



DVB-I

Linear Television with internet technologies

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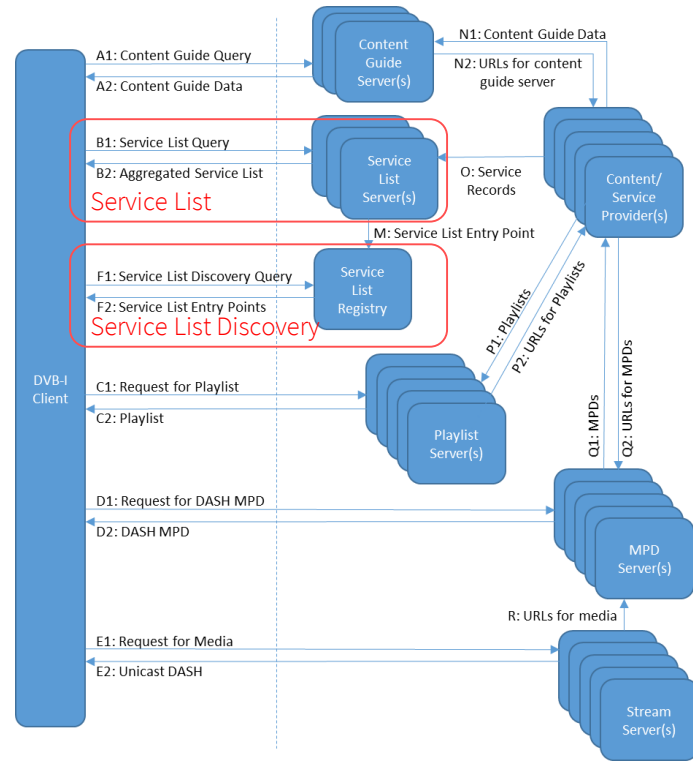
Chair of DVB TM-I

# Background

- DVB has provided technical specifications and support to the linear broadcast of television services for over 25 years
- DVB-S, DVB-T and DVB-C based solutions deliver satellite, terrestrial and cable television channels in most countries
- Internet technologies and deployments have matured to a level capable of supporting wide scale delivery of television
- DVB-I is DVB's technical approach to leveraging internet technologies to reach new consumers and new devices with new service offerings

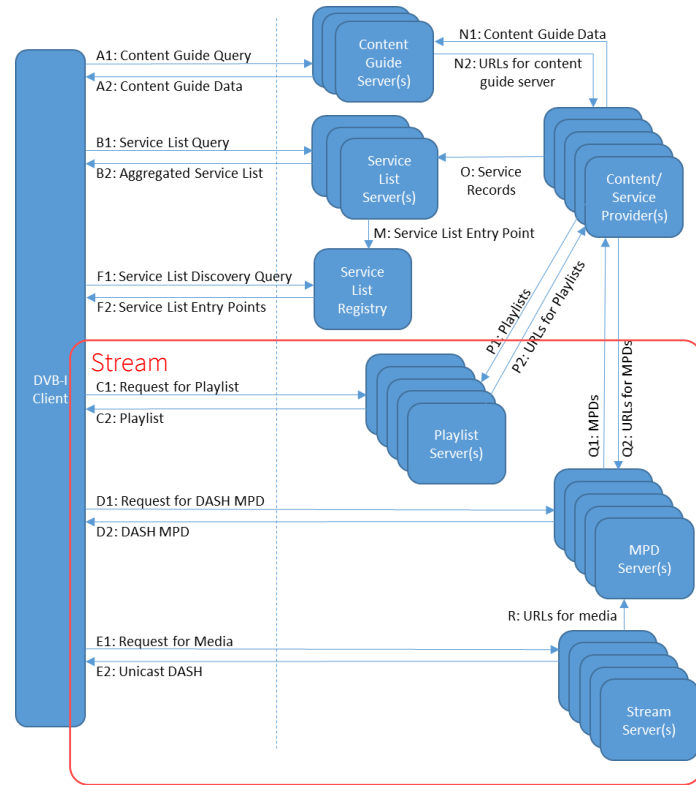
# Find...

