

DASH MPD Anatomy Cheat Sheet (2026)

Every MPD element, attribute, and value you actually meet in production. Based on ISO/IEC 23009-1:2022.

MPD root attributes

Attribute / element	What it means	Typical value
@type	static (VOD) or dynamic (live)	static
@profiles	Conformance profiles, comma-separated	isoff-on-demand:2011, cmcf:2019
@mediaPresentationDuration	Total length (XML duration)	PT1H30M
@minBufferTime	Minimum player buffer at max bandwidth	PT2S
@availabilityStartTime	Wall-clock start of dynamic stream	2026-05-21T08:00:00Z
@minimumUpdatePeriod	How often a player re-fetches the MPD	PT2S
@timeShiftBufferDepth	DVR catch-up window	PT60S
@suggestedPresentationDelay	Distance from live edge to start at	PT4S

AdaptationSet attributes

Attribute / element	What it means	Typical value
@contentType	video, audio, text, image	video
@mimeType	MIME type of the Segments	video/mp4
@codecs	RFC 6381 codec string	avc1.640028
@lang	BCP 47 language tag	en, es-MX, ja
@segmentAlignment	Segment boundaries line up across renditions	true
@startWithSAP	Every Segment starts with an SAP	1
@maxWidth / @maxHeight	Video upper bound	1920 / 1080
<Role>	Track function (main, alternate, subtitle, sign, description, caption)	main

Representation attributes

Attribute / element	What it means	Typical value
@id	Unique inside the AdaptationSet	v0
@bandwidth	Maximum bitrate, bits per second	6 000 000
@width / @height	Video frame size	1920 / 1080
@frameRate	Frames per second	24
@audioSamplingRate	Audio sample rate, Hz	48000
@codecs	Overrides AdaptationSet if needed	avc1.640028 / mp4a.40.2

Segment addressing modes

Attribute / element	What it means	Typical value
SegmentList	Explicit <SegmentURL> list	Legacy VOD only; very large manifests
SegmentTemplate + \$Number\$	URLs computed from a starting number	Default for VOD and fixed-cadence live

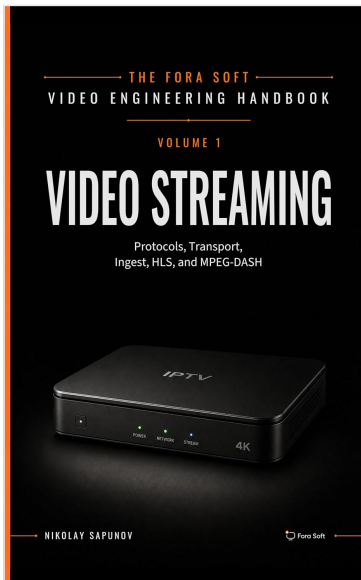
Attribute / element	What it means	Typical value
SegmentTemplate + \$Time\$	Paired with <SegmentTimeline>; explicit <S t=... d=... r=.../>	Recommended for DVR live, multi-period, SCTE-35
MPD Patch	Tiny XML diff that adds new <S/> entries	Keeps long live MPDs small

Multi-DRM via Common Encryption

Attribute / element	What it means	Typical value
CENC scheme line	schemeldUri=urn:mpeg:dash:mp4protection:2011, value=cenc or cbcs	Declared once on the AdaptationSet
Widevine UUID	edef8ba9-79d6-4ace-a3c8-27dcd51d21ed	Chrome, Android, Smart TV
PlayReady UUID	9a04f079-9840-4286-ab92-e65be0885f95	Edge, Xbox, some Smart TVs
ClearKey UUID	e2719d58-a985-b3c9-781a-b030af78d30e	W3C diagnostics, testing
FairPlay (HLS only)	94ce86fb-07ff-4f43-adb8-93d2fa968ca2	Not in MPD; signalled in HLS m3u8
<cenc:pssh>	Base64 Protection System Specific Header box	One per DRM system

Live dynamic MPD: required attributes

Attribute / element	What it means	Typical value
@type=dynamic	Declares a live stream	Always present for live
@availabilityStartTime	Anchor for wall-clock-to-segment math	Mandatory
@minimumUpdatePeriod	Player MPD re-fetch interval	1 to 4 s typical
@timeShiftBufferDepth	DVR window length	30 to 3600 s
<UTCTiming>	Player clock-sync source	Mandatory: at least one entry
@suggestedPresentationDelay	Distance from live edge	2 to 4 x segment duration



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This sheet lists the MPD elements, attributes and values you meet in production, from root attributes to multi-DRM and live MPDs. Volume 2 covers MPEG-DASH in depth together with HLS and CMAF: packaging, segment addressing, live versus VOD, and the latency budget behind segment sizes.

WHAT YOU WILL FIND INSIDE

- MPEG-DASH and MPD structure
- Live and VOD packaging
- CMAF segments shared with HLS
- Latency budget and segment duration

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