SCALABLE AND RELIABLE

Live Video Delivery over cost-effective and widely accessible Starlink Internet Network

Geo stationary satellites and SNG trucks have been used extensively as the primary medium for content contribution from remote venues. These operations utilize well-equipped trucks and professional staff that require significant upfront planning while costing a fortune. In today's dynamic marketplace, content creators compete against various entertainment options and explore alternative solutions to transport content reliably while reducing costs and demanding operational efficiencies in acquiring and delivering content. The situation gets more dire as a large percentage of the C-band spectrum is being allocated to accommodate for terrestrial 5G expansion, resulting in reduced satellite capacity, making satellite delivery not a viable long-term strategy.

IP delivery has risen to the challenge by offering a cost-efficient and flexible alternative to satellite distribution for live content. IP networks are more readily available, and distribution using IP systems facilitates new ways the broadcaster can monetize their content while enabling more profound insight into the transport networks. In addition to targeted delivery, the benefits of using IP delivery are further realized as these systems allow for expansion and accommodate future streaming requirements. Connectivity options range from dedicated fiber to wired, cellular, and satellite internet, enabling broadcasters to access these economic options for content delivery. For occasional use applications, cloud architecture of the IP systems lends itself to efficient utilization of resources with the ability to quickly spin up and down software resources in contrast to more rigid satellite and fiber infrastructure.

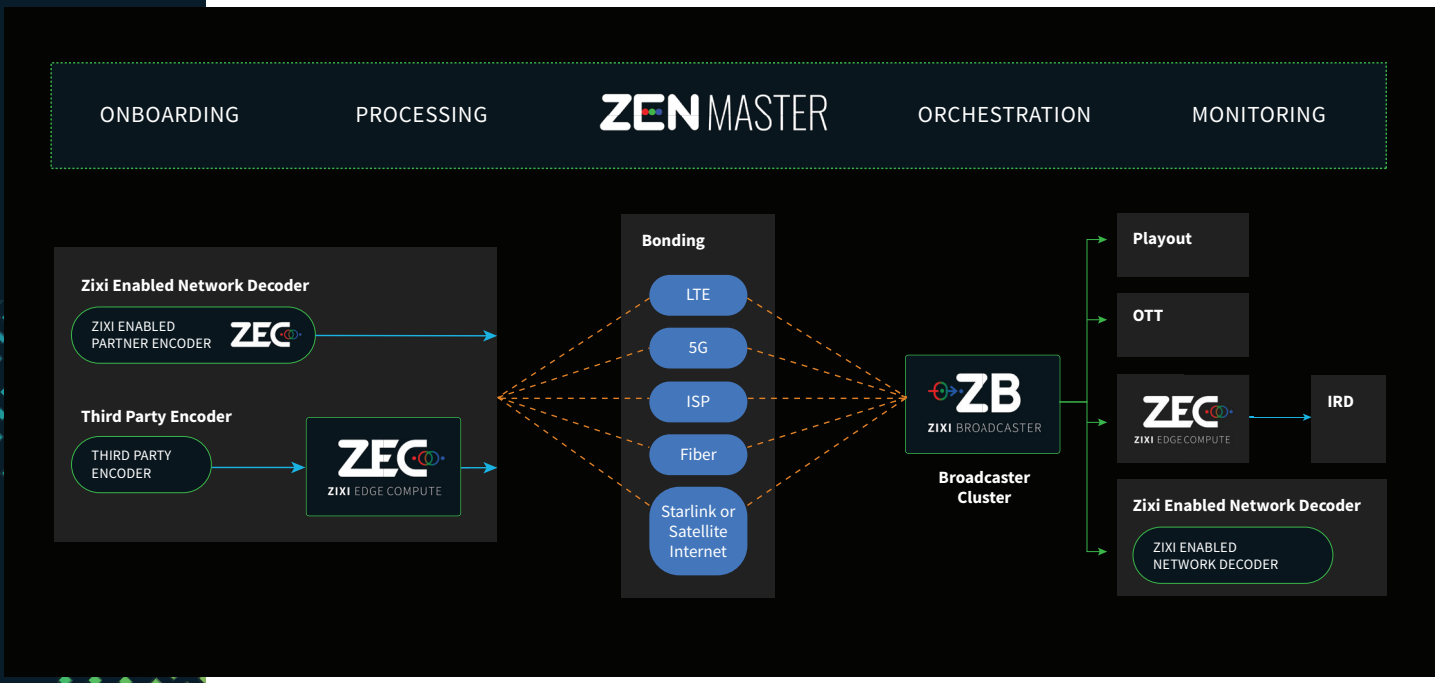
IP networks present unique challenges, such as packet loss, jitter, control, and orchestration, which is a concern for broadcasters to adopt these solutions. In addition, remote and underdeveloped areas need access to high-speed cable internet, often required to transmit high-quality video streams. Satellite internet providers such as Starlink offer an alternative to cable internet and are becoming increasingly accessible in remote and developing regions. Broadcasters and live event producers throughout Africa, Eastern Europe, India, and other areas with limited access to high-speed cable internet are rapidly looking to move to Starlink Internet as an option to transmit video streams.

