



OVERVIEW AND UPDATES · IMMERSIVE MEDIA

Volumetric Video Experiences

Volumetric video platform for immersive experiences

MPEG (ISO/IEC)

OCTOBER 2026 – www.5g-mag.com

About the project

V3C represents 3D content so that conventional 2D video codecs do the compression

ISO/IEC 23090-5

MPEG standard

Visual volumetric video-based coding (V3C) and video-based point cloud compression (V-PCC).

ISO/IEC 23090-12

MPEG standard

MPEG Immersive Video (MIV), an extension of the V3C base.

ISO/IEC 23090-10

With 3GPP TS 26.512

Carriage of V3C data in ISOBMFF with support for DASH, and the protocols and APIs that deliver V3C DASH presentations over 5G Media Streaming.

FIND OUT MORE

Technical Analysis

Specifications

Reference Tools

LEARN

Profiles and components

What V3C defines, and what a V3C bitstream carries

V-PCC ISO/IEC 23090-5: a dynamic point cloud, typically one captured object or performer

Projection onto per-normal planes

Packing of projections

Geometry, occupancy and attribute videos

MIV ISO/IEC 23090-12: several cameras with depth, six degrees of freedom in a limited viewing volume

Main

Extended

Extended Restricted Geometry

Geometry Absent

Bitstream components clearly separated

Atlas sub-bitstream

Common atlas sub-bitstream (MIV)

Occupancy video

Geometry video

Attribute video(s)

Carriage ISO/IEC 23090-10

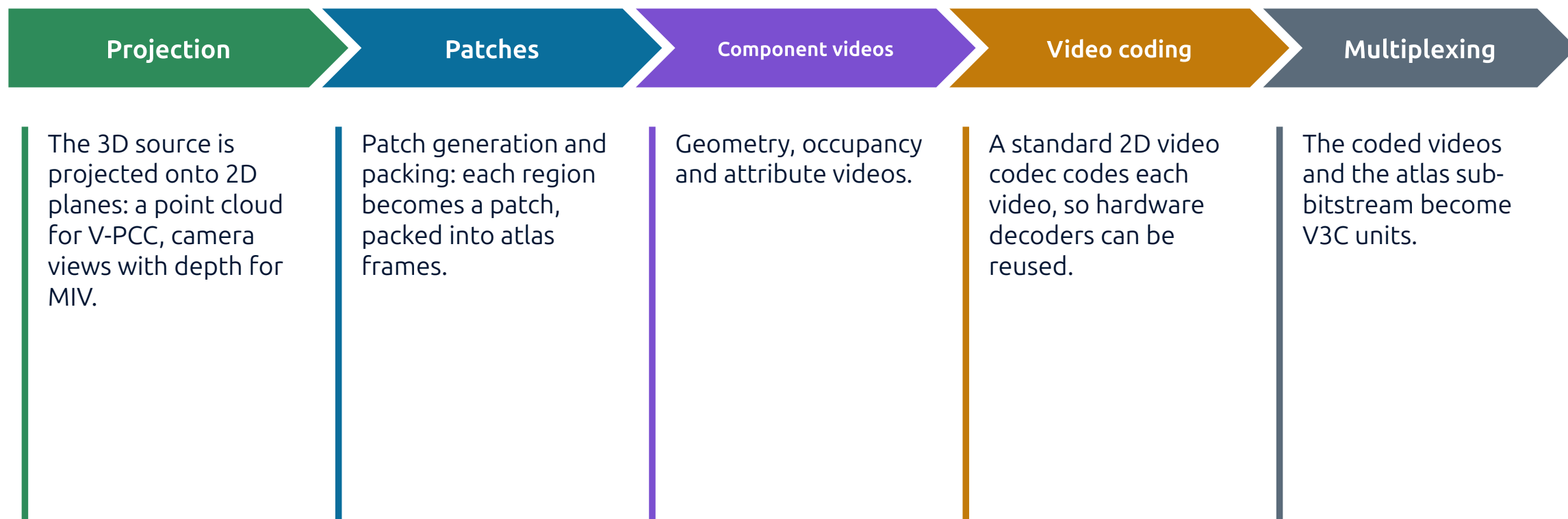
ISOBMFF

DASH

The component videos are ordinary coded video, so a decoder can offload them to a hardware video decoder and keep CPU and GPU work for the atlas and the 3D reconstruction.