- Television viewers expect an experience that is easy to use and ‘minimally disruptive’
- DVB-I provides a mechanism in Bluebook A177 to permit devices to find IP based television services
  - Services define editorial and delivery characteristics for broadband and broadcast service instances
  - Service lists provide channel lineups and geographic targeting of services
  - Service list registries provide the “first port of call” for devices to discover DVB-I Services



# Deliver...

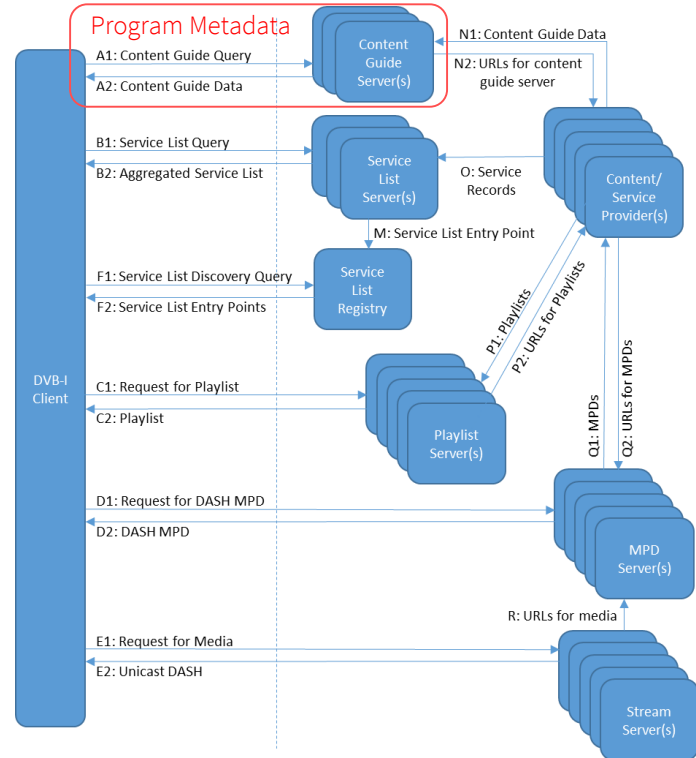
- Television viewers expect high quality video and have no consideration for the delivery mechanism used
- DVB-I Services primarily leverage DVB-DASH (Bluebook A168) for streaming and on-demand content
  - Profiling of MPEG-DASH to support the expectations of broadcast services
- DVB-I Services can signaled with simulcast information to align with broadcast delivery



# Present...

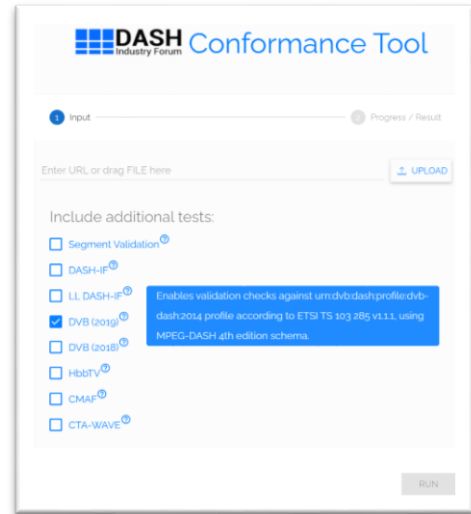
- DVB-I Services can be provisioned with a wide variety of supplementary and supportive information

- Program Guide metadata
- Logos and banners
- Availability intervals
  - Can also support “hybrid transitions”
- Content protection
- Audio/Video characteristics for device targeting



# The Ecosystem...

- Beyond specifications, DVB supports the adoption and implementation of its work
- DVB-I Reference Client
  - Android and HbbTV application along with service lists, registries and content guide metadata backends
- DVB-DASH Reference Streams
  - DASH manifests and media compliant with Bluebook A168
- DVB-DASH Validator
  - Developed in conjunction with HbbTV Verifies manifests and media segments against Bluebook A168



# Additionally...

- Network operators can leverage DVB Multicast ABR (Bluebook A176) to enable efficient delivery of DVB-I services
- Work is underway to further refine the DVB-I ecosystem
  - DVB-TA for targeted advertising in DVB-I Services
  - DVB-HB for in-home redistribution of broadcast services to IP devices
  - DVB-NIP defining native IP delivery of services over broadcast networks
- DVB has new work in defining how DVB-I Services can leverage 5G delivery technologies

# Additional Reading...

- Service Discovery and Content Metadata of DVB-I
  - DVB A177 and ETSI TS 103 770
- DVB-I Reference Client
  - <https://github.com/DVBproject/DVB-I-Reference-Client>



THANK YOU!