

ONVIF / RTSP Multi-Vendor Interoperability Checklist

Run these checks before you buy and as you onboard each camera. The pattern: try ONVIF first, fall back to RTSP for video, reach for a vendor SDK only for named features.

A. Before you buy (per camera model)

- ☐ Confirm the model is in the ONVIF conformant-products database — not just "ONVIF" on the datasheet.
- ☐ Read the Declaration of Conformance and Feature List; confirm the profiles you need (S/T video, G recording, M events).
- ☐ Verify the exact features you depend on (PTZ, imaging, specific events) are listed — a profile alone is not enough.
- ☐ Record the firmware/software version the conformance is tied to.

B. Plan the integration layer

- ☐ Use the ONVIF driver as the default for every conformant camera.
- ☐ Document an RTSP fallback URL for every camera, including the Layer-1 ones.
- ☐ Decide, per named feature, whether a vendor SDK (VAPIX / ISAPI / SUNAPI) is actually required.
- ☐ Keep SDK use contained to specific features — never one SDK per brand by default.

C. Onboarding and operations

- ☐ Pin and record each camera's validated firmware; treat updates as changes to test, not background noise.
- ☐ Put every camera on one common NTP time source before recording starts.
- ☐ Change factory-default credentials; manage credentials centrally.
- ☐ Re-test the integration after any firmware update.

D. Verify before go-live

- ☐ Live video confirmed from every camera (over ONVIF or the RTSP fallback).
- ☐ Events / metadata confirmed where Profile M is required.
- ☐ PTZ and imaging confirmed where the deployment needs them.
- ☐ Fallback tested: disable ONVIF and confirm RTSP keeps the camera recording.

Remember: ONVIF guarantees a baseline, not full feature parity. Conformance is self-declared and pinned to one firmware version, so the Declaration of Conformance — not the datasheet — is the engineering truth. Sources: ONVIF ONVIF Profiles & Conformance Process; IETF RFC 2326 (RTSP) and RFC 3550 (RTP); OASIS WS-Discovery 1.1.



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This checklist runs the multi-vendor pattern: ONVIF first, RTSP as fallback, a vendor SDK only for named features. Our seven-volume handbook covers the stack under that pattern: start with Volume 2 for RTP transport, timing and network behaviour, then Volume 1 for camera codecs and Volume 6 for the analytics that ride on events.

WHAT YOU WILL FIND INSIDE

- RTP over UDP and TCP, and what the network does to it
- H.264 and H.265 streams from mixed cameras
- Clock sync and timestamps across devices
- Detection events and metadata for analytics

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