Freeview Play Specifications

HbbTV in the UK

8th December 2015

Nick Yeadon

BBC | Research & Development

Drivers behind Freeview Play Technical Specifications

- True hybrid device – integrated forwards and backwards EPG important as app launching area
- Provide freedom of UI design for manufacturers to integrate backwards EPG and app launching into own look-and-feel
- To ensure full content offering from PSBs content protection required
- Personalisation and use cases requiring user login implies level of device security
- Application reuse and ease of support
- Common application environment for content providers

} demands HTML5 environment

- Need for equivalent functionality for broadcast interactivity
- Head-end infrastructure complex to change hence variety of streaming formats

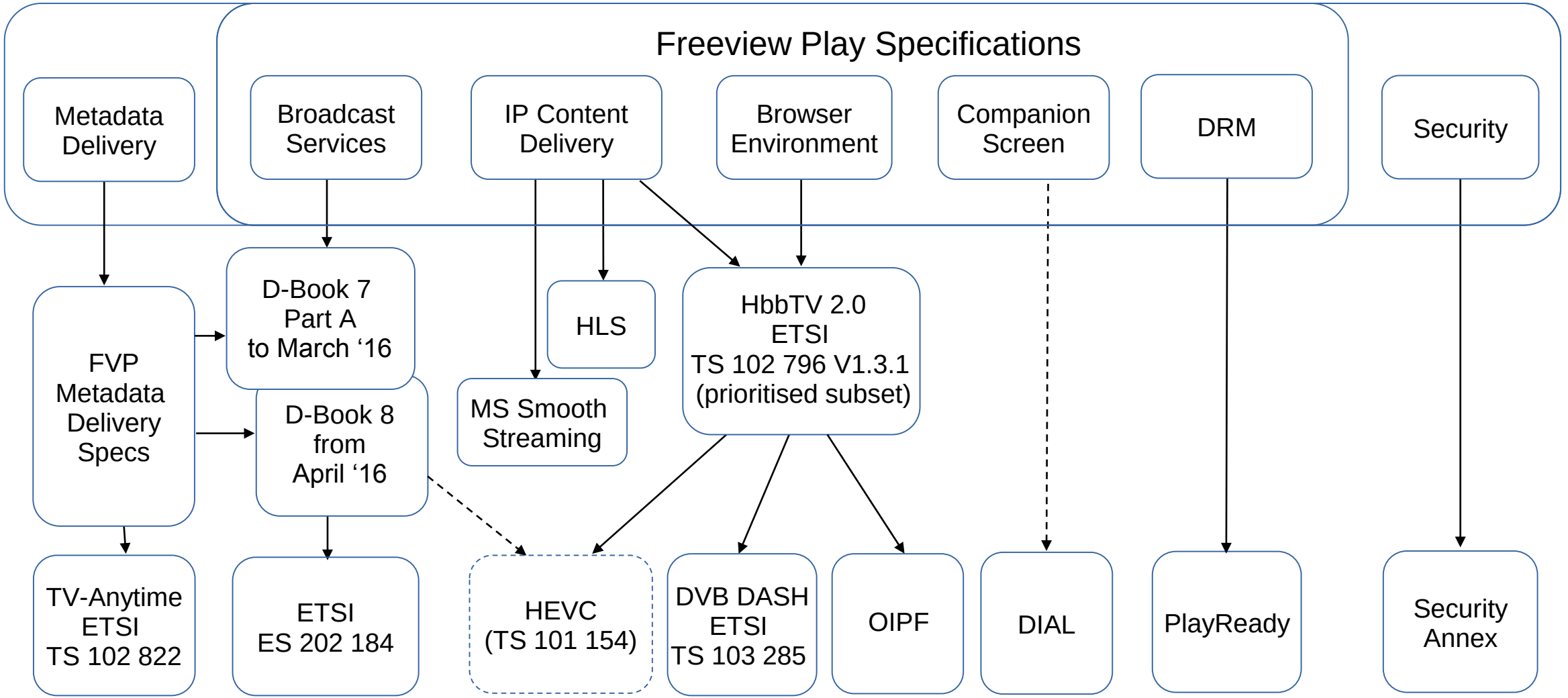
What are the Freeview Play Technical Specifications?

- Technical Specification
  - Core of HbbTV
  - Metadata discovery
  - Transition technologies
  - DRM requirements
- Security Annex
  - Device requirements
  - Authentication with metadata delivery service: certificate specification

What are the Freeview Play Technical Specifications?

