



# MHEG to HbbTV

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# Overview



- Background to DTT and MHEG in the UK
- Why is the DTT industry now considering HbbTV in the UK?
- Is a changeover really feasible, what issues need to be addressed?
- What would the main steps be, to transition from MHEG?
- What decisions would the industry need to make about transition?
- What happens next?

# Background



- Digital terrestrial broadcasting began in the UK 17 years ago – on 15<sup>th</sup> November 1998 – the first national rollout of DTT worldwide
- DTG was founded in 1995 to facilitate the early launch of DTT
- Broadcast interactive services were identified as an important part of the service package from the outset
- DTG established a working group to select the receiver ‘middleware’ needed to support interactive applications
  - With a footprint small enough to run on set-top boxes or integrated TVs
  - Using open standards in a ‘horizontal’ market with free-to-air and pay TV
- MHEG-5 was selected as the best solution then available
  - STB memory and processor requirements were a particular constraint
- MHEG-5 has served the UK well, with feature updates along the way

# Why Change to HbbTV?

- Since DTT began and MHEG-5 chosen, the changes we've seen: -
  - **Moore's Law:** transformed processing and memory in STBs and TVs
  - **Broadband:** now a mature and capable TV delivery platform
  - **Content:** authored for broadcast and Web, but repurposing is complex
  - **Middleware** standards have evolved: MHP, HTML5, HbbTV etc.
  - **TV set design:** From national to regional, then global products
- MHEG is mainly a UK feature (also used as CI+ browser across EU)
- Benefits are claimed from use of a single standard, adopted by many countries: -
  - Product development and testing **costs reduced**
  - Content **repurposing simplified** for multiple devices and different markets
  - Barriers to selling TVs into the UK reduced, encouraging **more competition**
  - UK programme makers may find **selling content easier** into other markets
  - Closer **alignment between standards** for broadcast and Internet delivery

# Feasibility: What are the issues to be addressed? - I



- Can HbbTV support all of the MHEG functionality currently in use?
  - If not, would HbbTV be able to enhance the v2.0 specification?
  - Can a conformance and testing regime be delivered?
- Is HbbTV necessary in the broadcast chain? Could it and MHEG both be supported?
  - Would a simulcast period be necessary?
  - Would there be sufficient data capacity in the multiplexes to simulcast?
  - Are there technical solutions that would enable efficient simulcasting?
- Can broadcasters' interactive content be converted automatically into MHEG and HbbTV streams during the simulcast period?

# Feasibility: What are the issues to be addressed? - II



- Will manufacturers offer 'dual stack' receivers with MHEG and HbbTV or will HbbTV-only receivers need to be supported from day 1?
  - Freeview Play receivers with HbbTV 2.0/MHEG dual stack are currently shipping in UK
  - For HbbTV-only, when will a minimum necessary set of services be ready?
- DTG's D-Book 8 already has an agreed MHEG / HbbTV co-existence model
  - This could support the efficient delivery of content during a simulcast period
  - One broadcaster has been testing some of the signalling (and found problems)

# be, to transition from MHEG?

1. Key stakeholders work together to evaluate the case for change
  - DTG formed its MHEG Transition Task Group in May 2015
  - White Paper report to DTG Council will be produced before Christmas
2. DTG Council assesses the case for change - February 2016
3. Industry-wide decisions taken - agreed roadmap and dates
  - Decisions to be taken by Freeview and DUK
  - Aligned plans for broadcasters, manufacturers and infrastructure operators
  - Revised D-Book published, enabling HbbTV-only receivers
4. Begin MHEG / HbbTV simulcast services
  - Manufacturers can test then launch HbbTV-only products, MHEG-only or both
5. All new receivers must include HbbTV capability
6. Simulcast period ends – only HbbTV services available

# What decisions are needed?



- Do the benefits of change outweigh the costs and disruption entailed?
  - For some manufacturers, it's clear; for broadcasters it may be a closer call
- What's the optimal time to begin simulcast services?
  - An earlier date may carry much higher operational risks
  - A later date will delay benefits and may miss the window of opportunity
- Governance: How will the transition programme be managed?
- When should MHEG be optional and HbbTV mandatory in receiver requirement?
  - For new receivers to meet D-Book and Trade Mark Licence requirements
- When should the simulcast period end?
  - How long will it take for the STB and TV replacement cycles to ensure most homes have HbbTV compatible receivers?

# Next Steps



- MHEG Transition Task Group completes its White Paper for DTG Council
- DTG Council, DUK, Freeview and other stakeholders decide
  - Roadmap and provisional timescales agreed
- Governance arrangements for implementation and testing put in place
- HbbTV delivers an enhanced version of HbbTV 2.0 spec. and DTG produces a new version of the D-Book
- Detailed planning by manufacturers, broadcasters and operators
- Implementation phase begins
  - Applications re-authored in HbbTV
  - Infrastructure provided to deliver HbbTV broadcast interactive services
  - HbbTV-only products designed, compliant with new version of D-Book



Questions?