ITU-T Workshop on Bridging the Standardization Gap and Interactive Training Session

(Cyberjaya, Malaysia, 29 June – 1 July 2010)

Digital TV Middleware Platform Technology

MTSFB : Multimedia Terminal Working Group

Muzaffar Fakhruddin

Senior Manager

Sony EMCS Malaysia Sdn Bhd

MTSFB .org.my
Malaysian Technical Standards Forum Bhd

ITU International Telecommunication Union

Benefits From Digitalization

- Digital Dividend/More Services.
- Better Video & Audio Quality.
- Multi Language Support (Subtitles/Audio)
- Meta Data (EPG etc)
- etc

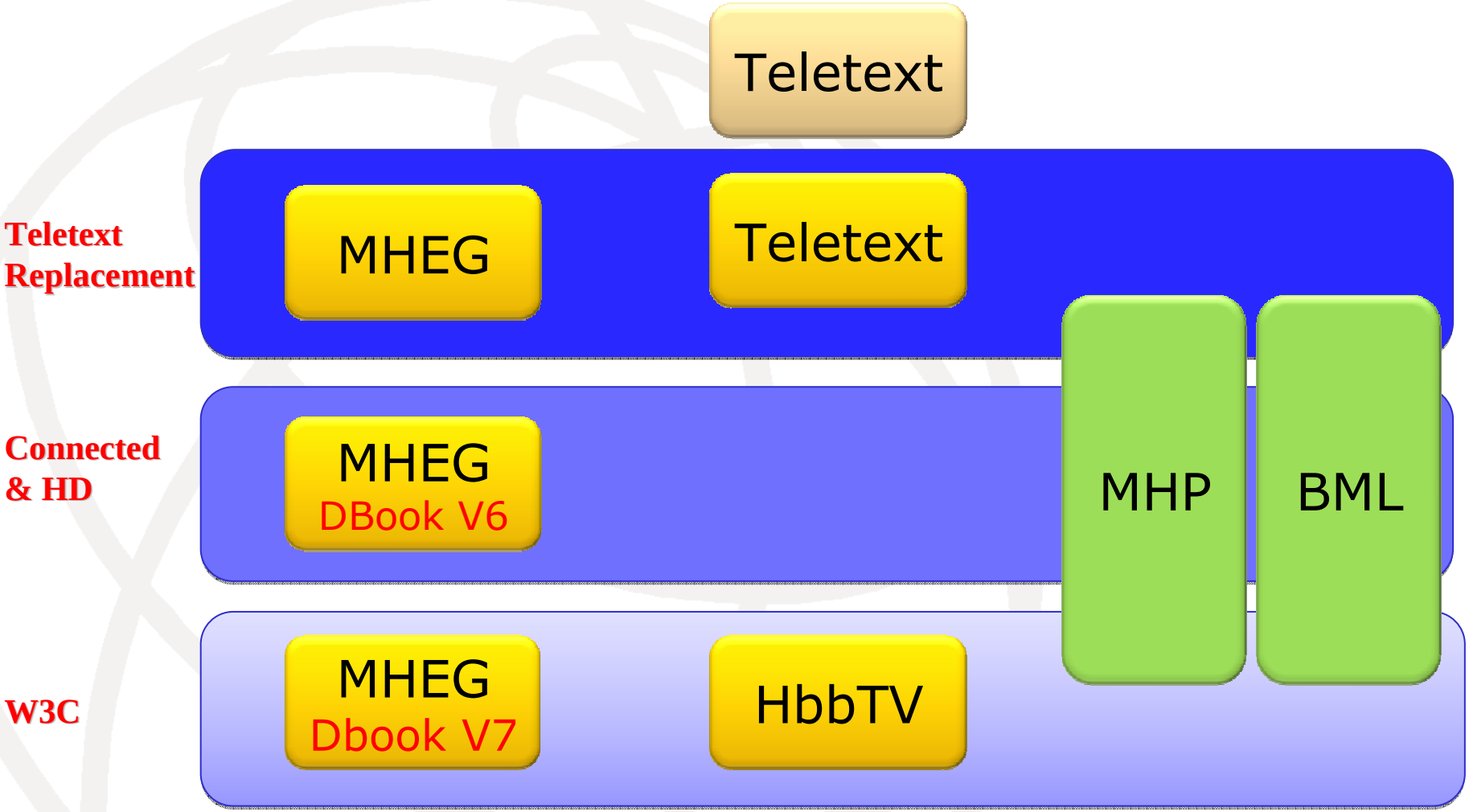
Interactive Applications

History

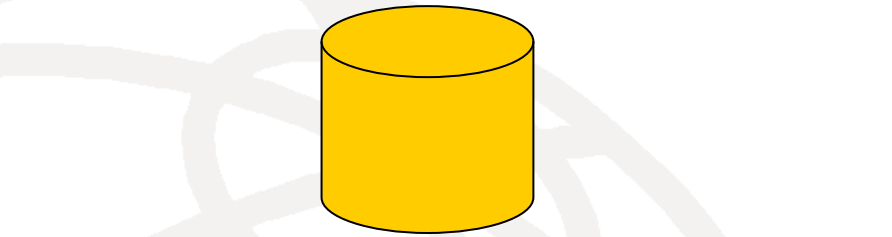
Sample From ZDF

- In the Analogue age we had very low bit rate data embedded in the Analogue signal.
- This gave birth to Teletext which was “interactive” to a certain extend.

Technology Migration



Consumer Expectation



Content originally
Designed for PC

Content is
being repurposed

Content will
Need to be repurposed
+
TV Specific Content

Future Applications

- Personal — PC/Mobile
  - E-Mail, Tweeter, Facebook
- Information/Passing Time — On TV?
  - News, Reviews, Weather, Live Sports Updates.
- Linked Information — On TV!
  - Information Linked to content being viewed.
- Over the Top Video — On TV!
  - You Tube, Catch Up TV (BBC iPlayer, Bplayer etc).

Video

- Social
  - You Tube etc.
  - More and more are now in HD
  - Suitable for Large screens.
- Main Applications
  - Catch Up TV
  - VOD

Linked

- Real Time triggered Information
  - Links during Programme Trailers (including booking).
  - Links during Advertisements.
  - Links during Shows/Movies.
- Sell on Content delivered via IP.

