Picking a WebRTC Video Codec

Starting to develop a WebRTC application? Great. Time to decide which video codec you are going to use

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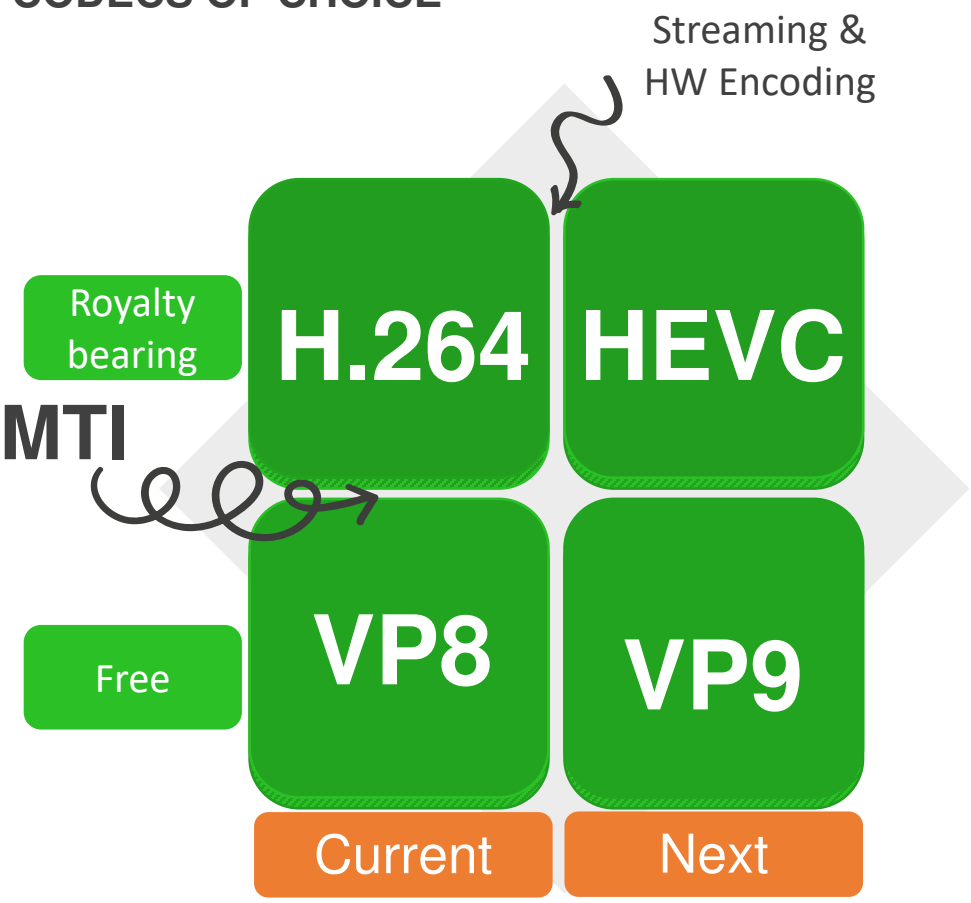
CODECS OF CHOICE



VP8

1. Royalty free
2. Very common in WebRTC
3. Open source implementation
4. No hardware acceleration
5. Most WebRTC media servers support VP8

H.264

1. The industry standard (non WebRTC)
2. Patent royalties are a pain (for non-browsers)
3. Hardware acceleration is abundant
4. Relatively "new" in WebRTC
5. No Simulcast and SVC support for WebRTC

WHICH BROWSER SUPPORTS WHAT CODEC?

	VP8	H.264	VP9	HEVC
	VP8	H.264	VP9	HEVC
	VP8	H.264	VP9	HEVC
	VP8	H.264	VP9	HEVC

WHICH OS SUPPORTS WHAT CODEC?

	VP8	H.264	VP9	HEVC
	VP8	H.264	VP9	HEVC
	VP8	H.264	VP9	HEVC

* Availability of hardware codec acceleration in Android depends on the specific device

CODECS OF CHOICE

Use WebRTC whenever possible

1:1 SESSIONS ONLY

1. Use VP8 when possible.
2. Switch to H.264 if VP8 isn't available.
3. Explore using H.264 on mobile due to hardware acceleration.

GROUP VIDEO CALLS (routing media)

1. Use VP8.
2. Without simulcast or SVC in H.264 you're better off with VP8.
3. Have Safari users join with audio only.

GROUP VIDEO CALLS **(mixing media)**

1. Use both. Start with whatever your MCU supports better.
2. Plan to add more video codecs in the future.
3. Plan for supporting multiple encoded streams per session.

STREAMING AND BROADCASTING

1. Use H.264 if it offers an advantage in the rest of your media pipeline.
2. Think of how you will handle patent royalties.