



AVPro Flow: How to Build a Hybrid AV System

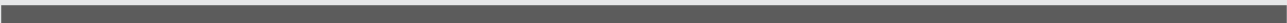
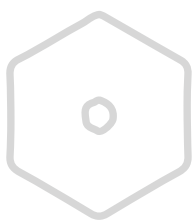


Table Of Content

03

What is AVPro Flow?

04

What does “Open-Standards” Mean?

05

AVPro Flow Benefits

07

What’s Interoperable with AVPro Flow Products?

08

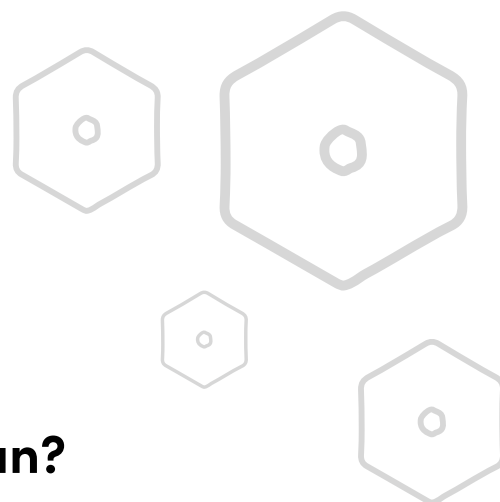
Examples of Use Cases

12

What Products are AVPro Flow Enabled?

13

Looking Ahead...



What is **AVPro Flow?**

AVPro Flow is an AV distribution technology that leverages open-standards H.265 and H.264 codecs to provide interoperability between AVPro devices and 3rd-party hardware or software products.

With many AV over IP technologies, they are closed-loop systems with proprietary AV streams that cannot be accessed without specialized devices. AVPro Flow has been designed to break this boundary and allow AV to “flow” between many different sources and destinations, regardless of brand and device type.

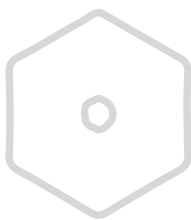
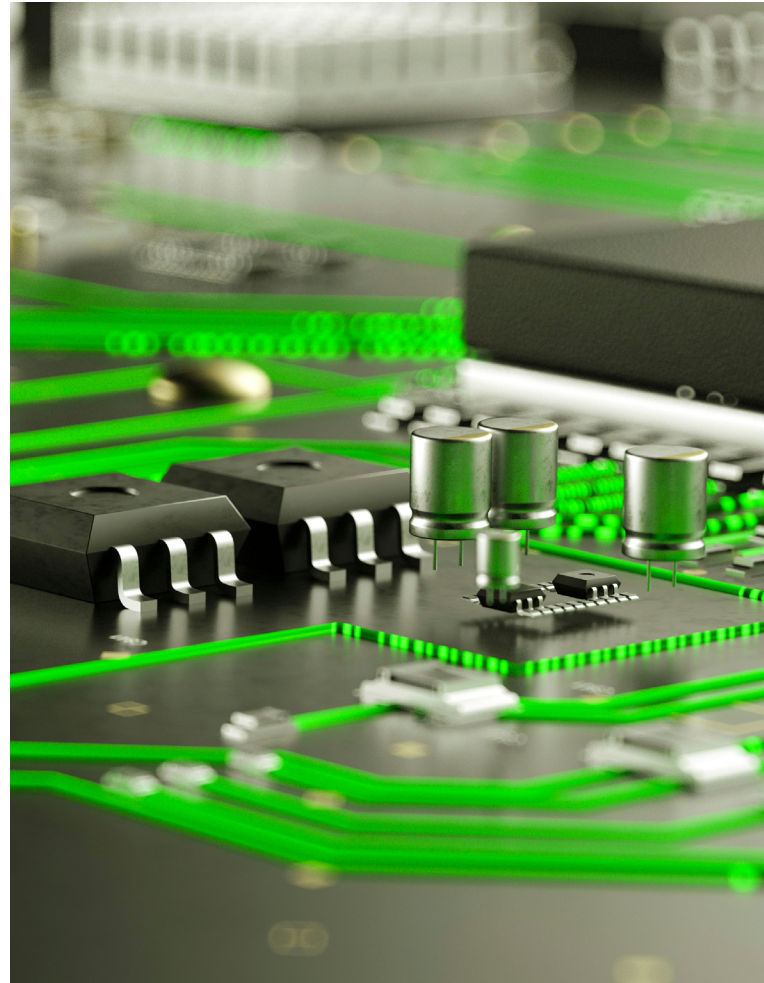


What does “Open-Standards” Mean?