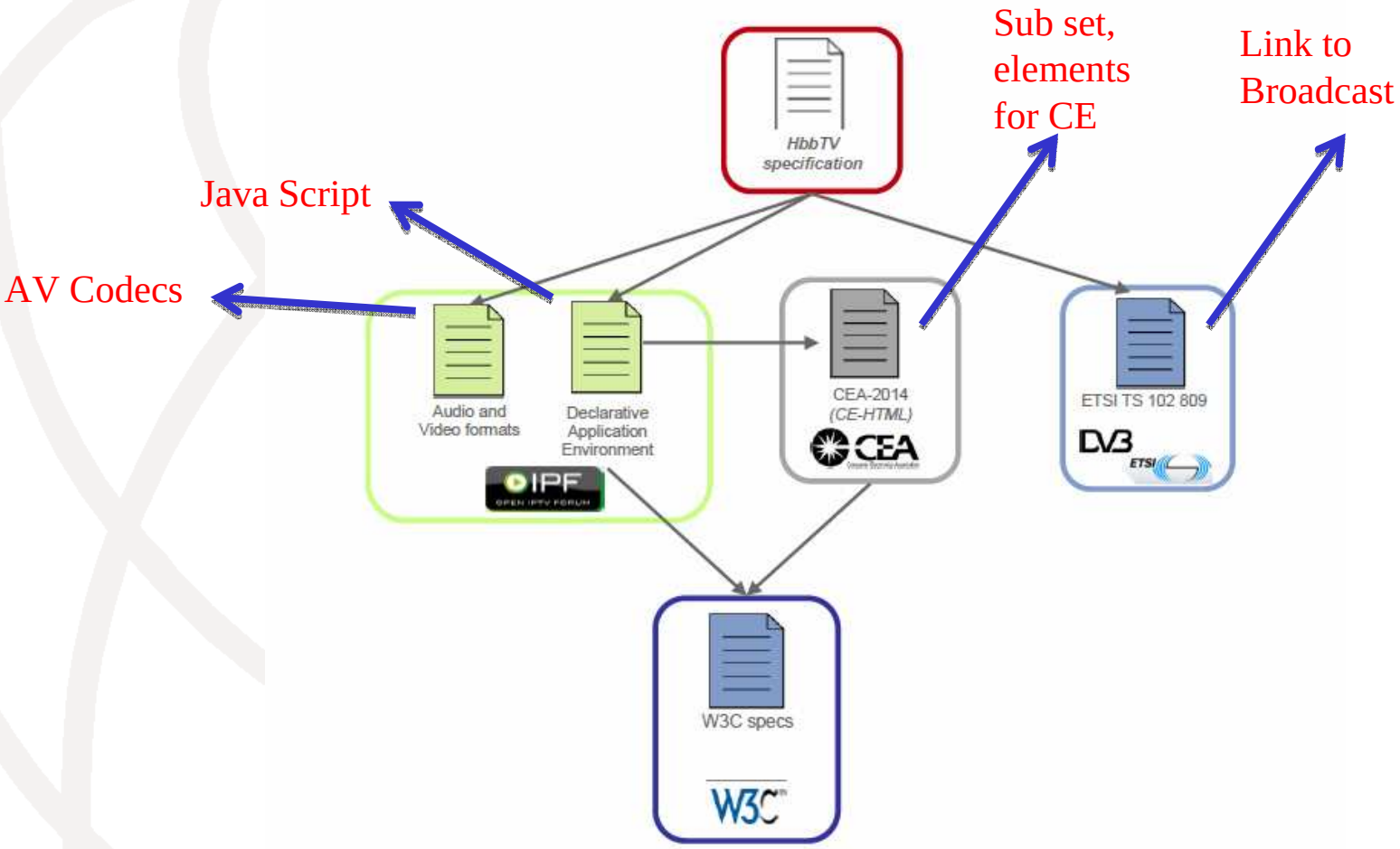
Information

- Not All types of Content.
- Expectation is content which is simple, quick to absorb with rich presentation.
- Needs to be repurposed for the TV.
  - Simpler Input Method (no Mouse/Keyboard).
  - Text Display/Layout.

