

CubeAgent Broadband

Multicast-ABR Agent for Home and Edge networks



**CubeAgent
Broadband is part of
the ENENSYS
Broadband solution.
It runs in Home
Network and
converts the
multicast streams
back to OTT streams.**

The CubeAgent Broadband is a software library that implements the [DVB-mABR Multicast](#) and the [DVB-NIP](#) Gateway specifications. It is compatible with a wide variety of Home-Gateways and Set Top Boxes. It allows end-users to enjoy unsurpassed Quality of Experience when watching high-quality videos and downloading content while reducing the operator's transmission cost.

ABR Packaging support

It supports both multiprofile HLS and DASH contents, including CMAF ultra low latency.

Deployment architecture

It can be deployed in the Home Network, such as on a Home Gateway or a Set Top Box. The CubeAgent Broadband manages its own web server that OTT applications can use to request contents.

Contribution Architecture

When deployed in the Edge Network it enables to populate CDN nodes.

Standard Compliancy

The CubeAgent Broadband relies on industry standards (3GPP, DVB) to bring multicast-ABR to the user with minimal latency. It also implements powerful FEC decoding algorithms to repair contents with minimal overhead.

Application Agnostic Option

The CubeAgent Broadband can operate transparently to the third party video application.

CubeAgent Broadband

Multicast-ABR Agent for Home and Edge networks

Applications

- ABR Streaming TV delivery for Home Broadband subscribers (DSL, Cable, Fiber)
- ABR Streaming DTH TV delivery over Satellite
- Satellite Backhauling for ABR Streaming TV Services
- Live sport and popular content delivery to many subscribers simultaneously
- Push VoD content in Multicast
- Deliver massive software updates to Set-Top-Boxes and consumer devices

Other benefits

- Provides optimal user experience through low latency and guaranteed bitrate
- CPU friendly with low memory footprint (can run on low-end home gateways)
- Compliant with industry standards (DVB, CableLabs)
- Easy to deploy on Android devices and quick to port to Linux (and other) end user devices

Technical specifications

INPUTS

Application

HTTP(s) player requests, HTTP monitoring API

Session Configuration

DVB-ABR (A-176) and 3GPP (TS 26.346)

FEC

Raptor10: RFC-6681/5053, LDPC: RFC-5170, RS: RFC-5510

Transport

Flute streams (RFC-6726, DVB-ABR A-176)

OUTPUT

Packaging Format

DASH, HLS with MPEG-TS, ISOBMFF, CMAF

Protocols

HTTP and HTTPS

File Download

Any File format

Operation, Maintenance and Monitoring

REST API (HTTP JSON),
TR-069 support

CubeAgent Broadband

Multicast-ABR Agent for Home and Edge networks

FEATURES

DVB-MABR

DVB compliant Multicast ABR

Latency

Ultra-Low Latency CMAF and Fast Zapping

Dynamic Profile

Allow representation update while playing

CDN

CDN Agnostic

Analytics

Quality-of-Service and Consumption reports,

Multi-Profiles

Supports multi-profile DASH or HLS streams

FEC

Powerful Forward Error Correction Raptor10 and LDPC/RS

Targeted Advertising

Handle Manifest Manipulator instructions for ad break insertion

Platform Independent

Runs on many CPU architecture (X86, ARM, MIPS) and any OS

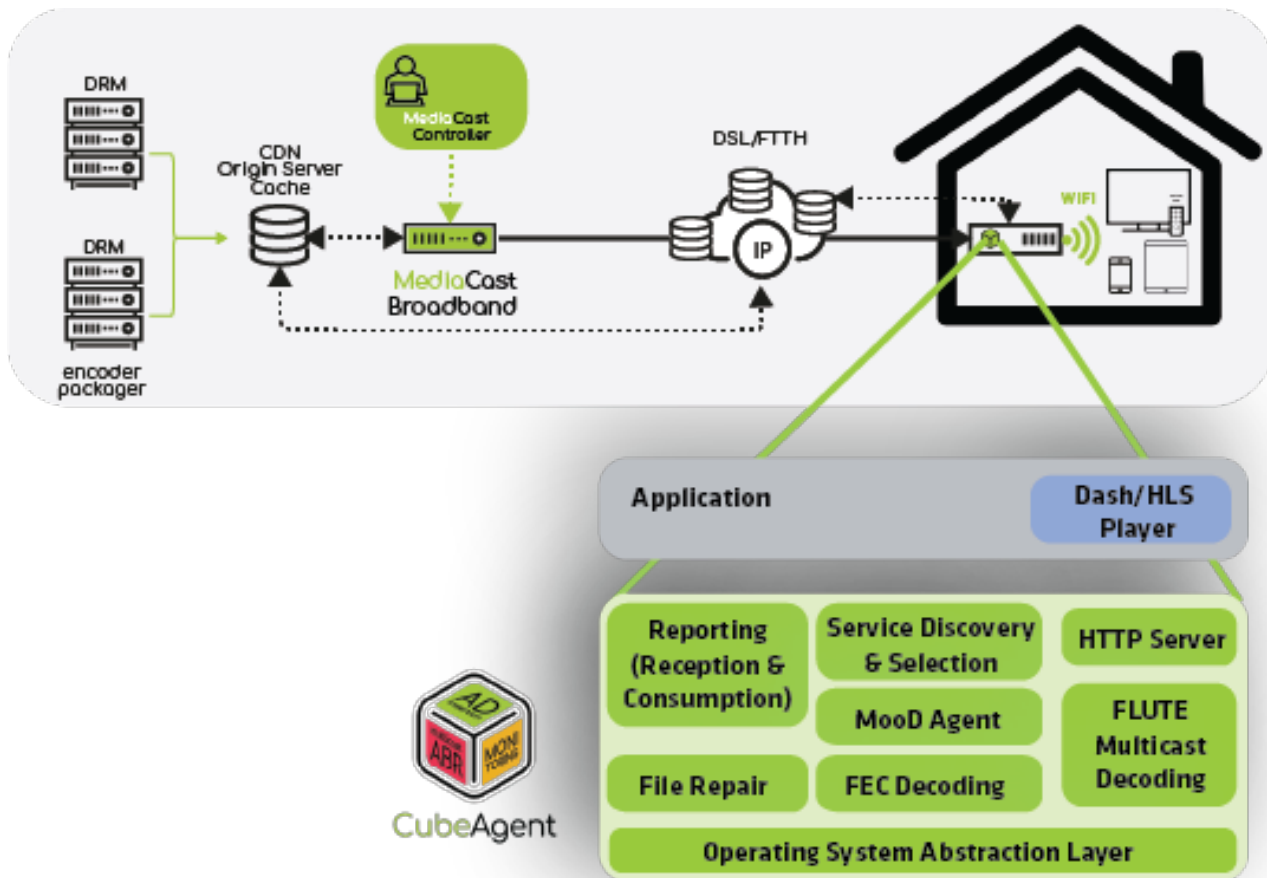
Byte Range File Repair

Apply the byte range file repair to recover the missing CMAF chunk.

CubeAgent Broadband

Multicast-ABR Agent for Home and Edge networks

DVB-Multicast ABR Network Architecture



Ordering codes

XLEV-CAB0-1000

mABR client on STB/HomeGateway device for enabling the delivery of video or multimedia content in multicast mode:

- Software-based solution
- DASH/HLS support
- Bootstrap and Service Announcement Management
- Apply Associated Delivery Procedure (Consumption Report, Reception Report, File Repair) - Implement FEC
- Integrated with Android and Linux based platform