The H.26x family of codecs, including H.264 (AVC) and H.265 (HEVC), are open standards developed and maintained by the ITU-T Video Coding Experts Group (VCEG) in collaboration with ISO/IEC’s Moving Picture Experts Group (MPEG).

As open standards, these codecs are widely adopted across industries because they ensure interoperability between devices and systems from different manufacturers.

This openness allows hardware and software developers to implement the codecs without relying on proprietary technologies, making integration across platforms such as broadcast, streaming, and professional AV more seamless and cost-effective.

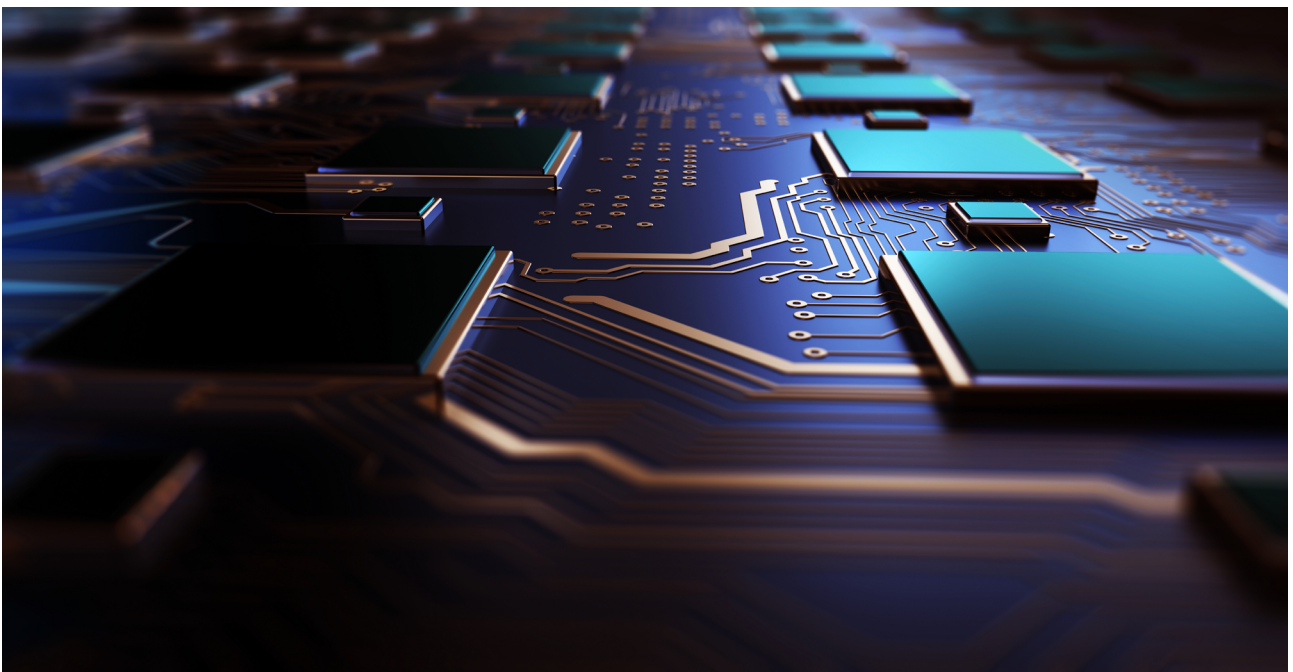


The AVPro Flow Benefits

Adopting AVPro Flow offers a range of advantages including vendor interoperability, lower total system costs, enhanced scalability, and future-proof flexibility that supports long-term investment in video infrastructure.

Because of the open-standard approach this allows integrators to mix and match products from different vendors, simplify deployments, and avoid vendor lock-in to ensure systems remain adaptable as technologies evolve.

This also helps systems remain future-proof for modern pro AV applications. As new solutions and products are released, AVPro Flow can adapt without requiring users to overhaul their existing infrastructure. This continuity helps organizations protect their investments and plan for future upgrades with confidence.



The **AVPro Flow Benefits** (cont.)