What Technology is Needed?

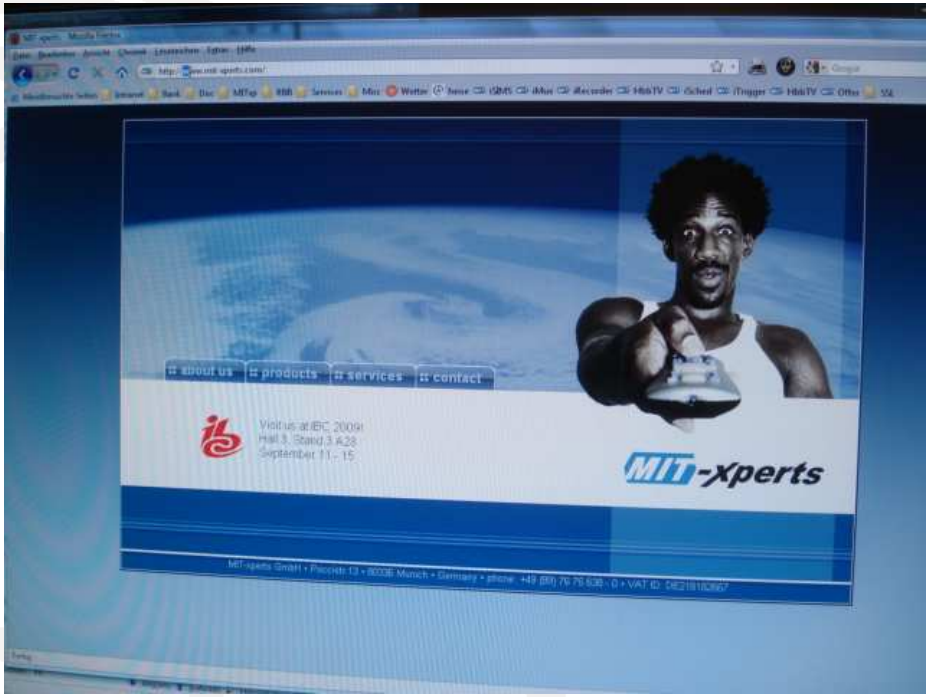
- Some key elements
  - Presentation Engine.
  - Procedural (Declarative) Method.
  - Streaming Technology.
  - Video/Audio Codecs.
- Key Consideration
  - Cost.
  - Efficiency.
  - Open/Knowledge Base.
  - Need for DRM (?)

