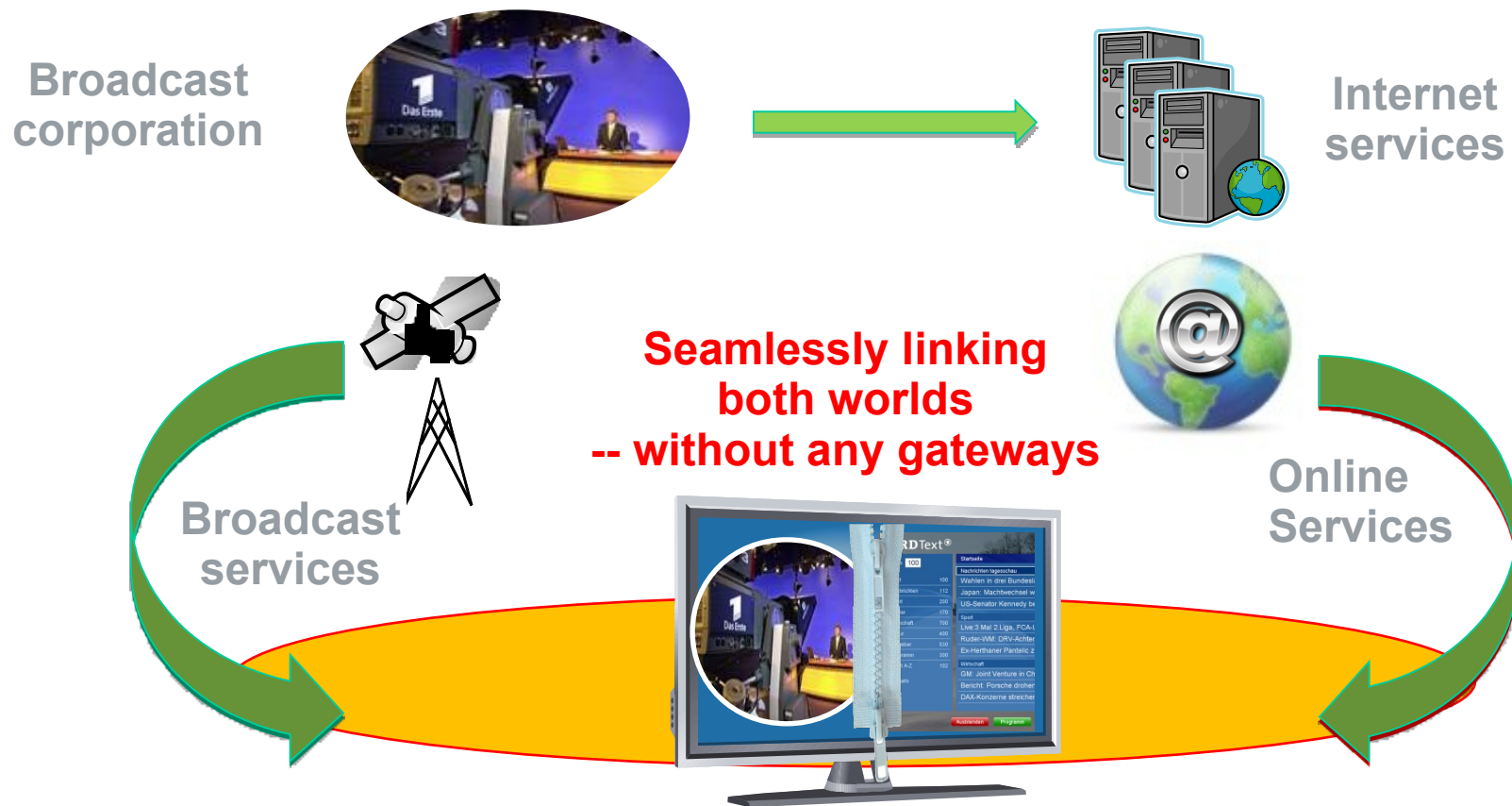


HbbTV

*Presentation for AEDETI
May 12th 2010*

Hybrid-TV – a new paradigm seamlessly linking linear and non-linear services together



Scope and Goals

Hybrid connected TV devices are coming whatever anyone says

Most of them will include a browser but with their own extensions for TV

HbbTV should enable content / services to address these devices without doing a different version of the service for each

Start from web standards & DSM-CC object carousel

Web standards for easy access to content authors, tools, back-office systems

DSM-CC object carousel to exploit experience and equipment from MHEG-5 & MHP

Focus on retail devices and internet business models

Subsidised devices and IPTV business models have much more demanding requirements – of course they can still support HbbTV services

Define a complete subsystem for connected TV services which can be integrated with DVB-C/S/T to form a hybrid device

Not trying to specify the complete hybrid device

Time to market is critical

Make a selection from referenced specifications to enable early implementation and to minimise implementation and inter-operability risk

Learn from the mistakes made while developing MHP

Origins and History

» *France*

- » H4TV specification created 2008 based on web specifications & TV extensions
- » Reviewed by informal group connected to CSA GT1 in late 2008
- » TV manufacturer feedback was that a solution specific to France would not obtain industry support

» *Germany*

- » Experiments with DVB-HTML in 2007 between IRT and APS (Astra)
- » Switched to being based on CE-HTML / OIPF during 2008

» *DVB*

- » Worked on commercial requirements for Network Service Provider (“NSP”) applications from 2005 to 2008
- » Steering Board decided to stop work in this field in June 2008

» *Open IPTV Forum*

- » Chose browser environment to be based on CEA-2014 in mid 2007
- » Release 1 specification published January 2009 with volume 5 including CEA-2014 subset and new JavaScript APIs for TV

