Hybrid TV in Europe & beyond Symposium

December 17th & 18th 2012

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with

Organized by
Hybrid TV in Europe and beyond
Country review

Chairman: Régis Saint Girons - htv
Germany: Klaus Illgner - HbbTV consortium
France: Frederic Tapiissier - HD Forum France
UK: Andy Hickman - Digital TV Labs
Italy: Alberto Sigismondi - MediaSet Group
Spain: José-Luis Vasquez - AEDETI
Denmark: Gert Svendsen - Canal Digital
Middle East: Hassan Chahine - Glocom
Germany

Population : 38 M HHs

TV reception ¹:

- DTT  12.5%
- Sat  45.6%
- Cable  47.9%
- IPTV  4.3%

- Pay TV total  8.4%

¹ primary reception (source: Digitalisierungsbericht 2012)

- Technical profile
  - HbbTV 1.1
- Target network(s)
  - All broadcast networks (Terrestrial, Satellite, cable)
  - IPTV under investigation
- Penetration and forecasts
  - Today: ~4Mio devices sold, connection rate ~70%, most SmartTVs have HbbTV
  - 2015: all SmartTVs with HbbTV, SmartTVs >80% of TVs sold per year, ~10M TV set / year
- Market moderating organization
  - Deutsche TV-Plattform
Main Media groups with HbbTV services

- **ARD** (all channels) for TV & Radio:
  - portal, Teletext, EPG, catchup, news, event-specific live & catchup + background info, ...

- **RTL** (all channels):
  - teletext, EPG, weather, clipfish music

- **Pro7Sat1** (all channels):
  - teletext, catchup, EPG, twitter, advertisement, games, voting, weather, ...

- **Arte** (catchup):
  - catchup

- **HSE24 / QVC**:
  - (product info & sales, catchup)

- **Others**:
  - Large range of «long tail» programs with various applications
Zoom on a specific topic

• **Market developed very early**
  – First services by all main broadcasters in 2012
  – Fast growing penetration and usage
  – Pure retail market

• **Issues being addressed**
  – Adoption of HbbTV 1.5 namely for commercial services
    • Discussion about DRM
  – Preparation of a marketing campaign
France

- Population: 26M HHs
- TV reception \(^1\):
  - DTT: 59%
  - FTA Sat: 11%
  - Pay Sat: 13%
  - Cable: 9%
  - IPTV: 35%

\(^1\) - Household may have several TV sets so total maybe much higher than the number of HH

- Main Media groups having hybrid TV services:
  - TF1 (advertising, paid voting, event based apps)
  - France Televisions (portal, SALTO start-over, sport event-based catch-up/realtime results,...)
  - M6 (portal, advertising)
  - Canal+ (portal, tweet feeds on FTA channels)
  - Arte (catch-up, original videos))
  - NRJ (catch-up, live radio)
Hybrid TV operations

• **Technical profile**
  - Since 2011: HbbTV 1.1
  - To come: HbbTV 1.5 + DRM (Marlin & MS playready)

• **Target network(s)**
  - DTT and free satellite
  - Under Investigation: IPTV

• **Penetration and forecasts**
  - Today: 1,5M HbbTV compatible TV sold (~400K active HbbTV devices)
  - 2015: 10M ? (2M? active HbbTV devices)

• **Project leading organizations**: HD Forum
Zoom on new HbbTV Profile

• **Specs made public in July 2012**
  – Project name: TNT2.0
  – Includes reference to HbbTV 1.5 + DRM to be selected within Marlin or MS Playready
  – Test suite proposed in cooperation with HD Forum

• **Devices**
  – TV sets (from 2013 models)
  – Satellite receiver & TV (Fransat connected profile)

• **First services likely to use the profile**
  – VOD (MYTF1VOD)
  – Catch-up TV
  – Startover
  – Streamed live channel
UK

- Population: 26.2M HHs
- TV reception:
  - FTA DTT: 38%
  - FTA Sat: 7%
  - Pay Sat: 38%
  - Cable: 15%
  - IPTV: 2%

Source: Ofcom, *International Communications Market Report 2012*

- Main Media groups having hybrid TV services:
  - BBC (iPlayer, sports streaming, news, red button – weather, etc.)
  - ITV/Channel 4/Channel 5 (catchup, VOD)
  - Sky (catchup and VOD)
  - Virgin (catchup and VOD)
## Hybrid TV operations