Another key advantage is cost efficiency. AVPro Flow reduces expenses by creating a competitive marketplace of interoperable products. Integrators are free to select equipment based on performance, features, and price rather than being tied to a single vendor ecosystem. Additionally, the widespread adoption of H.26x simplifies support and training, lowering both initial setup costs and long-term maintenance overhead.

From a networking standpoint, since AVPro Flow leverages H.26x, this reduces bandwidth requirements while maintaining high visual quality. Lower data rates translate directly into smaller network loads, which can reduce infrastructure costs by allowing the use of less expensive switches and cabling.

Together, these advantages make AVPro Flow a strategic choice for organizations seeking high performance, interoperability, and long-term value in their video distribution and processing systems.

What's Interoperable with AVPro Flow Products?

Virtually any device that can encode or decode an open-standard H.265 or H.264 signal can be compatible with AVPro Flow enabled products. Here are some examples:

Professional AV and Broadcast Equipment

- Video encoders and decoders used in AV-over-IP systems
- IP-capable cameras and PTZ systems
- Video production switchers and recorders
- Digital signage players and media servers

Consumer Electronics

- Smart TVs
- Streaming devices (Apple TV, Roku, Fire TV)
- Smartphones, tablets, and computers

Security and Surveillance Systems

- IP cameras, network video recorders (NVRs) and video management systems (VMS)

Streaming and Conferencing Platforms

- Video conferencing hardware (Zoom Rooms, Teams devices)
- Software encoders and decoders (OBS, vMix, Wirecast)



Examples of Use Cases

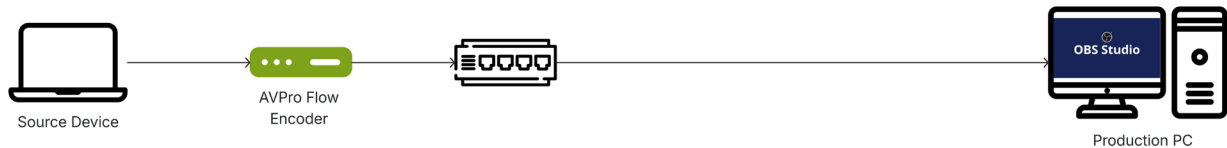
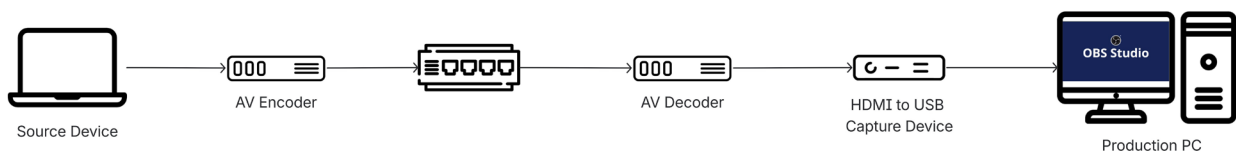
The below diagrams illustrate advantages of using AVPro Flow enabled products.

Encoding into a Production PC/Software

A user wants to ingest HDMI content into a PC for recording and live production. With a traditional AV over IP solution, an additional decoder and dedicated USB capture card would be needed to ingest the video signal into the PC.

With USP and AVPro Flow, an open-standards RTSP stream can be generated allowing the HDMI content to be directly received by the PC over the network, reducing components needed to provide the same solution.

Without AVPro Flow



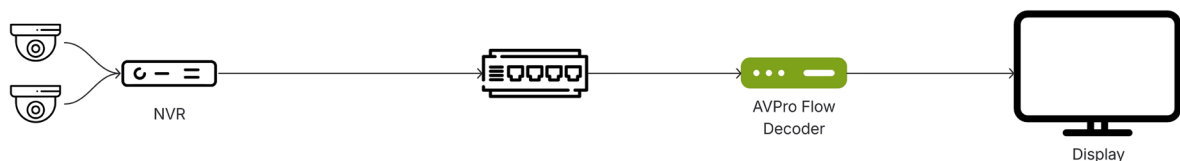
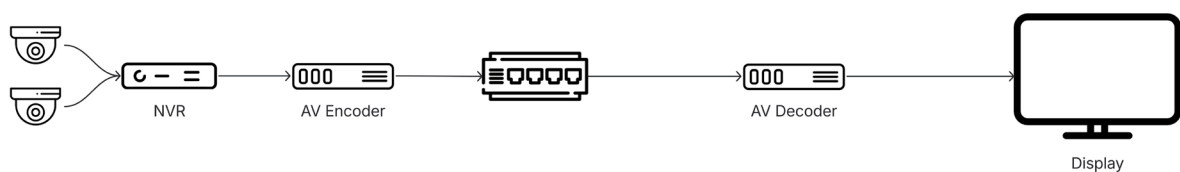
Examples of Use Cases (cont.)

