

HIGHLIGHTS

- High-performance transcoding and packaging on a standard IT computing infrastructure
- Harmonic MicroGrid parallel computing for faster-than-real-time workflows
- HEVC-ready
- 4K/Ultra HD format support
- Dynamic farm management for seamless scaling of computing resources
- Discrete transcoding and packaging processes for highly efficient delivery
- Cloud-ready model supports cost-effective scaling of processing



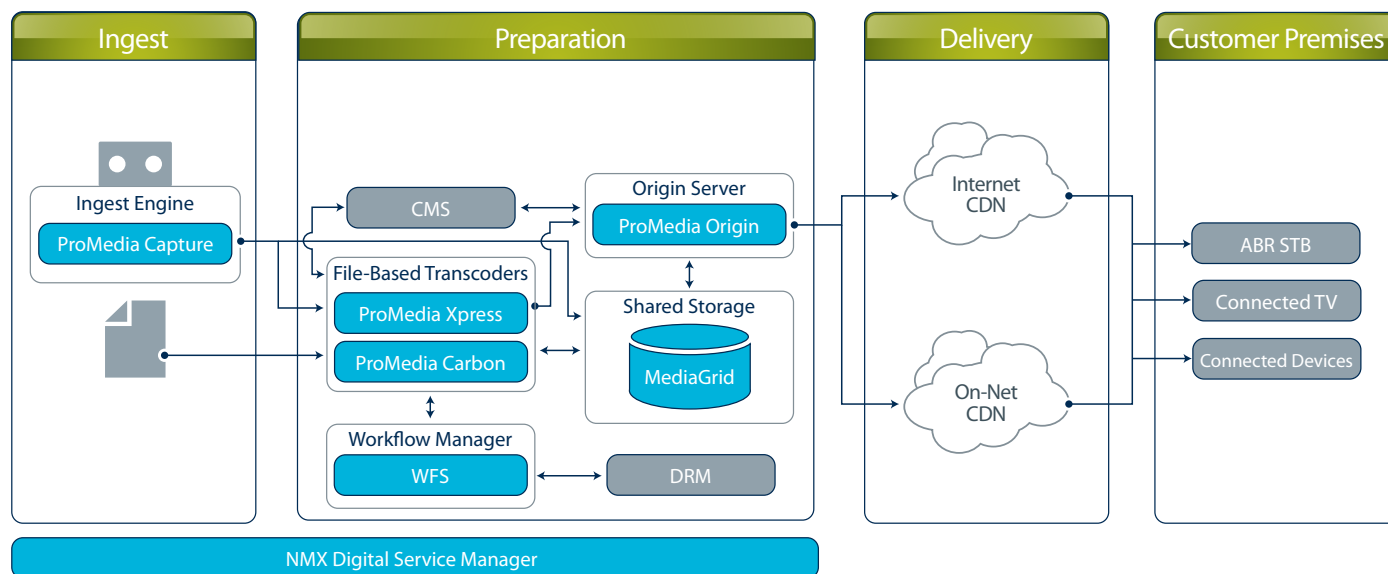
As service providers strive to deliver video-on-demand content to consumers' PCs and mobile devices, they face pressure from content providers to meet specific performance requirements for each adaptive streaming format used, whether Apple® HTTP Live Streaming (HLS), Microsoft® Smooth Streaming (MSS), Adobe® HTTP Dynamic Streaming (HDS) or MPEG-DASH. Speed is essential. The service level agreements to which service providers adhere are driven by advertising, with revenue levels tiered according to the lag between the original broadcast and the time-to-access through VOD services. Viewer satisfaction is equally crucial, as consumers now expect a high-quality experience from their mobile video services.

ProMedia™ Xpress addresses these pressures by enabling faster-than-real-time transcoding and packaging of broadcast-quality SD and HD video for multiscreen VOD applications. It even supports the emerging 4K and Ultra HD formats. Part of the ProMedia family of multiscreen software applications, the high-performance solution allows content owners and service providers to significantly increase the content hours delivered while adhering to processing timetables and video quality targets in a cost-effective and scalable manner.