<table>
<thead>
<tr>
<th></th>
<th>YouView</th>
<th>Freeview HD</th>
<th>Other DTT</th>
<th>Freesat “Free time”</th>
<th>Sky</th>
<th>Virgin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technology</strong></td>
<td>Flash and HTTP streaming</td>
<td>MHEG ICS</td>
<td>DTG D-Book 7 B (HbbTV), Intellect (HbbTV)</td>
<td>Proprietary (but uses HTML5 and HbbTV)</td>
<td>Proprietary</td>
<td>Proprietary (Tivo)</td>
</tr>
<tr>
<td><strong>Platform</strong></td>
<td>DTT Retail</td>
<td>DTT Retail</td>
<td>DTT, Not deployed</td>
<td>Satellite FTA – retail</td>
<td>Satellite Subscription</td>
<td>Cable Subscription</td>
</tr>
<tr>
<td><strong>Deployment</strong></td>
<td>Unknown, launch Q3 2012</td>
<td>4.4M IDTVs and STBs in Dec 2011</td>
<td>None</td>
<td>Unknown, launch Q3 2012</td>
<td>5M Sky+ HD boxes in Mar 2012</td>
<td>1M Tivo boxes in July 2012</td>
</tr>
<tr>
<td><strong>Applications</strong></td>
<td>Catchup, VOD, Backwards EPG</td>
<td>Red button, “Connect TV”</td>
<td>None</td>
<td>Catchup, Backwards EPG</td>
<td>Catchup, VOD, Backwards EPG</td>
<td>Catchup, VOD, Backwards EPG</td>
</tr>
</tbody>
</table>

Hybrid TV symposium 2012
HbbTV in the UK

• Why can’t DTT just use HbbTV in the UK?
  – Interaction with MHEG apps and MHEG signalling
    • Sophisticated approach in D-Book 7 part B
    • Simple approach in the Intellect specification
  – Additional requirements from the public service broadcasters. E.g.
    • “Better” graphics
    • Advertisement insertion
  – Considerable interest in contributing to HbbTV v2
### Italy

<table>
<thead>
<tr>
<th>Population: 25M HHs</th>
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<tbody>
<tr>
<td>TV reception ¹:</td>
</tr>
<tr>
<td>- FTA DTT: 73%</td>
</tr>
<tr>
<td>- Pay DTT: 12%</td>
</tr>
<tr>
<td>- FTA Sat: 26%</td>
</tr>
<tr>
<td>- Pay Sat: 20%</td>
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<tr>
<td>- IPTV: 2%</td>
</tr>
</tbody>
</table>

¹ - a House Hold may have several TV sets so total maybe much higher than the number of HH

<table>
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<tr>
<th>Main Media groups having hybrid TV services:</th>
</tr>
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<tbody>
<tr>
<td>- Rai (catch-up TV: Rai Replay and VoD: TG Regionale. MHP app: Telecomando)</td>
</tr>
<tr>
<td>- Mediaset Premium (VoD: Premium Play and MHP apps: Guida TV, premium calcio, ...)</td>
</tr>
<tr>
<td>- LA7 (catch-up TV: La7 On Demand)</td>
</tr>
<tr>
<td>- Sky Italia (VoD: sky on demand)</td>
</tr>
<tr>
<td>- tivùon! (catch-up and FTA VoD services at trial stage)</td>
</tr>
</tbody>
</table>
Hybrid TV operations

- Technical profile (public horizontal specs)
  - DGTVI: GEM (MHP 1.1.3), DASH, CENC
  - tivùon! profile: Marlin DRM, Marlin Broadband Application Security

- Target network(s)
  - DTT operators and TivùSat

- Penetration and forecasts
  - Today: ≈ 5%
  - 2015: ≈ 9M

- Project leading organization: Tivù, HDForum Italia, DGTVI
Zoom on

• DVB work for mid-term GEM evolution:
  – Define new GEM functionalities (APIs) to support a standardized interface for broadcaster and 3rd parties to integrate companion devices into the TV viewing experience
  – Define a browser-integrating architecture to combine GEM with other runtime environments (e.g. HTML5)
Spain

- Population: 17M HHs
- TV reception:
  - Free DTT: 98%
  - Pay Sat: 10%
  - Cable: 8%
  - IPTV: 5%
  - Pay DTT: 2%

1 – CMT report – Q2 2012

- Main Media groups having connected TV services:
  - RTVE (catch-up, information, event based apps)
  - Antena 3 / laSexta (catch-up, advertising, information, news)
  - Telecinco (catch-up, advertising, news)
  - Digital+ / Yomvi (OTT VOD, live pay TV – premium content)
  - Wuaki / Filmin / Youzee (OTT VOD)
Hybrid TV operations