- B2C Metadata Specification
  - Authentication process
  - Metadata queries
  - Response format
  - Broadcast-independent launching
- Metadata Taxonomy Vocabulary
  - Classification Schemes used with the B2C specification

Specification Map 2015-2016



Technical Specification

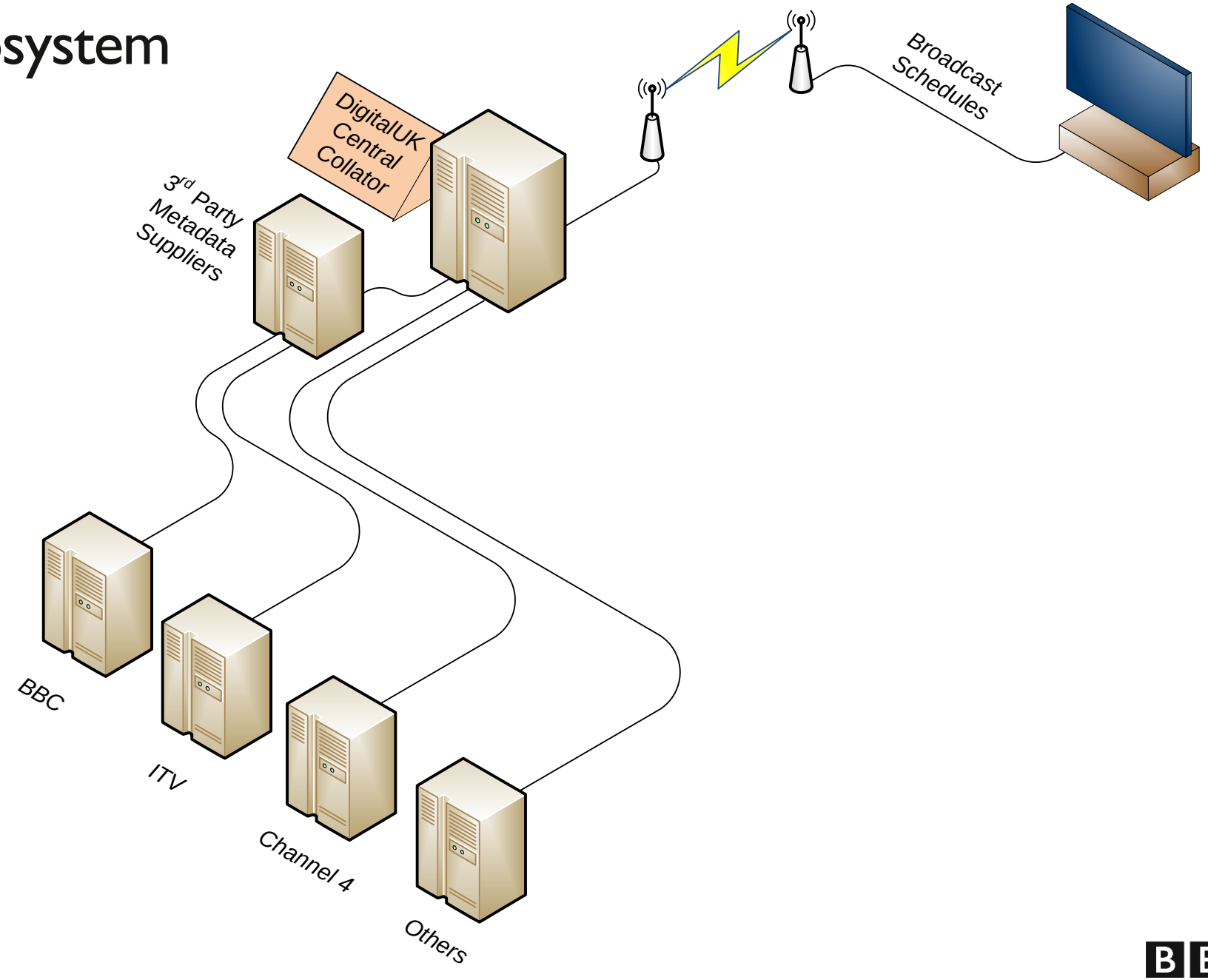
- HbbTV 2.0 plus:
  - Reference to D-Book
  - Co-existence with MHEG – now part of D-Book 8
  - Metadata discovery from broadcast – based on EN300 468
  - Reliability requirements – European profiles as the lead
  - Transition Streaming formats
  - HTTP caching, cookie and user-agent requirements
  - Guidance on HEVC
  - Requirement that content provider uses DVB profile of DASH
  - DRM & Security
  - Requirement for software update
  - Existing DIAL use-cases using DIAL Application Name/Prefix Registry

