MATROX VIDEO EMPOWERS OPEN-STANDARD AV OVER IP WITH AMD ADAPTIVE SoCs AND FPGAs

AMD × matrox video

Matrox Video, a global pioneer in professional AV and broadcast technology, has worked with AMD to accelerate the industry-wide transition to open-standard IP-based infrastructures. By leveraging AMD Zynq™ UltraScale+™ adaptive SoC and Kintex™ UltraScale+™ FPGA, Matrox Video has engineered high-performance, interoperable, and scalable solutions that redefine professional audio/video distribution.

This collaboration enables Matrox Video to deliver the world's first IPMX/ST 2110 IP KVM extender, along with a suite of products that seamlessly integrate AV-over-IP (AVoIP) systems. The result: open, future-ready solutions that free customers from proprietary lock-ins, while ensuring unmatched performance, reliability, and scalability.

CHALLENGE

As the AV industry continues its transition toward IP-based infrastructures, many organizations remain constrained by proprietary ecosystems and closed architectures that hinder innovation and scalability. Matrox Video identified several critical challenges at the heart of this transformation. A primary concern was the lack of interoperability, as vendors using incompatible protocols limited the ability of system integrators to design flexible, future-ready solutions. Additionally, high latency and limited scalability in proprietary systems introduced unacceptable delays in AV workflows, compromising performance and efficiency in demanding environments.

Another major obstacle was the costly and complex nature of system expansion. Many existing solutions required specialized hardware and tied customers to specific vendors, making it difficult to scale operations or adapt to evolving technologies. Compounding these issues was the fragmentation of standards within the industry – the absence of unified frameworks such as IPMX and ST 2110 restricted innovation and made it challenging to achieve seamless interoperability across devices and platforms.

"The biggest issue we saw in the market was fragmentation," said Ron Rundell, director of sales for the Americas region at Matrox Video. "That model simply doesn't scale, especially in today's hybrid AV/IT environments where flexibility is everything."

SOLUTION

Matrox Video turned to AMD adaptive computing technology to address these challenges. By integrating AMD Zynq™ UltraScale+™ SoCs and AMD Kintex™ UltraScale+™ FPGAs, the company developed a comprehensive portfolio of IPMX-compliant solutions designed to transform the AV industry. Among these innovations is the Avio 2 IP KVM extender, the world's first IPMX/ST 2110 IP KVM solution, which delivers ultra-low-latency performance and seamless interoperability.

INDUSTRY
AV / Broadcast

KEY TAKEAWAYS
- Collaboration with AMD enables open-standard, IPMX-ready solutions.
- AMD adaptive SoCs and FPGAs deliver low latency, high reliability, and power efficiency.
- Open standards like ST 2110 and IPMX eliminate vendor lock-in.
- Hardware-level implementation of complex protocols ensures scalable AV/IT integration.

CHALLENGE
Matrox Video looked to solve industry challenges of fragmentation, limited interoperability, high latency, costly scaling, and proprietary systems that hinder flexibility and innovation.

SOLUTION
Matrox Video leveraged AMD adaptive computing to create IPMX-compliant solutions enabling scalable, interoperable, low-latency AV systems over existing IP networks.

RESULTS
Matrox Video and AMD achieved interoperability, low latency, power efficiency, and scalability, delivering reliable, future-ready AV solutions that enhance customer satisfaction.

AMD TECHNOLOGY AT A GLANCE
AMD Zynq™ UltraScale+™ SoCs; Kintex™ UltraScale+™ FPGAs

The ConvertIP Series of converters and encoders/decoders further enhances flexibility by enabling the conversion of both compressed and uncompressed AVoIP signals, supporting a wide range of deployment scenarios. Complementing these products, the Vion IP video gateway bridges hybrid workflows across on-premises and cloud-based environments, ensuring smooth and efficient media transport.

Together, these AMD-powered solutions enable users to deploy and manage high-performance AV systems over existing IP networks, providing the scalability, interoperability, and freedom from vendor lock-in that modern AV/IT environments demand.