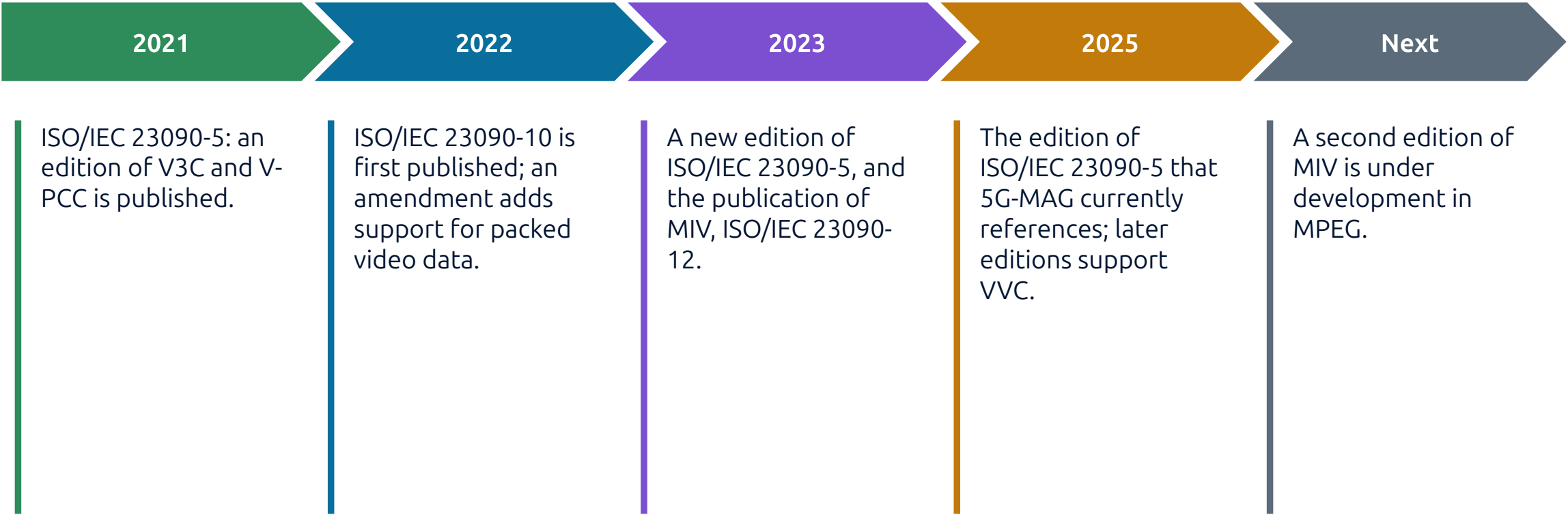
How it works

The projection-based pipeline of V3C, from the 3D source to the bitstream



How it grew

The editions of the MPEG specifications behind the platform



Confirm the exact edition and any amendments in the ISO catalogue for the feature set you rely on.

IMPLEMENT

Repositories

What each repository covers, from its README; support of editions and profiles is not yet audited

REPOSITORY	WHAT IT IS	COVERS	LATEST RELEASE
rt-v3c-unity-player	a Unity package to decode and play V3C content, with a simple demo project	Player Android Unity Windows	 v1.1 30 Sep 2025 GitHub
rt-v3c-decoder-plugin	entry points for decoding and viewing MIV and V-PCC content	Decoder Synthesizers DASH client	 v1.1 30 Sep 2025 GitHub
rt-v3c-content	test content for the Unity player, and tools to generate V3C bitstreams and DASH segments	Test content DASH packager	 v1.1 9 Oct 2025 GitHub
rt-v3c-examples	example V3C content and helper files for testing the encoding, delivery and rendering pipeline	Test content	 none yet GitHub
rt-media-origin	a config-driven media origin that packages DASH, HLS or CMAF and delivers over HTTP or push protocols	Media origin DASH CMAF	 none yet GitHub