Technical Specification

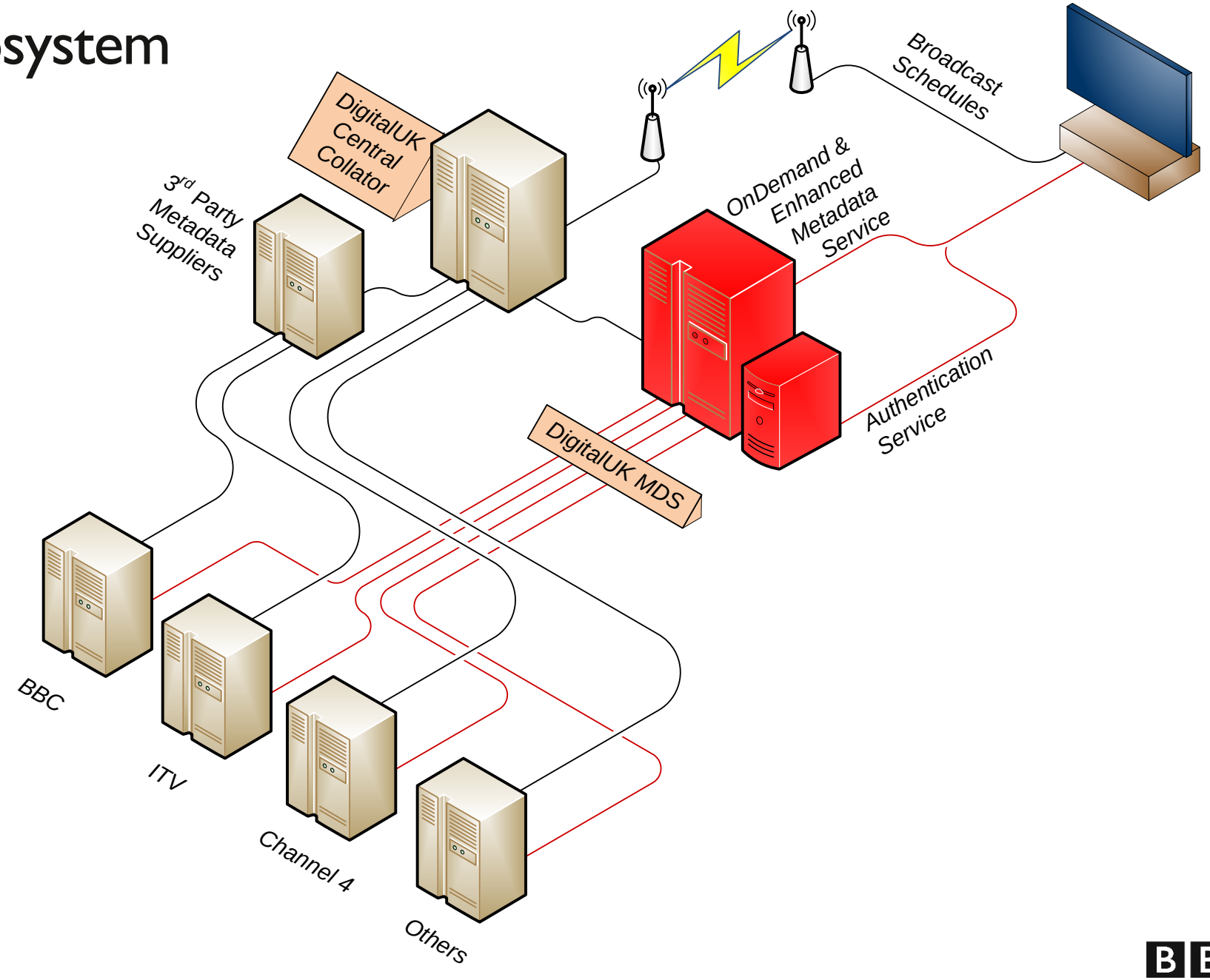
- HbbTV 2.0 de-prioritised in 2015
  - EBU-TT-D subtitles
  - Companion Screen, DIAL for HbbTV apps
  - Media Synchronisation
  - File System Acceleration
  - Downloading content via FDP