Decoding IP Camera Streams

A user wants to take IP security cameras and decode their feeds to displays in remote locations. With a traditional AV over IP solution, an encoder would need to be connected to the HDMI out of an NVR system, providing limited distribution capabilities.

With USP and AVPro Flow, the cameras can be decoded directly by USP endpoints while simultaneously recording to the NVR. Because USP endpoints can discretely decode each camera's video stream, they can be routed separately to the NVR, allowing more flexible distribution.

Without AVPro Flow



Examples of Use Cases (cont.)

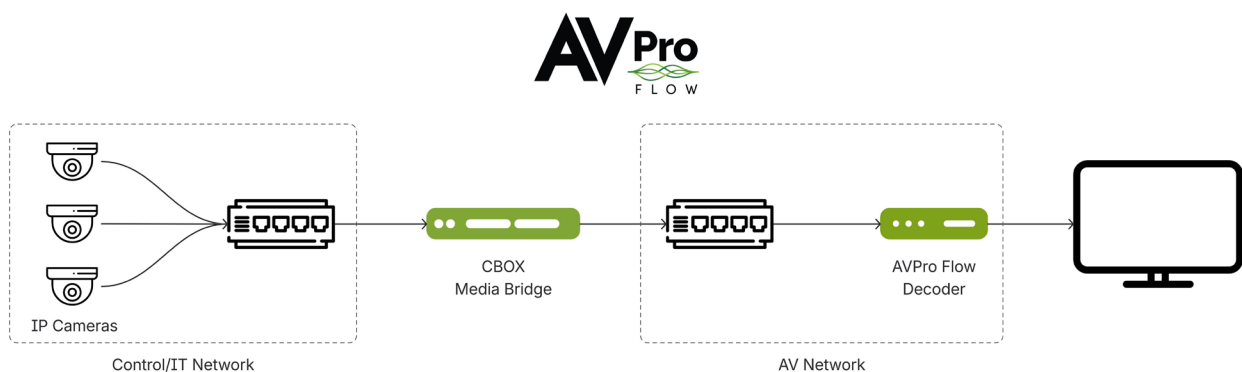
The above two examples are using a system design where USP endpoints and third-party H.26x devices exist within the same network, but this is not always the case. Sometimes devices such as security cameras or capture/production computers will exist in an existing IT/control network. If devices are in a different network and cannot communicate with each other, then this can pose a problem for interoperability.

Of course, if you are experienced with IT network design then there are ways to solve this involving advanced routing configurations, but in situations where a turnkey solution is needed then the CBOX can provide an easy-to-enable option called Media Bridge.

Media Bridge allows USP encoders from the “AV LAN” to send or receive streams between compatible H.26x devices in the “Control/IT LAN.” This is a similar functionality that has been in place for several years on the CBOX by allowing control systems to view preview streams from MXnet encoders. We’re taking this a step further by allowing full-resolution AV streams to traverse bidirectionally.

Below are some examples of using AVPro Flow and the CBOX Media Bridge:

