STB or Flatscreen. Signaling is done via the AIT (Application Information Table). Tables are multiplexed into the video signal with Open Caster. The multiplexer is a server build in hardware. Standard MPEG Re-multiplexer can be used instead.

AiMS OTT

- Enables operators to expand AiMS services over the Internet.

AiMS Mobile

- Supports downloadable apps for iOS (Apple), Android and Windows Mobile
- Data for the app are provided in XML from the Content Management Server
- Channel list contains the URL for the associated streams (profiles)

Packages

AiMS HbbTV Mini: Pension, Guest houses

AiMS HbbTV Basic: Hotels, Pensions

AiMS HbbTV Plus: Cable TV Provider, Service Provider

IPTV - Connected TV - Multi Screen

Contribution & IPTV System Elements

Digital TV MPEG Contribution is widely used to transport video from a main Headend to Hub locations.

This architecture ensures besides broadcast transport future proof digital TV services like VoD, IPTV and Connected TV, which need unicast transmission on the backbone. The main processing functions in the central Headend are shown in the diagram.

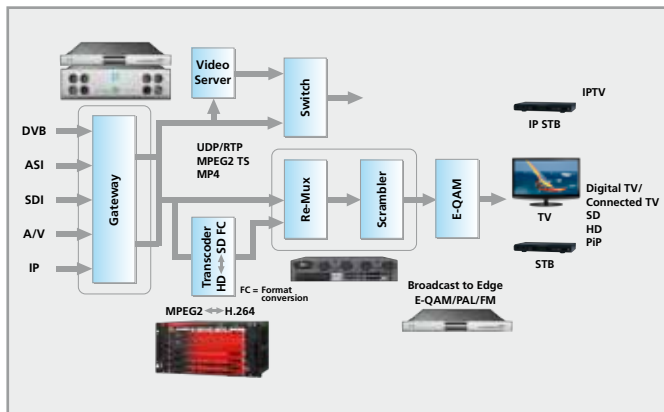
The DVB-IP Gateway function including re-multiplexing, transrating, format conversion and scrambling is composed of five products which enable high density signal processing.

System components:

WISI Chameleon, Tangram (Gateway)

RGB VMG, BNP

WISI Tangram (E-QAM, E-PAL, E-FM)



System components for digital TV contribution

System functions:

- High Density Acquisition (up to 24 TS in 1 RU)
- Aggregation (GigE)
- Encoding (MPEG2, H.264)
- MPEG2 <> MPEG4 (H.264) Transcoding
- Format conversion
- High Density Edge Processing (up to 48 QAMs in 1 RU)
- IPTV Broadcast Injection
- Statistical Multiplexing
- Transrating
- Scrambling
- Support of NDS, Nagra, CONAX CA
- Up to 768 programs in 2 RU
- ASI and GigE interfaces

System functions:

High Density Acquisition, Aggregation

- Chameleon, Tangram

Transcoding, Format Conversion

- IPTV H.264/MPEG2 Transcoding
- Adaptive Multiscreen Transcoding
- HD-SD down conversion
- Ad splicer
- Stat Muxing, Programm Grooming

Adaptive Streaming support

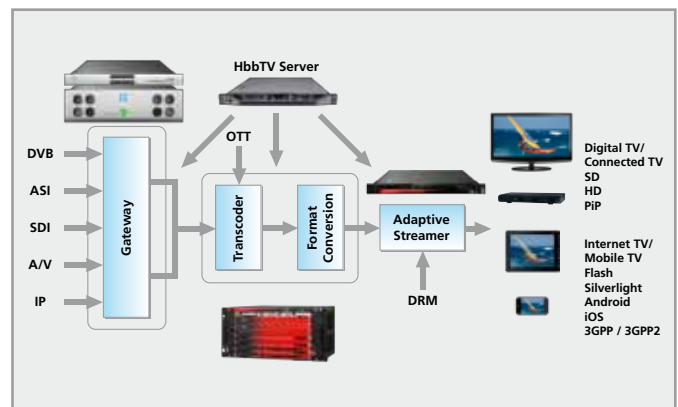
- Microsoft Silverlight/Smooth Streaming
- Apple HTTP Live Streaming
- Adobe HTTP Live Streaming
- Adobe Dynamic Streaming

DRM

- Microsoft PlayReady
- AES Encryption for HLS
- Windows Media DRM for PC
- Adobe Flash Access
- Integrated with Verimatrix

Multi Screen System Elements

New Consumer Services like tablets and iPhones attract more and more people. TV-consumption on these devices is increasingly growing. Service providers will ensure that their content is available on multiple screens. The WISI Multi Screen Solution integrates the HbbTV application content management server in its Multiscreen product portfolio thus enabling the same user interface (look & feel) on all screens like flatscreens, PCs and tablets. This creates an immersive experience that gives consumers access to all their entertainment even if the service provider does not own some of it.



System components for Multi Screen