Example Hbb TV



Inter Operatibility

Same Content can be displayed on both the CE Device & Browser



http://itv.mit-xperts.com/

Streaming Technology

- Two key Technologies
  - RTSP/RTP – Developed especially for Streaming.
  - Recent Trend towards HTTP streaming especially for unmanaged Networks.
  - Introduction of Adaptive Streaming methods with HTTP is also driving this.

Plug Ins

- Plug Ins are popular on the PC for creating rich content.
  - Flash, Silverlight, etc.
- Is this really needed for CE Devices?
  - Example Flash is not on Apple CE Devices.
- HTML5 a suitable replacement?

Video Codec

- Debates currently going on for inclusion into HTML5.
- Some Video Formats
  - Ogg
  - H.264
  - VP8
- For CE Devices it is clear, that the same video codec should be used for both broadcast & IP Content.
  - Reduce re-encoding requirement by broadcasters.

HTML5

- W3C based, currently being specified. Will become de-facto standard for PC based browsers.
- CE Devices will also embed a HTML5 browser?
- Needs CE based extensions for Broadcast environment.

MTSFB

1. **MULTIMEDIA TERMINAL WORKING GROUP (MMT WG)**
2. INTERNET PROTOCOL VERSION 6 (IPv6 WG)
3. IMT WORKING GROUP (IMT WG)
4. MULTIMEDIA NETWORK INFRASTRUCTURE WORKING GROUP (MNI WG)
5. FIXED NETWORK INFRASTRUCTURE WORKING GROUP (FNI WG)
6. RADIOCOMMUNICATIONS NETWORK INFRA. (EXTERNAL) [RNI (Ex) WG]
7. RADIOCOMMUNICATIONS NETWORK INFRA. (INTERNAL) [RNI (In) WG]
8. OCCUPATIONAL SAFETY & HEALTH WORKING GROUP (OSH WG)
9. WIRELESS TERMINAL WORKING GROUP (WT WG)
10. SATELLITE ROADCASTING WORKING GROUP (SB WG)
11. GREEN ICT WORKING GROUP (GICT WG)
12. FIXED TERMINAL WORKING GROUP (FT WG)
13. NEXT GENERATION NETWORK WORKING GROUP (NGN WG)
14. HIGH ALTITUTE PLATFORMS WORKING GROUP (HAPS WG)
15. DIGITAL TERRESTRIAL TV BROADCASTING WORKING GROUP (DTTB WG)
16. WIRELESS INDUSTRY EMISSION WORKING GROUP (WIE WG)
17. POWER LINE COMMUNICATIONS WORKING GROUP (PLC WG)
18. DIGITAL RADIO BROADCAST WORKING GROUP (DRB WG)
19. BROADCASTING NETWORK INFRASTRUCTURE WORKING GROUP (BNI WG)

MTSFB
Multimedia Terminal Working Group (MMT WG)

- MMT WG Leaders:
  - Chairman : Tn. Hj. Jaafar Hj Mohamad Abu Bakar (TM)
  - Vice Chairman: Dr Rohmad Fakeh (RTM)
  - Secretary: Cik Razaini Mohd Razali (SIRIM)

- There are 73 members in the MMT WG comprises local and international representatives

- The deliverables are to revise the Technical Specification For Digital Terrestrial Television Receiver & to develop related recommendations pertaining Digital Terrestrial Television implementation

Thank You

Muzaffar Fakhruddin
muzaffar.fakhruddin@ap.sony.com

Multimedia Terminal Working Group
Malaysian Technical Standards Forum Bhd
Lot 3-4C, Incubator 3
Technology Park Malaysia
Lebuhraya Puchong-Sg. Besi
Bukit Jalil, 57000 Kuala Lumpur

Tel: +603.8996.5505
Fax: +603.8996.5507
Mobile: +6012.211.0067

www.mtsfb.org.my