



# Spin Digital High-End Encoders & Players Deliver 4K/8K Video Experiences with Integrated Zixi Protocol

## UHD 4K/8K VIDEO STREAMING WITH INTELLIGENT CONGESTION-AWARE ROUTING

### HIGHLIGHTS

#### ZIXI INTEGRATED PRODUCTS

- Spin Enc Live
- Spin Player HEVC
- Spin Player VVC

#### KEY FEATURES

##### Spin Enc Live HEVC/VVC

- Live encoding for high-end formats including 4K, 8K, 12K with compression efficiency comparable to offline encoders.
- Novel quality optimization mode designed to increase the perceived quality of compressed video at low bitrates.
- 8K-to-8K live transcoding
- Optimized to guarantee minimal latencies in both high-efficiency and low-delay operation modes.

##### Spin Player HEVC/VVC

- Real-time playback of 8Kp60 video and beyond on a compact PC
- Advanced video rendering engine for 8K HDR with HDMI 2.1 (GPU) and SDI output interfaces.
- Integrated HDR-to-SDR tone mapping algorithm for high-quality dynamic range preservation on standard displays.
- Versatile screen and playback layouts using multiple GPUs or SDI devices in tiling, cloning, and alternate modes.

### MORE IMMERSIVE VIDEO APPLICATIONS DELIVERED RELIABLY

Spin Digital has integrated Zixi Edge Compute (ZEC) SDK into the Spin Enc Live and Spin Player products. The combination of high-performance live encoding, compute efficient playback, and market leading transport performance unlocks new immersive viewing experiences, including up to 8K/HDR resolution, efficient HEVC and VVC compression and VR/AR optimized video continuously delivered with the error-free reliability and ultra-low latency performance the Zixi protocol is known for.

### UTILIZING ZIXI TECHNOLOGY TO ENSURE ROBUST, RELIABLE, HIGH-PERFORMANCE DELIVERY

Customers leveraging the Spin Digital live encoders can now accept as well as broadcast from Zixi enabled live sources and to Zixi Broadcaster target destinations. This enables users to deliver very high-quality content with greater bandwidth efficiency at lower latencies and with increased reliability. Dynamic FEC and ARQ combine to ensure reliable delivery without adding significant latency while maximizing available bandwidth for content delivery. The bandwidth efficiency and error-free delivery included with the integrated solution are vital for supporting advanced UHD/8K video applications.

Spin Digital software solutions enable media applications that require the latest image and video processing enhancements including very high resolution (4K, 8K, and 16K), high dynamic range, high frame rate, wide color gamut, and 360° video and virtual reality. With integrated Zixi support, establishing and maintaining reliable transport of these high-performance streams can now include network bonding, enabling live video to seamlessly span multiple networks to maximize available bandwidth and add additional resilience, and enhanced protections including DTLS connection security and live content encryption support.

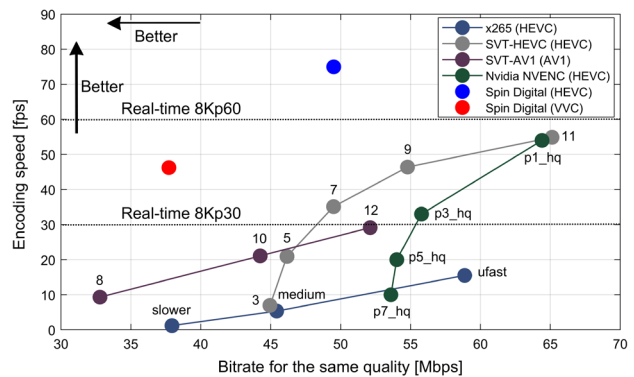
## INTEGRATED HIGH-EFFICIENCY PROCESSING AND DELIVERY SUPPORTS CUTTING-EDGE WORKFLOWS

With integrated Zixi Protocol support, Spin Digital customers now have access to the industry leading performance, efficiency, security and reliability that the Zixi SDVP enables. Spin Digital Encoders and Players can now connect to Zixi Broadcasters leveraging the market-leading Zixi protocol. This unlocks valuable features that operations now have native access to, including:

- Bonded Delivery**  
 Combines disparate topologies including 5G, LTE, Leased Lines and Unmanaged Internet, dynamically adjusting for fluctuating bandwidth, network congestion, packet loss and latency differences
- Sequenced hitless failover**  
 An improvement on SMPTE 2022-7, applies Zixi optimized alignment algorithms to re-create a single coherent uninterrupted stream out of multiple stream fragments
- Content Encryption**  
 Secure content with End-to-end strong AES-256 content encryption
- Session Security**  
 Manage Access with Session Establishment Whitelisting & Password Protection
- Connection Validation**  
 Confidently Delivery with Zixi Exclusive DTLS Secure Certificate Validation & Strong Cipher Protection
- Advanced Monitoring**  
 Live content quality analysis including ePSNR/eVMAF scores, impairments detection like frozen video and silent audio, TR101-290 measurement and the widest range of live and trending KPIs help operations teams understand the health, quality and performance of their live events and linear channels.
- Lower bandwidth requirements**  
 Content aware stream optimization, lower overhead dynamic error correction and congestion aware video routing



Zixi delivers bandwidth optimized enhanced error-correction that maximizes quality and minimize disruption even across poor performing or high congestion networks



Spin Enc Live encoders outperform other solutions, delivering significantly improved compression efficiency and performance even in the most demanding 8K/HDR applications

### ABOUT SPIN DIGITAL

Spin Digital Video Technologies GmbH (Spin Digital) develops high-performance video codecs for the next generation of ultra-high-quality video applications. Spin Digital software solutions enable media applications that require the latest image and video processing enhancements including very high resolution (4K, 8K, and 16K), high dynamic range, high frame rate, wide color gamut, and 360° video and virtual reality. Spin Digital is based in Berlin, and operates in an international B2B environment, collaborating with customers and partners around the world and across market segments.

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### ABOUT ZIXI

Zixi provides a cloud based and on-premise Software-Defined Video Platform that enables reliable broadcast-quality video delivery over any IP network, any protocol, any cloud provider and any edge device. Over 10+ years, the Zixi Enabled Network (ZEN) of partners has grown to over 200 OEM and service providers with whom Zixi serves well over 700 customers representing most of the top media brands around the world with 10,000+ channels delivered daily.

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