Matrox Video Product	AMD Technology Used	Key Functionality	Supported Standards
Avio 2 IP KVM Extenders	Zynq™ UltraScale+™ adaptive SoC	Low-latency IP KVM extension	ST 2110, IPMX
ConvertIP Series Converters & Encoders/Decoders	Kintex™ UltraScale+™ FPGA	AV signal conversion (baseband ↔ IP)	ST 2110, IPMX
Vion IP Video Gateway	Kintex™ UltraScale+™ FPGA	IP signal & protocol conversion	ST 2110, IPMX
X.mio5, DSX LE5 & DSX LE6 Developer Boards	Kintex™ UltraScale+™ FPGA	High-performance media processing	ST 2110

Matrox Video and AMD collaborated closely to ensure the seamless integration of adaptive computing technology into Matrox Video's product architecture. The implementation began with a hardware-software co-design approach, where engineering teams from both companies optimized performance at the silicon and firmware levels to achieve maximum efficiency. A major milestone in this process was implementing complex protocols directly in hardware. AMD FPGA technology enabled Matrox Video to integrate standards such as IPMX and ST 2110 natively, ensuring faster processing and lower latency.

Another key focus was low-power design, with the AMD SoC architecture that provided the ideal balance of gate density, memory efficiency, and energy optimization required for compact yet powerful systems.

Finally, long-term product lifecycle availability from AMD gave Matrox Video the confidence to design solutions that would remain reliable, maintainable, and future-ready for years to come.

"AMD was available at the right time with the right technology," said Rundell. "Its components provide the low-latency, reliable performance essential for media transport over IP."

RESULTS

Through its collaboration with AMD, Matrox Video achieved a range of significant technical and business outcomes that strengthened its leadership in the AV and broadcast markets. One of the most notable results was enhanced interoperability, with Matrox Video's solutions achieving full compliance with both ST 2110 and IPMX standards to ensure broad compatibility across diverse AV ecosystems. The integration of AMD adaptive computing also led to reduced latency, as hardware-accelerated IP processing dramatically improved response times in live production and real-time collaboration environments.

In addition, Matrox Video realized improved power efficiency, leveraging AMD adaptive SoCs to design energy-efficient solutions capable of operating reliably in 24/7 mission-critical conditions. The company's new systems also delivered future-ready scalability, thanks to a flexible architecture that supports hybrid AV workflows across on-premises and cloud infrastructures. These technical achievements translated directly into high customer satisfaction, with users praising the reliability, performance, and flexibility of Matrox Video's products.

"The collaboration with AMD has allowed Matrox Video to produce best-of-breed products that will be maintained and supported for many years," said Rundell. "These systems are providing very positive customer experiences."

Matrox Video continues to expand its IPMX and ST 2110 product portfolio in collaboration with AMD, pushing the boundaries of interoperability and AV/IT convergence.

As IP-based workflows become the new standard, AMD adaptive computing will remain central to enabling high-performance, open, and scalable solutions for broadcast and Pro AV applications.

Want to learn more?

About AMD Kintex™ UltraScale+™ FPGAS

About AMD Zynq™ UltraScale+™ MPSoCs

ABOUT MATROX VIDEO

Founded nearly five decades ago and headquartered in Montreal, Matrox Video is a trusted leader in the design and manufacture of video hardware and software for video capture, encoding, decoding, streaming, processing, and media transport.

Serving industries from broadcast and corporate AV to government, education, and live events, Matrox Video is known for advancing open standards like ST 2110 in broadcast and IPMX in proAV – ensuring interoperability and flexibility across complex workflows. For more information, visit video.matrox.com.

ABOUT AMD

For more than 50 years AMD has driven innovation in high-performance computing, graphics, and visualization technologies. Billions of people, leading Fortune 500 businesses, and cutting-edge scientific research institutions around the world rely on AMD technology daily to improve how they live, work and play. AMD employees are focused on building leadership high-performance and adaptive products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) website, blog, LinkedIn, and Twitter pages.

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