

JPEG2000 Media Function

Industry's Highest Density JPEG2000 Solution

The shift to IP-based remote and distributed production workflows, together with end user demands for higher quality content, means drastic increase in network capacity and cost. JPEG2000 compression provides means for reducing bandwidth costs with up to 90% without impacting video quality or transport latency.

While uncompressed transport has its advantages for live production workflows, its bandwidth requirements prohibits scaling up live production to meet customer demands. The Nimbra JPEG2000 Media Function offers an ultra-low latency compression with lossless video quality and 90% savings on bandwidth costs.

Designed for live production

JPEG2000 is the preferred solution over H.264 and H.265 for live production, especially remote and distributed workflows, as it sustains production video quality through multiple encoding cycles. Encoding with sub-frame latency and intra-frame profiles ensures low end-to-end delays and facilitates clean video switching, enabling adoption to more modern and cost efficient IP-based distributed production. The Nimbra JPEG2000 Media Function is completely transparent to any embedded audio and ancillary data to support any type of workflow.

Powerful and Flexible

With up to 20 HD codecs per rack unit, the Nimbra JPEG2000 Media Function together with the Media Acceleration Module offers the highest density JPEG2000 solution on the market. support for both encoding and decoding on the same module further adds flexibility and saves cost.

KEY FEATURES

- ◆ Industry's highest density with 20 HD JPEG2000 encoders per rack unit
- ◆ Hybrid JPEG2000 codec with multi-channel and bidirectional encoding
- ◆ Ultra-low latency for the most time-critical applications
- ◆ Support for both SDI and IP-based SMPTE ST-2110 workflows
- ◆ High-density 4K UHD compression
- ◆ Proven codec quality with visually lossless compression for SD, HD, FHD and UHD

Each interface is configured for video format, bandwidth and direction, and with scalable pay-as-you grow pricing, customers can feel confident they only pay for what they use today without limitations to scale up in the future.

Seamless transition to IP production

With support for both IP and SDI, the Nimbra JPEG2000 Media Function solves the requirements today and at the same time offers a smooth transition to IP-based workflows in the future.

Flexibility, performance and reliability combined.

The Media Acceleration Module offers a hardware accelerated execution environment for Nimbra Media Functions. It can be configured to run a wide range of different value adding media and networking functions, offering the flexibility of virtual software functions together with the reliability and performance from dedicated hardware. This allows a Nimbra MSR network to quickly adapt to new and changing requirements without impacting performance.

BENEFITS

90% reduction of bandwidth costs

Make sure cost of bandwidth does not prohibit scaling up live production. Nimbra JPEG2000 offers visually lossless quality at 1:10 compression ratio.

Production-friendly compression

With production-quality video that survives multiple encoding cycles, ultra-low latency encoding, full audio and data transparency, and intra-frame profiles, JPEG2000 is the preferred compression scheme for live production.

Cost-efficient 4K Ultra HD transport

Transport live 4K Ultra HD content over commonly available 1 GE

connections with image quality comparable to uncompressed transport.

Reduce rack-space and power consumption

With up to 20 HD encoders per rack unit, Nimbra provides the industry's highest density JPEG2000 solution, offering significant reduction of footprint and power consumption over competing solutions.

Flexibility with function virtualization

Stay on top of emerging technologies and standards. The Nimbra Media Acceleration Module offers flexible deployment of demanding high-capacity media functions. Feature-set and capacity is

TECHNICAL SPECIFICATIONS

Video Formats		Frame Synchronizer	
SD	625i (25), 525i (29.97) SMPTE 259M, SMPTE 305M	Reference input	Digital 3G/HD/SD-SDI, analog bi- and tri-level sync
HD	1080i (50/59.94/60) 1080p (23.98/24/25/29.97/30) 1080psf (23.98/24/25/29.97/30) 720p (23.98/24/25/29.97/30/50/59.94/60) SMPTE 292M, SMPTE 348M IP SMPTE ST-2022/6	Alignment mode	- Single channel alignment to external sync ref. - 4K UHD quad-SDI alignment - Remote production multi-feed alignment
3G (FHD)	1080p (50/59.94/60) SMPTE 424M IP SMPTE ST-2022/6	Encapsulation	MXF and VSF TR-01
4K (UHD)	2160p, Quad HD/3G-SDI and 2SI	Protection	FEC (SMPTE2022-1), Hitless 1+1 protection (SMPTE2022-7) Delay offset
Video Encoding		Ordering	
Compression	JPEG2000, ISO/IEC 15444-1	NPM0065-JPM1	JPEG2000 Media Function
Sampling	4:2:2, 10-bit	NPM0031-6H1F	J2K Processing Feature License
Nr. of channels	16 (SD/HD), 8 (FHD), 2 (UHD), individually configurable for video format and encoding/decoding	NPM0021-6FSF	Frame Synchronizer Feature License
Encoding bitrate	10-125 Mbps (SD), 10-500 Mbps (HD), 10-500 Mbps (FHD), 40-2000 Mbps (UHD)	NPM0048-4KF1	4K Feature license
		NPM0035-EH6F	Hitless 1+1 Feature License
		NPS0088-6001	IF628 - Media Acceleration Module
Audio & ANC data			
Embedded Audio	16 channels, 20/24bit, user selectable, SMPTE299, SMPTE272M, SMPTE436M		
Ancillary data	VBI: full transparent transport of user selectable lines ANC: AFD, ANSI/SCTE 104 Messages, ATC Ancillary Timecode, Caption Distribution Packet, CEA-608 Data, OP-47 SDP, OP-47 VANC multipacket, VPID, WSS. User selectable.		

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