ProMedia™ Carbon MP
Cloud-Based Transcoding Engine

HIGHLIGHTS

- Support for the industry’s largest array of acquisition, editing, broadcast, web and mobile formats
- Intuitive user interface enables complete control over every aspect of the transcoding process
- Fully automated mode with support for batch processing, watch folders and automatic FTP transfers
- XML-based API simplifies integration of application into complete transcoding workflows

Powered by Harmonic’s Rhozet® technology, ProMedia™ Carbon MP is a cloud-based transcoding solution that enables the conversion of media to a massive array of acquisition, editing, broadcast, web and mobile formats. Optimized for use with the Amazon Web Services (AWS) computing platform, the application makes cost-effective, broadcast-quality transcoding available on demand to any PC user with an Internet connection. Video assets can be submitted in all major SD and HD formats and published to virtually every media standard in use today.

ProMedia Carbon MP is the wise choice for a broad range of business environments, from media professionals with low-volume transcoding requirements to content owners and service providers who need assistance managing spikes in transcoding volume. For enterprise customers, ProMedia Carbon MP can serve as the underlying transcoding engine in a complete video processing workflow. Whether using the application’s GUI or API, the application can perform a wide array of critical operations, including SD/HD conversion, PAL/NTSC conversion, logo insertion, color-space conversion, color correction, closed-caption extraction and content preparation for next-generation media services, such as multiscreen content delivery. The API also enables the creation of custom workflows and third-party applications.

ProMedia Carbon MP is continually updated to accommodate new formats and ensure user ability to meet evolving content production and distribution requirements. Transcoding is performed by the hour — without the need to purchase a site license — allowing media organizations to reap the benefits of high-performance video processing with low operating costs and reduced financial risk.

APPLICATIONS

- Production
- Broadcasting
- Webcasting

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FEATURES

Intuitive User Interface
ProMedia Carbon MP features an easy-to-use desktop that enables complete control over every aspect of the transcoding process. The GUI simplifies the ability to fine-tune encoding presets and convert files into any number of target formats, each with a unique set of operations and filters applied. For example, users can burn in a logo and timecode on a review format, while applying special cropping to a mobile format.

Automated Operation
ProMedia Carbon MP can be run in a fully automated mode with support for batch processing, local watch folders and automatic FTP transfers.

XML-Based API
ProMedia Carbon MP can be controlled directly via an XML-based API. All aspects of the transcoding process can be controlled through the API, including source/target destinations, transcoding parameters, filtering, compositing, ad insertion, titling, notifications, and more.

DESKTOP TRANSCODING IN THE CLOUD
ProMedia Carbon MP utilizes the Amazon Elastic Compute Cloud (EC2) and Elastic Block Store (EBS) services. The desktop application can be used to upload source content to either attached storage (EBS) or Amazon S3 (Simple Storage Service). Once uploaded, a Remote Desktop connection enables users to control all aspects of the transcode process with the Carbon MP GUI — even set up video filters.

CLOUD-BASED VIDEO PROCESSING PLATFORM
Via the ProMedia Carbon MP API, users can adapt multiple instances of ProMedia Carbon MP to function as nodes in a cloud-based transcoding farm or as components in a video processing workflow. Content is uploaded to S3 storage by the user or acquired through a Content Delivery Network (CDN). Both the API and application GUI provide the user with access to ProMedia Carbon MP’s full set of capabilities.

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**BASIC OPERATIONS**
- Frame size conversion
- Color space conversion
- Interface/de-interface
- SD/HD conversion
- Key-frame extraction
- Frame rate conversion
- Aspect ratio conversion
- PAL/NTSC conversion
- Cropping
- Telecine/inverse telecine

**ADVANCED OPERATIONS**
- Timecode imprint
- XML controllable titler
- CEA 608 to 708 caption conversion
- Segment extraction/insertion
- Teletext, STL handling
- Subtitle/CC imprint
- Line 21/CC conversion
- Logo insertion
- 601/709 color space support

**JOB MANAGEMENT**
- Graphical user interface
- Multiple target outputs
- XML-based API
- Watch folder automation (local file system only)
- Remote job submission
- Batch processing

**SUPPORTED VIDEO CODECS**
- DV (IEC 61834)
- DVCPRO 50 (SMPTE 314M)
- MPEG-1 (ISO/IEC 11172-2)
- H.263 (ITU-T Rec. H.263)
- H.264 (ISO/IEC 14996-10)
- JPEG 2000 (ISO/IEC 15444)
- Windows® Media
- RealVideo
- DivX
- DVCPRo (SMPTE 314M)
- DVCPRo HD (SMPTE 370M)
- MPEG-2 (ISO/IEC 13818-2)
- MPEG-4 (ISO/IEC 14496-2)
- AVC-Intra (SMPTE RP 2027)
- VC-1
- Image sequences
- DPX

**VIDEO FILTERING**
- Fade in/out
- Blur
- NTSC-safe
- Rotate
- Color correction
- Temporal noise reduction
- Median
- Sharpen
- Deblocking
- Black/white correction
- Gamma correction
- Motion compensated temporal filter

**SUPPORTED AUDIO CODECS**
- PCM
- MPEG-1 Layer II (ISO/IEC 11172-3)
- Dolby Digital Plus (E-AC-3)
- RealAudio
- AAC (ISO/IEC 13818-7)
- Dolby® Digital (AC-3)
- Windows Media Audio

**AUDIO FILTERING**
- ITU 1770-1 normalize
- Fade in/out
- Dynamic range compressor
- Low-pass
- Volume

**SUPPORTED MEDIA CONTAINERS**
- AVI
- MXF (OP1a, OP-Atom, AS-02) (various SMPTE/AMWA specifications)
- LXF
- GXF (SMPTE RDD 14-2007)
- MPEG-2 PS (ISO/IEC 13818-1)
- MPEG-2 TS (ISO/IEC 13818-1)
- WAV, Broadcast WAV, RF64, AIFF (RF64: EBU-TECH 3306)
- Apple® HTTP Live Streaming (IETF draft spec v2)
- Microsoft Smooth Streaming (H.264, VC-1)
- VOB
- WMV, WMA, ASF
- 3GPP
- 3G2

**SUPPORTED SYSTEMS**

**Acquisition/Editing**
- Panasonic P2
- Apple Final Cut Pro®
- Grass Valley Edius
- Sharp XDCAM
- Adobe® Premiere® Pro

**On-Air Broadcast Servers**
- Harmonic Spectrum
- Harris Nexio, Leitch VR
- Grass Valley Profile, K2
- Quantel sQ

**Broadcast**
- ATSC (ATSC A/53, A/72)
- CableLabs (various)
- DVB (various)

*Note: Reference to the standards above does not imply implementation of all elements related to a particular standard.*