• Technical profile
  – HbbTV 1.1
  – To come: HbbTV 1.5 + DRM (Marlin & MS Playready)

• Target network(s)
  – DTT, IPTV (Telefónica)

• Penetration and forecasts
  – Today: over 2M TVs connected to the Internet, estimated over 1M internet-enabled TVs, no disclosed information on HbbTV compatibility

• Project leading organizations: AEDETI
Zoom on new HbbTV progress

• Standard agreed on November 2011
  – Linked to HbbTV consortium and French TNT and HD Forum – projected sync with HbbTV 1.5 + DRM
  – Interoperability agreements published in September 2012
  – DRM proposed by broadcasters: Marlin + Playready
  – Pending: certification entities and logo selection

• First services in operation
  – Catch-up TV
  – Streamed live channels / events
  – Advertising (limited)
Denmark

- House Holds: 2.2 mio
- TV reception ¹:
  - DTT ca. 300.000
  - FTA Sat ?
  - Pay Sat ca. 200.000
  - Cable ca. 1.6 mio
  - IPTV ?

¹ - an House Hold may have several TV sets so total maybe much higher than the number of HH

- Main Media groups having hybrid TV services
  - TDC/YouSee
  - MTG/Viasat/Viaplay
  - Canal Digital
  - SE/Stofa
  - Waoo
Denmark - HbbTV

- DR have extended the test period for 6 months
  - Very positive feedback from users on HbbTV service
  - Same content as [www.dr.dk/nu](http://www.dr.dk/nu)
- Nordig have implemented HbbTV 1.5 as API
  - Discussions about.
    - EXIT button
    - HbbTV might be default set to ON in the TV menu
Middle East

- Population: 85 M HHs
- TV reception:
  - DTT: 1%
  - FTA Sat: 67%
  - Pay Sat: 13%
  - Cable: 3%
  - IPTV: 4%
  - Analog terrestrial: 20%

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- hybrid TV services is linked in the region mainly with IPTV (catch-up TV, live feed and events based apps)
- hybrid services is mainly provided by pay TV or telecom providers platforms like OSN, Etisalat, Du and integral
- broadcasters rely on web and mobile applications for VOD and interactive services
- broadband penetration is growing by more than 30%/Y
Hybrid TV operations Middle East

- technical profile:
  - no standard and serious tests
- Future Target Networks
  - free satellite
  - IPTV and Pay TV platforms?
- Penetration and Forecasts:
  - 2014
- Project leading organization:
  - ASBU HDTV group: driving the adoption of broadcast standards across the middle east region and drive new broadcast technology initiatives.
HBBTV future penetration

- Main FTA revenue stream is from advertisements, big screen is the preferred means
- Most TV network has online full VOD service, interactive apps and ads platforms
- Broadband penetration is growing rapidly (more than 80% fiber to home connection in UAE)
- Social media is growing exponentially, people eager for interactivity (after historical control)
- Certain culture and principle concerns may control the level of interactivity specially when it is under the broadcaster control
- Big screen and broadband apps marriage is the normal transition:
  - Maintain and increase revenue stream with high attention to dedicated adds
  - Export the existing online services to the TV second layer
  - Create interactive communities around news, sports and entertainment programs that can generate more accurate data about viewership behavior
  - Broadband content enhances broadcast content without competing with it.
Malaysia

- Population: 6.5M HHs
  - SAT: 50% (Astro)
  - IPTV: 6% (TP, eTV)
  - Terrestrial Analog: 46%

- Specs DTT network and STB specification released in 2012.
- Launch planned for 2014
- Includes reference to HbbTV 1.5, Not mandatory so far.
- Penetration and forecasts
  - 1 million STB subsidized deployed in 2014

- Project leading organizations:
  - MTSFB - Malaysia Technical Standards Forum Berhad.
  - MCMC regulator
Thailand

- Population: 20.8M HHs
  - SAT: 26% (pay-TV and FTA)
  - IPTV: 0.6%
  - Cable: 22.5%
  - Terrestrial: 51.7% (analogue)
- HbbTV is under evaluation. MEGH5 also evaluated
- Trial for DVB-T2 (January 2013) and probably for HbbTV services later in 2013,
- Launch planned for 2015
- Penetration and forecasts
  - 4 million STB subsidized deployed in 2014/2015
- Project leading organizations:
  - NBTC- National Broadcasting and telecommunication Commission
Singapore

