



Redefining AV over IP: Utilizing Proprietary Video Codec for Optimal Bandwidth Efficiency and Beyond

The palpable frustration with AV over IP's bandwidth inefficiencies, especially when compared to the optimized content delivery of streaming platforms like Netflix and Apple TV, is both understandable and warranted. These streaming services achieve high-quality video at bitrates of 10-30 Mbps through highly efficient compression techniques. This efficiency starkly contrasts with the traditional AV over IP methods, notably the 10G SDVoE technology, where bandwidth can surge to 10Gbps for 4K/60 video streams—even those that are compressed. This reality highlights a glaring inefficiency: the need for 10Gbps bandwidth, despite compression, leads to an excessive 300-fold increase in ethernet bandwidth consumption. Such a discrepancy raises critical questions about the necessity and logic behind such substantial bandwidth usage for professional video content re-transmission.

To address these concerns, a radical reevaluation of video compression and transmission strategies within the AV over IP sector is imperative. The cornerstone of this solution is the adoption of advanced video codecs, like our proprietary video codec, which stand to revolutionize the industry by offering unmatched compression efficiency without sacrificing video quality. The proprietary video codec, designed to deliver high-quality video content at significantly reduced bitrates compared to its predecessors like AVC, emerges as a leading solution.

Incorporating ultralow latency and super high-quality proprietary video codecs into AV over IP workflows could substantially reduce bandwidth requirements. This would render the transmission of professional-grade video both more efficient and sustainable, aligning with the latest advancements in video compression technology and the pressing need for more bandwidth-efficient practices that do not compromise the quality expected in professional AV applications.

Especially for AV over IP solutions that leverage 1G technology, adopting the proprietary video codecs present a progressive strategy to combat bandwidth



inefficiencies. It signifies an essential evolution and adaptation in response to technological advancements and the industry's demand for enhanced efficiency and sustainability in video transmission.

By embracing this innovative approach, the AV over IP industry can anticipate a future where high-quality video content is transmitted efficiently and effectively with ultralow latency. This shift challenges existing standards and establishes new benchmarks for bandwidth utilization. Such advancements not only benefit the industry by lowering operational costs and improving scalability but also contribute to the broader objective of sustainable technological development.

Moreover, the bandwidth conserved by employing 1G ethernet can be repurposed for transmitting additional valuable information and data packets, such as USB 2.0/3.0 over IP, more audio channels, and real-time bidirectional video/audio communications. This unleashes the potential of AV over IP products to become far more versatile and functional than currently imagined, opening up new avenues for innovation and application in the industry.

Now is the moment for a groundbreaking shift in the AV over IP landscape with the introduction of **O1Stream**, a revolutionary solution poised to redefine efficiency and quality in video transmission. This innovation targets the core inefficiencies plaguing current AV over IP technologies, notably the excessive bandwidth consumption even when dealing with compressed 4K/60 video streams, as seen in traditional 10G SDVoE implementations. The stark difference in bandwidth usage—where professional settings demand up to 10Gbps, a staggering 300 times more than the efficient 10-30 Mbps utilized by streaming giants like Netflix and Apple TV—highlights an urgent need for change.

The introduction of **O1Stream** aims to leverage the advanced proprietary video codec technology, renowned for its superior compression efficiency without quality compromise, to drastically cut down the bandwidth needs of professional-grade video transmission, 4K/120 video at the cost of the bitrate from 25 to 400 Mbps based on the quality requirement. By adopting the ultralow latency and high-quality capabilities of our proprietary video codecs, **O1Stream** is set to transform AV over IP workflows, making them not only more efficient but also significantly more sustainable.



The potential of **O1Stream** extends beyond just bandwidth savings. The freed-up capacity from adopting more bandwidth-efficient codecs over 1G ethernet networks can be repurposed for transmitting additional valuable data and information. This includes the likes of USB 2.0/3.0 over IP, expanded audio channels, and real-time bidirectional video/audio streams, among others. The versatility and enhanced utility of AV over IP products through **O1Stream** could surpass current expectations, opening up new realms of possibilities for professional AV applications.

Embracing **O1Stream** signifies a step towards an AV over IP future where high-quality video content can be transmitted effectively and efficiently, with ultralow latency, setting new industry benchmarks for bandwidth usage. This shift not only promises to lower operational costs and improve scalability but also aligns with a broader commitment to sustainable technological advancement. Through **O1Stream**, the AV over IP sector is poised to harness the full potential of its products, making them more versatile and valuable than ever imagined.