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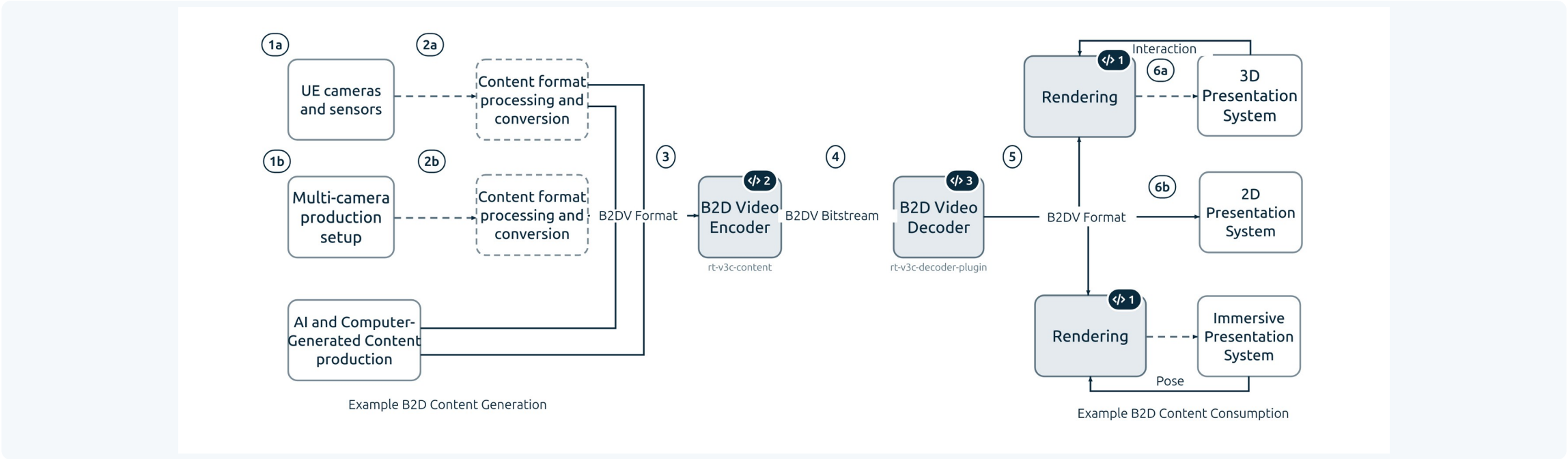
 released

 no release yet

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Repositories in the architecture

The Reference Tools on the specification figure, as the figure generator draws them



PROVIDED BY THE REFERENCE TOOLS

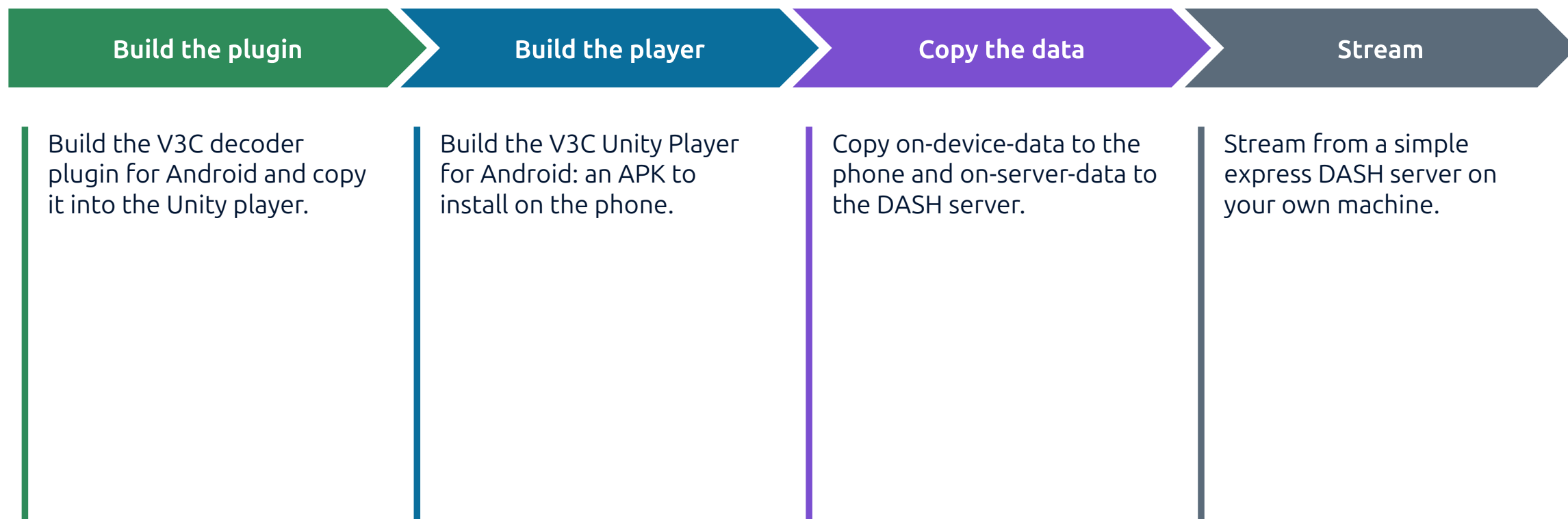
- 1 rt-v3c-unity-player
- 2 rt-v3c-content
- 3 rt-v3c-decoder-plugin
used by 1