- » *Early products on sale in Germany*
 - » Humax first, other manufacturers following
 - » Demos / prototypes at ANGA cable last week from CreNova, eviado, espial, Intek, Inverto, Kaonmedia, Reycom, SetOne, Vantage, Vestel and VideoWeb
 - » 32 TV services with HbbTV applications signalled

- » *Recent support / encouragement from the CSA in France*
 - » http://www.csa.fr/upload/dossier/synthese_consultation_30_5.pdf

- » *Several different implementations being developed*
 - » Using browsers from ANT, Opera, Access, OpenTV, several Webkit derived implementations, manufacturer own implementations

- » *Many supporters of HbbTV from right across the value chain*
 - » Application and service developers
 - » Broadcasters
 - » Broadcast network operators
 - » Software suppliers (both web browser suppliers and DVB middleware suppliers)
 - » TV and STB manufacturers (from global CE companies to small manufacturers)
 - » Others

HbbTV

Add broadband value to your broadcasts

PROSIEBEN

MODEL WG

INHALT

BILDER

VIDEOS

SHOP

OTTO präsentiert DIE MODEL WG

DIE MODELWG



OTTO

OTTO PRÄSENTIERT
DIE MODELWG
alle Outfits der Models
findest du hier im Shop



SABRINAS TAGEBUCH
UND WELT
Schau die Model WG
durch Sabrinas Rahmen

PHILIPS

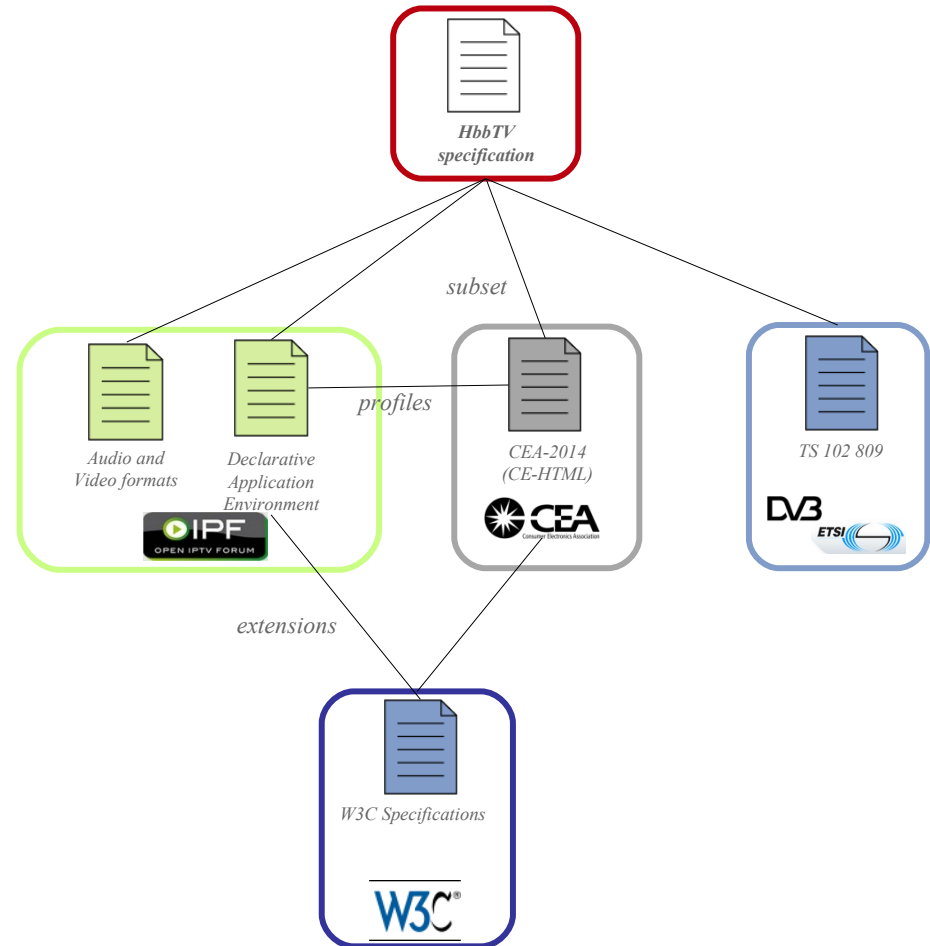
Building Blocks

- » *OIPF (wide CE industry support)*
 - » JavaScript APIs for TV environment (e.g. tuning, now/next info, PVR, ...)
 - » Media formats
 - » Modifications to CE-HTML

- » *CEA*
 - » JavaScript APIs for on-demand media
 - » Subset of W3C specifications & image formats
 - » Remote control support (e.g. key events, spatial navigation)

- » *DVB*
 - » Application signaling
 - » Application transport via DVB (DSM-CC object carousel)
 - » Stream events

- » *W3C*
 - » XHTML
 - » CSS 2.1, CSS-TV
 - » DOM-2 (including XML Document support)
 - » ECMAScript
 - » XMLHttpRequest



Key Challenges

- » *Testing and certification*
 - » Test suites
 - » Test tools & test automation
 - » Certification procedures
 - » Trademarks

- » *FR&ND is not enough for the market after the MHP fiasco*
 - » Some likely significant IPR owners already openly committed to no fee for broadcasters during the French H4TV process

- » *Balancing wider adoption with keeping it simple & drive for time-to-market*
 - » Features necessary for other countries
 - » Alignment with BBC Canvas initiative
 - » “Canvas is working with HbbTV to ensure there's alignment where possible”,
Richard Halton, BBC, 16-02-10
 - » Adaptive bit-rate streaming

Thank you