



Hydra Leverages Zixi to Help Broadcasters Overcome the Challenges of Unmanaged Terrestrial and Satellite IP

ZIXI-INTEGRATED HYDRA LIVE ENCODER/DECODER

AT A GLANCE

GIGCASTERS SOLUTIONS WITH ZIXI INTEGRATION

- **Hydra Live Encoder** - software-defined h.264/h.265 encoding system
- **Hydra Integrated Decoder** - software-defined decoding system designed to receive and output IP feeds to SDI

KEY FEATURES:

- **High Quality** - High quality h.264 and h.265 support from 500 kbit/s to 80 mbit/s at resolutions up to 4K.
- **Flexible** - Video and audio cross conversion
- **Reliable** - Full Zixi integration to enable successful delivery over unmanaged IP connections
- **Closed Captions** - Supports CEA-608/708
- **Monitoring** - Integrated monitoring and reporting with Zixi's ZEN Master control plane
- **ZEN Master Certified** - Gigcasters is a ZEN Master Certified partner



REMOTE BROADCASTERS' CONNECTIVITY CHALLENGES

Broadcasters wishing to provide live video contribution from remote locations are often faced with severe connectivity challenges. In many cases they must rely on limited broadband and cellular connectivity, or sometimes even no connectivity at all, requiring them to rely on satellite uplinks.

GIGCASTERS ZIXI-INTEGRATED LIVE CONTRIBUTION AND DISTRIBUTION SOLUTIONS

Gigcasters has partnered with Zixi to provide video contribution and distribution over unmanaged IP networks with unmatched quality and reliability at an affordable cost.

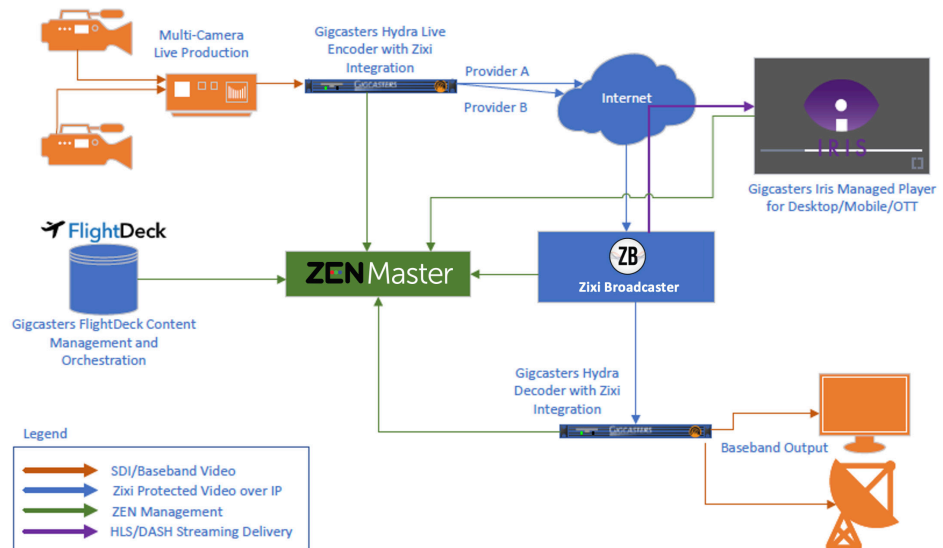
Using Zixi's technology, remote broadcasters can overcome their connectivity challenges, even in the most challenging network conditions.

ZIXI-INTEGRATED HYDRA LIVE ENCODER

The Hydra Live Encoder allows customers to send live contributions feeds over unmanaged IP for OTT streaming, broadcast, backhaul, and more.

Zixi's integration helps maximize throughput and ensure the feed from Hydra encoders reaches the cloud or Master Control Room (MCR) destination even on high-latency links that suffer from persistent packet loss.

By using the Zixi-enabled Hydra encoder, remote broadcasters can produce live video contribution from field locations in an end-to-end IP workflow at a price point lower than traditional Ku-band satellite uplinks and at bitrates lower than standard fiber transport.





KEY ZIXI BENEFITS

- **Centralized Management** – ZEN Master can provide a centralized view of the entire Zixi-enabled contribution and distribution network
- **Security** – Zixi provides best-in-class security enhanced with DTLS and AES standards-based protection
- **Reliability** – Contribute source streams with 99.999+% broadcast reliability; hitless failover provides redundant transmission options for higher reliability and disaster recovery
- **Low Latency** – With network adaptive Forward Error Correction and recovery, proven sub 1 second live linear latency
- **Interoperability** – Zixi is compatible with the largest ecosystem of encoding devices and contribution sources

ABOUT GIGCASTERS

Gigcasters provides software tools and integrated solutions to execute complex live, linear, and on-demand workflows. The Hydra product line offers turnkey, software-defined video contribution and distribution over IP with unmatched quality, reliability, and flexibility. Our products have been designed to meet the needs of professional content producers and content owners operating at the intersection of broadcast and OTT. We power collegiate and professional sporting events, 24/7 network affiliate feeds, brand activations, concerts, and more. <http://www.gigcasters.com/>
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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 100,000 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

ZIXI-INTEGRATED HYDRA DECODER

The Hydra Integrated Decoder allows customers to decode IP feeds in a wide variety of formats and codecs to baseband or ASI for use in broadcast facilities, MCRs, and displays.

The Zixi-integrated decoder can augment IP-based contribution by allowing decoding of feeds into existing SDI-based central production facilities, leveraging cost-effective satellite IP and business-grade broadband circuits like cable-modems versus dedicated fiber links, MPLS circuits, or leased satellite time.

SUPPORTING COMPLEX LIVE, LINEAR, AND ON-DEMAND WORKFLOWS

The Hydra product line offers turnkey, software-defined video contribution and distribution, while supporting complex live, linear, and on-demand workflows with unmatched quality of service.

Professional content creators can enjoy Zixi's best-in-class resiliency by using Zixi's transport protocol across the path in the following manner:

- **Hydra Live Encoders** are bundled with Zixi Feeder. Zixi Feeder receives MPEG2TS over IP from an encoder/multiplexer or is integrated directly into an encoder or DCM and embeds the data into Zixi protocol to send to the Zixi Broadcaster.
- **Zixi Broadcaster** receives multiple feeds, either in Zixi protocol or in MPEG2TS over IP. The Zixi Broadcaster then provides the feeds it receives to a number of Zixi Receivers.
- **Hydra Live Decoders**, which include an integrated Zixi Receiver, request the data from the Broadcaster, converts the Zixi protocol back into MPEG2TS over IP, and sends that out over a network interface or is integrated directly into a receiver/decoder device.

The flow from Zixi Feeder input to Zixi Receiver output is transparent for MPEG2TS packets.

Zixi transport uses a combination of content-aware and network adaptive forward error correction, error recovery, congestion avoidance, bonding of multiple transmission paths and dynamic feedback to control encoder bitrate, all at a minimal latency and with the security of AES-128/256 or DTLS.

With minimum overhead to physical bandwidth, this dynamic mechanism removes jitter, recovers and re-orders packets, smooths video delivery enabling the streaming of broadcast-quality video over any distance, while overcoming the varying network conditions of unmanaged IP networks including the public Internet.

SIMPLE CONFIGURATION, ORCHESTRATION AND MONITORING

As a ZEN Master Certified partner, the Gigcasters product line is integrated with ZEN Master for the simple configuration, orchestration and monitoring of the devices and appliances that are part of the video transport network.

ZEN Master provides a centralized global view of the entire network, while offering visual tools and analytics to configure, orchestrate, and monitor live broadcast channels and events at scale.