but still committed to full HbbTV2.0 implementation

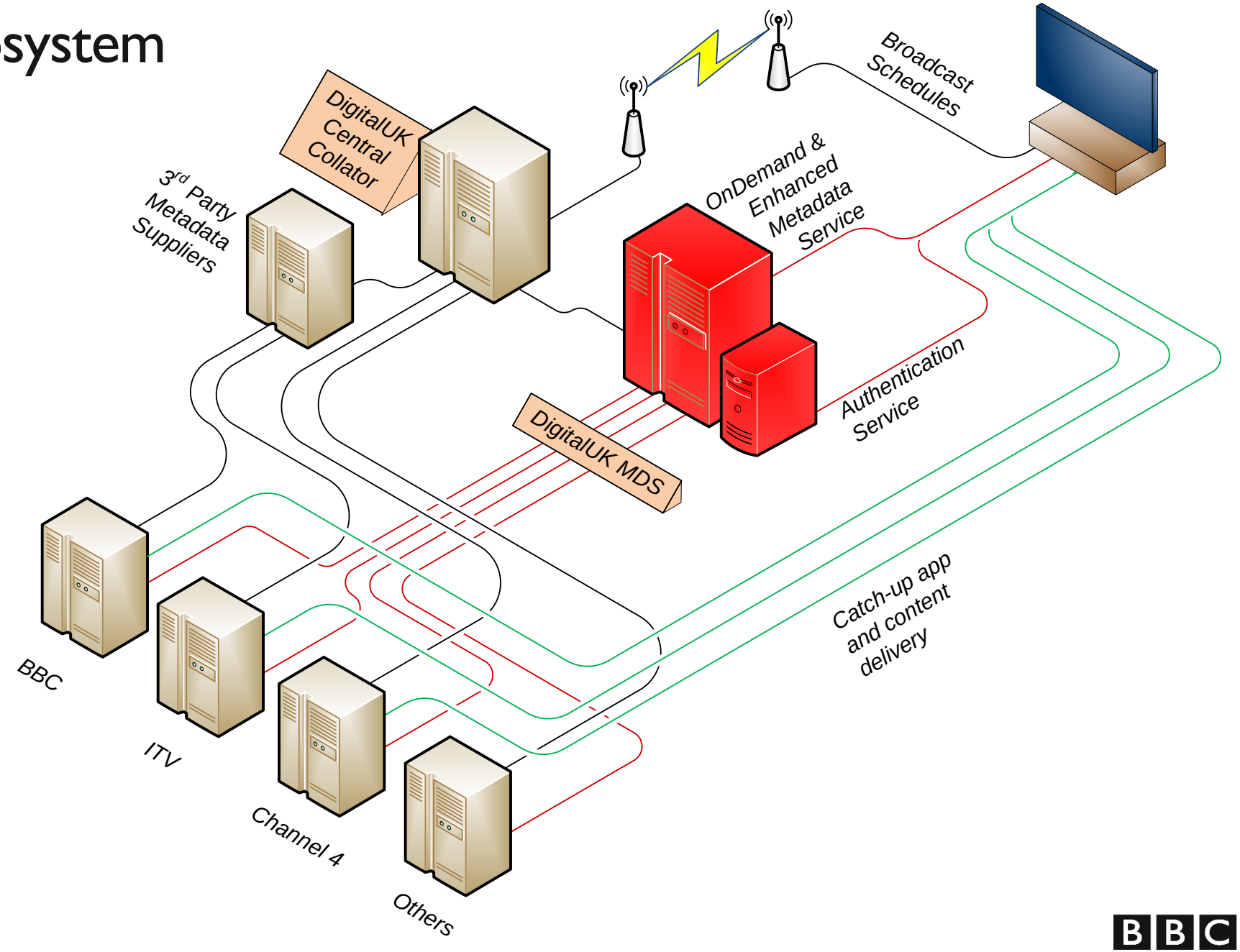
Ecosystem


DigitalUK Central Collator
3rd Party Metadata Suppliers
Broadcast Schedules
BBC
ITV
Channel 4
Others