- Population: 1,17M HHs
  - IPTV: 30,6%
  - Cable: 47,5%
  - Terrestrial: 39,3% (analogue and DTT)

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- Main Media groups considering having hybrid TV services:
  - Media corp - (Public broadcaster)
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Manufacturers and technology

Moderator Benjamin Schwarz, Ctoic
Mr. Jonathan Piesing, TP Vision
Mr. Régis Saint Girons, httv
Mr. Stuart Savage, LG Electronics Inc
Company background

- Interactive TV experts
  - Over 100 iTV applications deployed since 1998
    - Nagraguide EPG deployed over 6M STB

- End to End Digital TV Product Line
  - Head End Servers
    - httvStream (HbbTV, EIT...)
    - HbbTV Starter Kit
  - STB Software products
    - httvLink for Connected HbbTV STBs
    - httvLite for DVB Zapper & PVR
httvLink Architecture

User Interface applications
Instal, Zapper, PVR, Media Player, Guide ...

Web applications
YouTube, Deezer...

HbbTV applications

Middleware
Management (PVR conflict, Tuner resources...)

Broadcast
DVB T,T2,C,S,S2
ISDB
DSMCC

Broadband
HLS
DASH
RTP\RTSP
iGMP

Media Engine

Connectivity
Upnp\DLNA

DRM

Media Player
TS, MKV, MP3, JPEG...

CAS

HbbTV
Application Manager
HbbTV plugin
Webkit HTML Browser

Graphic
Qt
DirectFB

Linux

Bootstrap\Loader

Hardware Abstraction Layer
Demux
IP
Netwok
Video
Audio
Output
PVR
Tuner

Low level SOC Driver

Hardware

httv
Open Source
3rd parties
2012 International iTV Awards « Grand Prix »
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Pay services, what and when?

Moderator: Gilles Maugars - CTO of TF1
Mr. Tristan du Laz, MYTF1VOD
Mr. Alexander Sacher, SES ASTRA HD+
Mr. Heinrich Haase, Kabelkiosk
Mr. Colas Overkott, Visiware

#hybridtv2012
HD+ SmartTV
**HD+**

**Basic Linear Product**

Start November 2009 with 3 channels in Germany via Satellite

Currently 14 HDTV channels from private broadcasters

- Smartcard bundled with HD+ STBs / Modules
- HD+ STBs / Modules available in retail markets
- Anonymous access to content
- Free-of-charge for 1 year
- Prolongation available for 50 € p.a.
HD+
Results Q3/2012

Paying households

<table>
<thead>
<tr>
<th></th>
<th>2012*</th>
<th>2011*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>761,456</td>
<td>267,289</td>
</tr>
</tbody>
</table>

HD+ users in free trial period

<table>
<thead>
<tr>
<th></th>
<th>2012*</th>
<th>2011*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,039,175</td>
<td>1,662,235</td>
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</tbody>
</table>

Active HD+ households

<table>
<thead>
<tr>
<th></th>
<th>2012*</th>
<th>2011*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,800,631</td>
<td>1,929,524</td>
</tr>
</tbody>
</table>

* for 30 Sept. in both years
HD+ SmartTV
Visits of broadcaster’s media centers, e.g. RTL: April 2012
10.6 million Users

Why end-users buy interactive devices…
- Catch-Up TV
- Information services

Source: AGOF, Working Group for Online Media Research
HD+ SmartTV and HD+ Replay

Full Portal offering

Part of HD+ SmartTV is HD+ Replay

HD+ Replay offers A/V Streaming Content from private broadcasters (Catch-Up TV, Archive Content and Previews)

Fee required
Pricing Model HD+ Replay

- Start December 2012 in partnership with

- further STB manufacturers in 2013:

- Pricing-model:
  - Reload-Voucher similar to linear HD+ product
  - 3 months free-of-charge period
  - Anonymous access
  - 3 month Reload-Voucher for 15 €
  - 2013 seen as promotion period

HD+
Replay
3 month for 15 €

Reload till 12/31/2013 and use the service another 6 months.

1 year Usage of HD+ Replay (including 15 € HD+ Replay-Voucher)

3 months free-of-charge
3 months Reload-Voucher
+ additional 6 months of usage (in promotion period 2013)
A/V Delivery Systems for HD+Replay

HD+ intends to set up an additional alternative Content Delivery System for HD+ Replay

Initial Phase
- HLS
- NAGRA Media
- PRM

2nd Phase
- MPEG-DASH
- DRM with MPEG-CENC
Thank you!