Decoding IP Camera Streams from a Different Network



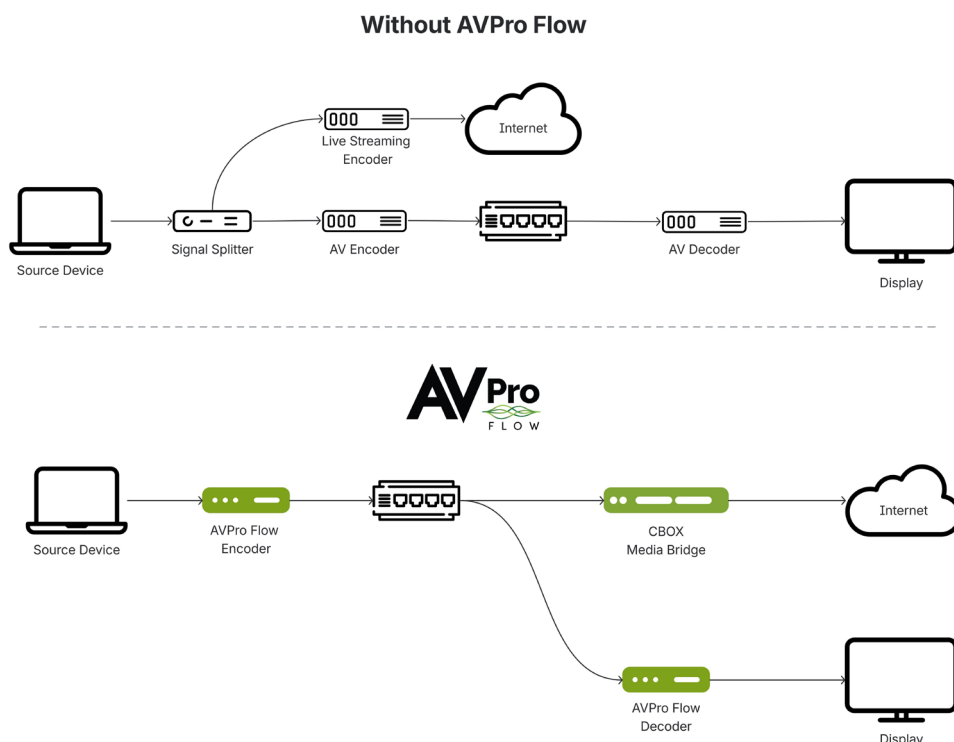
Examples of Use Cases (cont.)

Live Streaming:

In this example, a user wants to stream a live event both locally throughout a venue and to remote viewers over the internet.

With a traditional AV over IP system, the source device's AV signal would need to be split, one output going to an AV encoder for local distribution to venue displays and the second going to a dedicated live streaming encoder.

With AVPro Flow, there is no need to split the source signal. An AVPro Flow encoder can simultaneously distribute the signal to local displays and to the internet through RTMP. The CBOX can take this USP encoder's streams and, through the Media Bridge, allow it to reach an internet-based streaming service.



What Products are **AVPro Flow Enabled?**

MXnet USP Series

- AC-MXNET-USP-ES
- AC-MXNET-USP-PL
- AC-MXNET-USP-PR

How to tell if a product is AVPro Flow enabled?

The following logo will be printed on the product chassis and packaging. The product webpage will also include the logo and details about its capability.



Looking Ahead...

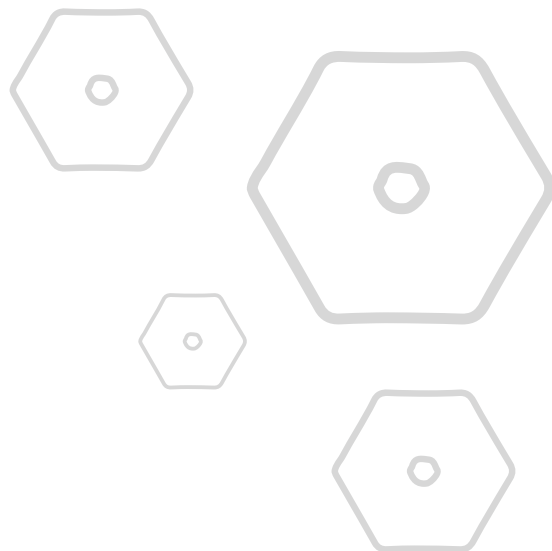
AVPro Flow is designed to grow and become a core element across both existing and future products. From native AV over IP products within MXnet to solutions across all AVPro Global brands, Flow creates a unified foundation.

No matter the product line, AVPro Flow will ensure a consistent user experience and shared feature set, making professional AV systems easier to design, configure, and scale.



Additional Material

- [USP and AVPro Flow Training Course](#)
- USP Webpages:
 - [USP-ES](#)
 - [USP-PL](#)
 - [USP-PR](#)
- Knowledge Base Articles:
 - [How To: Create an Open-Standards H.26x Stream on USP](#)
 - [How To: Decode a 3rd-party H.26x Video Stream on USP](#)



Thank You!

Phone:

877-886-5112

Web:

AVPROGLOBAL.COM

Address:

2222 E 52ND STREET NORTH, SIOUX FALLS SD 57104