Boxes without a badge are not mapped to a repository.

IMPLEMENT

Build and try

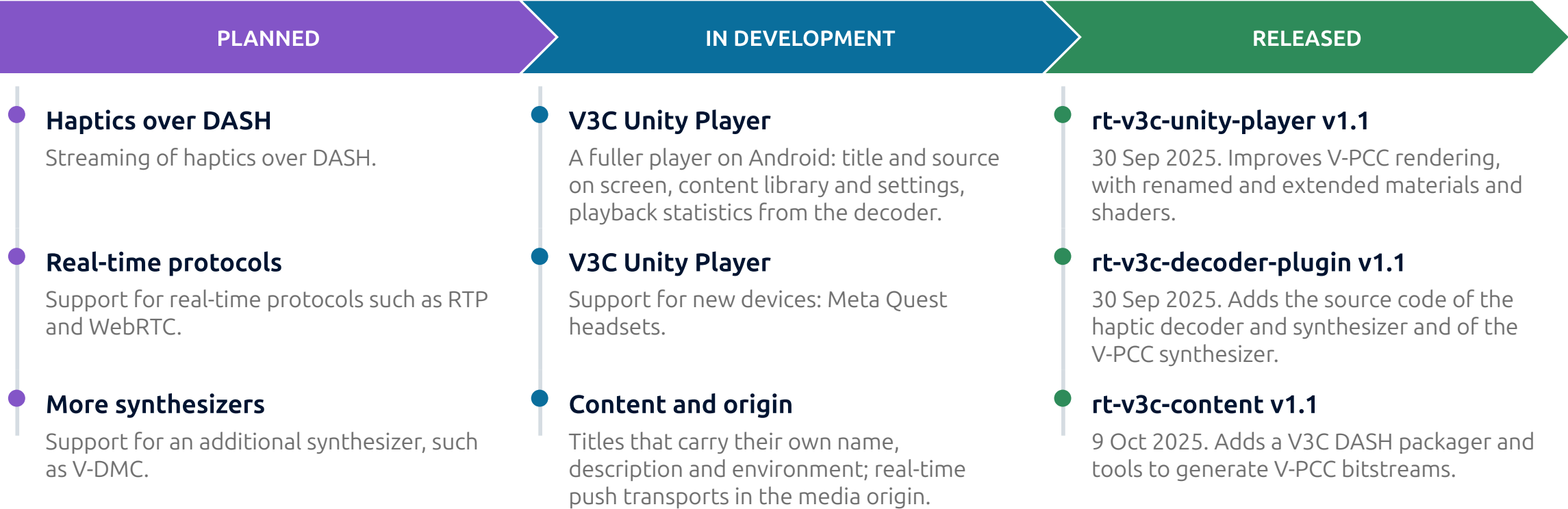
The tutorial: the V3C Unity Player on an Android phone, streaming from a DASH server



The player needs OpenGL ES 3.2 and hardware HEVC decoding on the phone.

Latest updates and roadmap

Status on 23 October 2026



MERGED SINCE V1.0 3 pull requests in 3 repositories



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