Zixi's award-winning Software Defined Video Network (SDVP) allows broadcasters to harness the power of IP, enabling low latency, high quality, and reliable delivery at scale over lossy IP networks. SDVP, with its core components such as Zixi Edge Compute and Zixi Enabled Encoders at venues, enable reliable connections to Zixi Broadcasters, which resides at the studio MCR or in the Cloud and helps with processing and distribution of the content. At the same time, the Intelligent Data Platform provides monitoring and algorithm-based analytics, and the overarching ZEN Master, managing the orchestration, monitoring, and control of all components, is uniquely positioned to leverage these new advancements in satellite internet connectivity to ensure perfect, scalable live delivery over Starlink.

Use Case

MSTV is a full-scale multi-camera TV and streaming production capable of delivering live events over IP from anywhere in the world. Pioneers in IP encoding and delivery over 5G bonded networks and satellite internet MSTV have recently switched from SNG trucks and now provide end-to-end IP production and delivery. MSTV serves a vast region and often finds itself in venues where network connectivity could be better and usually has to rely on cellular networks to transmit content to distribution partners. Increasingly, MSTV has been using Starlink satellite internet as a mode of transport since it is readily available in remote areas. They have utilized Zixi's protocol, Zixi Enabled Network Partner Open Broadcast Systems encoder, and Zixi SDVP to deliver 30Mbps feeds reliably over Starlink for FIBA TV. Key components of the Software Defined Video Network that enable this workflow are:

Zixi Edge Compute: Zixi Edge Compute brings high-performance connectivity to the network edge, unlocking the full benefits of the SDVP. ZEC is installed on infrastructure at the network edge, facilitating a high-performance managed connection to Zixi Broadcaster. ZEC can serve as a feeder and receiver, managing connections in and out of Zixi Broadcaster. With ZEC, all sources and target destinations are connected with Zixi's market-leading Zixi Protocol, continuously and dynamically optimizing video delivery to achieve unparalleled performance, reliability, and security.



Zixi Broadcaster: At the heart of the Zixi Software Defined Video Platform (SDVP) is Zixi Broadcaster, a universal media gateway that delivers unparalleled performance, security, resilience, and flexibility. Zixi Broadcaster includes everything needed to enable high-performance live video routes between sources and target destinations over any IP network, with advanced in-flight processing, dedicated monitoring, and mission-critical reliability.

Intelligent Data Platform: IDP takes the complexity out of live video broadcast management and proactively identifies issues before impacts are felt, leveraging well-trained AI/ML-driven actionable insights, advanced video analytics, and stream analytics.

ZEN Master: ZEN Master is the live video orchestration and telemetry control plane that enables Zixi users to manage large-scale configuration and monitoring of the Zixi Enabled Network, Zixi's live streaming platform, devices, and appliances. With ZEN Master video management software, media organizations can extend their reach, increase production speed, and dramatically reduce operational costs.

Using Zixi and its bonding capabilities has allowed customers to stream reliably from remote venues that don't even have an internet connection using multiple cellular networks and Starlink satellite internet providers. This kind of production and broadcast is only possible with Zixi and its unique capabilities of transmitting reliable streams over various lossy networks bonded together to form a virtual network. MSTV has delivered over six matches in a row without a single packet loss, which is a testament to the reliability of the Zixi solution.

ABOUT ZIXI

Zixi provides the cloud based and on-premises Software-Defined Video Platform (SDVP®) that enables reliable broadcast-quality video delivery over any IP network, any protocol, any cloud provider and any edge device. The company offers technologies for broadcasters, enterprises, over-the-top video providers, sports leagues, service providers, cable operators and Telcos around the world, giving them the lowest TCO in the industry. Many of Zixi's clients are delivering and managing thousands of streams, and there is no other alternative in the market that can provide 99.999%+ reliability at scale. Zixi simplifies building and managing congestion-aware live video routes on any network, with support for 18-protocols across any operating environment, with products that are purpose built to provide market leading performance, universal interoperability and an operational control plane that simplifies management and orchestration at scale. With 15+ years of innovation and expertise, the Zixi Enabled Network has grown to over 1000+ media customers and 400+ OEM and service providers that deliver 20,000+ channels daily, with 110,000+ deployed instances in over 120 countries, gathering over 9 billion data points a day while delivering over 500,000 live sporting events a year. This powerful ecosystem of the largest media organizations in the world exchanging live video allows for the creation and acceleration of new content acquisition, business models, and opportunities to reduce cost and generate revenue.

www.zixi.com | sales@zixi.com