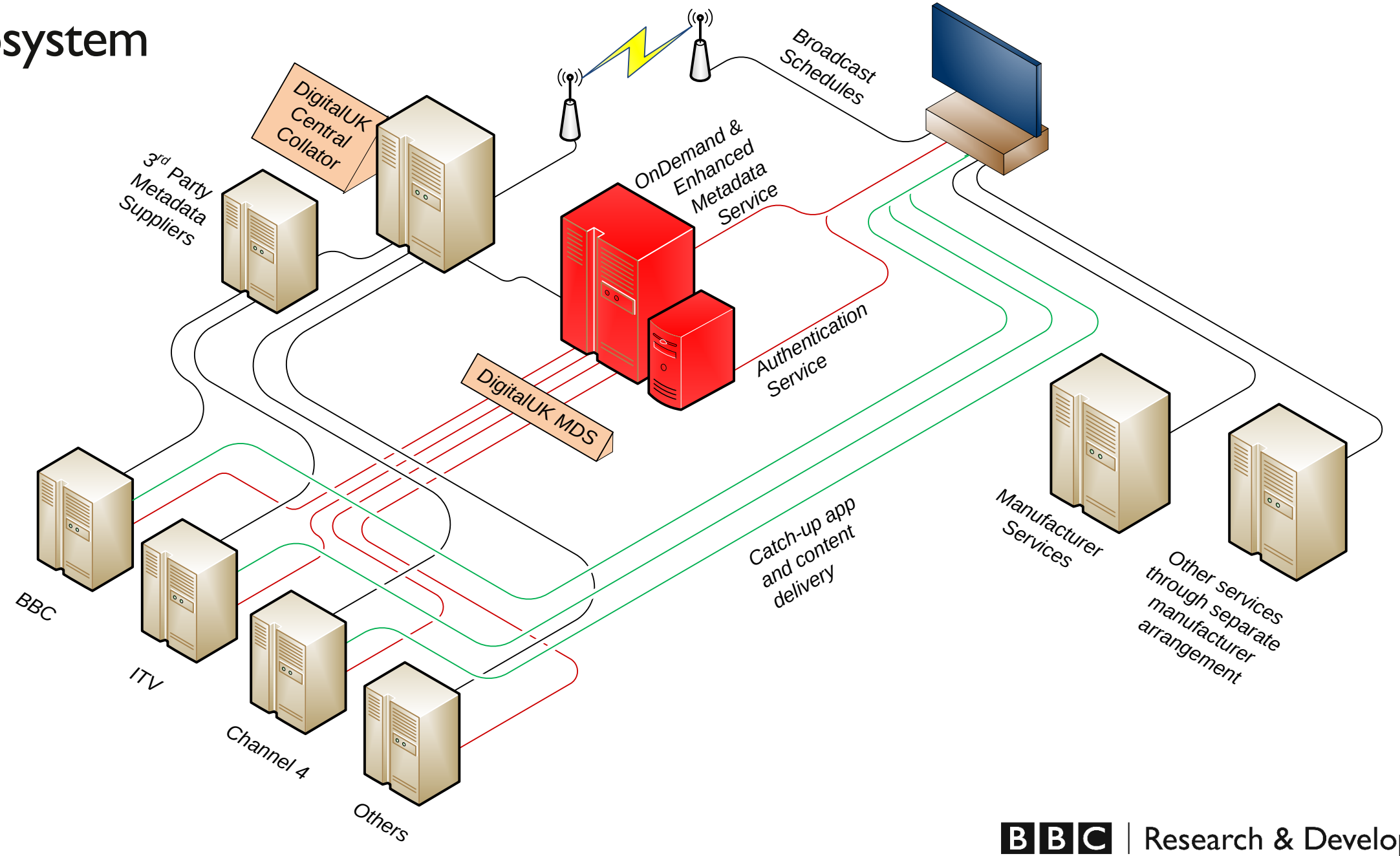
Ecosystem


DigitalUK Central Collator
3rd Party Metadata Suppliers
Broadcast Schedules
OnDemand & Enhanced Metadata Service
Authentication Service
DigitalUK MDS
BBC
ITV
Channel 4
Others

Ecosystem


DigitalUK Central Collator
3rd Party Metadata Suppliers
Broadcast Schedules
OnDemand & Enhanced Metadata Service
Authentication Service
DigitalUK MDS
Catch-up app and content delivery
BBC
ITV
Channel 4
Others

Ecosystem



BBC | Research & Development

Launching Applications

- From Broadcast (BBC RB+)
  - Currently via MHEG then into XML AIT
  - Plan to move to Broadcast AIT
  - ‘Holding’ broadcast AIT already on-air across UK
- From MDS supplied metadata
  - Variety of launch point available to manufacturers
  - ‘Top level’ Freeview Play application list
  - Service level – associated with broadcast linear service
  - Individual events

Challenges

Timing of HbbTV specification, in between 1.5 and 2.0 cycles whilst requiring features of 2.0

Availability of test materials for 2.0 – investment in test materials

Multiple browser environments found in devices

Object Carousel in use today has mature sophistication based on years of tuning

Evolution Goals

- More metadata APIs e.g. search
- Already promoting features to HbbTV where appropriate
- Full HbbTV2.0
  - Subject to availability of suitable tests
- Remove reliance on streaming formats other than DASH
- Deprecate legacy interactive technology i.e. MHEG
  - DTG MHEG transition group is developing roadmap for UK
- Specification release to align with most appropriate point in OEM development cycle

More Information

- Manufacturers - Digital UK

  http://www.digitaluk.co.uk/industry/news/freeviewplay

- Consumers - Freeview

  http://www.freeview.co.uk/what-we-offer/freeview-play