ProMedia Xpress employs Harmonic's new MicroGrid™ parallel-computing technology to achieve a dramatic improvement in transcoding performance over stand-alone processing platforms. The application is managed by the Harmonic WFS™ workflow system and integrates seamlessly with the ProMedia Carbon transcoder. The inclusion of stream packaging technology originally developed for ProMedia Package enables a complete file-based, multiscreen workflow that scales from several to hundreds of nodes and provides the operational integrity required in demanding 24/7 VOD environments.



Harmonic File-Based Multiscreen Workflow, Managed by WFS



Maximizing Performance

ProMedia Xpress runs on ProMedia 5200-series application servers, which leverage the appliances' Intel® multi-core, multi-threaded computing architecture to achieve remarkable transcoding speed. MicroGrid parallel-computing technology splits large transcoding jobs into thousands of tiny ones, each of which is completed concurrently, removing the bottlenecks associated with traditional transcoding architectures. Utilizing this innovative technology, ProMedia Xpress can scale effectively to provide superior transcoding performance without the need for custom computing hardware.

Optimizing Processing

Integrating transcoding and packaging functionality in the same application allows multi-rate assets to be encapsulated with the utmost flexibility and efficiency for all multiscreen delivery ecosystems, including HLS, MSS, HDS and MPEG-DASH. ProMedia Xpress treats transcoding and packaging as separate processes, allowing users to transcode a piece of content once, store it as a mezzanine file, and then package it multiple times, thereby reducing repetitive processor-intensive tasks. With the ability to store assets in an intermediate stage, users minimize the work involved in repackaging content as delivery standards and protocols change.

Seamless Scaling

Designed for high-volume, multiformat OTT delivery applications, ProMedia Xpress is, at its core, a H.264 transcoding engine optimized to generate

multiple high-quality streams of multi-rate assets simultaneously, resulting in faster-than-real-time workflows. The HEVC-ready, cloud-ready application can grow from a single node to hundreds of nodes under the management of WFS, making it easy to meet volume demand as requirements evolve. As part of a complete multiscreen ecosystem, the WFS open API also allows Xpress to integrate with a wide variety of DRM and CMS vendors.

Protecting Infrastructure Investment

Harmonic 1-RU ProMedia 5200 application servers allow users to achieve exceptional transcoding throughput with a limited equipment footprint. ProMedia Xpress also delivers a pathway for regularly improved transcoding productivity by taking advantage of ongoing CPU and memory-access performance gains. As such, the ProMedia multiscreen processing infrastructure offers the high level of investment protection demanded by today's service providers.

World-Class Service and Support

Harmonic stands behind ProMediaXpress—and all of its products—with comprehensive service and support programs, including system design, service deployment, technical support and network maintenance. World-class service plans and a global network of flexible and responsive support professionals help ensure your ability to deliver outstanding “anytime, anywhere, any-device” viewer experiences.



SUPPORTED FEATURES

Baseband Operations	High-quality deinterlacer High-quality scaler Frame rate converter Color space correction
User-Selectable Filters and Tools	Audio channel mixer (including downmixer) Crop Logo insertion
Audio Channel Mixer	Map incoming audio channels and tracks to outgoing channels 5.1 and 7.1 to stereo downmixing

TRANSPORT STREAM INPUTS

Container	MPEG-2 TS
Video	MPEG-2 H.264, including CableLabs & AVC1
Audio	Dolby® Digital (AC-3) Dolby Digital Plus (E-AC-3) MPEG-1 Layer II AAC-LC HE-AAC v1 & v2 SMPTE 302M
Metadata	Closed Captions: A/53 Teletext PID DVB Subtitling PID Splicing signaling: SCTE-35

OUTPUT FORMATS

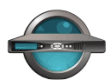
Containers	Set of MPEG-2 SPTS Digital Picture Exchange (DPX)
Video	H.264
Video Resolutions	SD, HD, 4K
Audio	AC-3 E-AC-3 MPEG-1 Layer II AAC-LC HE-AAC v1 & v2
Metadata	Closed Captions Teletext PID DVB Subtitling PID

ABR STREAMING PROTOCOLS

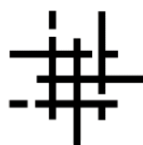
Apple HLS
MSS
Adobe RTMP & HDS
MPEG-DASH

ENCRYPTION FORMATS

Apple HLS	AES-128 CBC Sample AES
MSS	PlayReady® AES-CTR
Adobe RTMP & HDS	Access 3.0



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