



Broadband Delivery

DVB-MABR (Multicast Adaptive Bit Rate)

Adaptive media streaming over IP multicast

LATEST BLUEBOOK
[BlueBook A176r7 \(Interim draft TS 103 769 V1.3.1\)](#),
12.03.2025

PUBLISHED STANDARD RELATED BLUEBOOK
[TS 103 769 V1.2.1](#) [DVB BlueBook A176r6 \(Draft TS 103 769 V1.2.1\)](#),
12.11.2024 13.08.2024

Introduction

Video delivery has become a dominant class of traffic on public networks. The wider market has embraced unicast streaming with the ability to adapt to network conditions as a means of delivering media on any type of access network. One of the reasons for its widespread adoption is the reuse of existing network technologies used to deliver other Internet services, in particular HTTP and Content Delivery Networks. Dynamic bit rate adaptation allows the streaming session to degrade gracefully as network conditions worsen, and to recover as they improve.

For consumption of the same linear media stream at the same time by a large audience, the number of simultaneous connections to the edge serving infrastructure carrying the same media payloads results in a high degree of redundancy which can be mitigated by the use of multicast packet replication at Layer 3. Unicast streaming is better suited to unsynchronized media consumption, or consumption of linear streams by smaller audiences.

By combining existing media encoding and packaging formats with the efficiency of point-to-multipoint distribution to the edge of IP-based access networks, it is possible to design a system for linear media distribution that is both efficient and scalable to very large audiences, while remaining technically compatible with the largest possible set of already deployed end user equipment.

Point-to-multipoint topologies also offer opportunities for efficient pre-positioning of assets to devices at the edge of the network. This supports additional non-linear use cases and can help to alleviate peak demand on the access network at synchronization points in the linear schedule.

Scope

The present document specifies a reference functional architecture for an end-to-end system that delivers linear content over Internet Protocol (IP) networks in a scalable and standards-compliant manner. Scalability is achieved by means of IP multicast operating in parallel with and alongside conventional unicast delivery. The procedures and protocols used between the system functions are specified, along with data interchange formats, where appropriate.

Attachments

- [DVB-MABR schema \(for A176r7\)](#).

Verification & Validation

- [DVB-MABR Reference Tools](#)

Related Specifications

[DVB-MABR \(Multicast Adaptive Bit Rate\) - Guidelines](#)

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