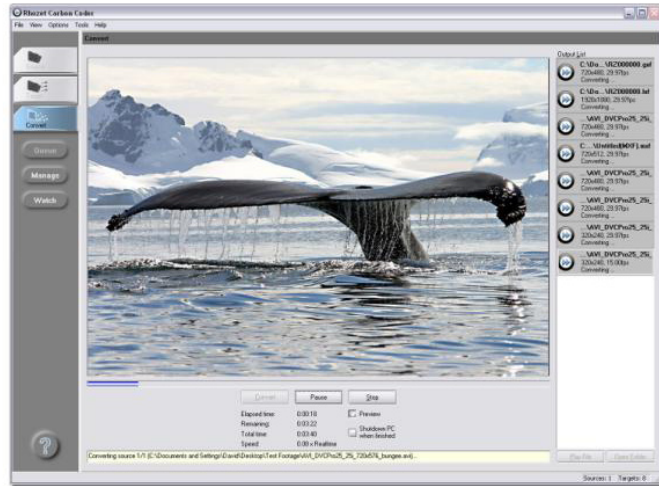


HIGHLIGHTS

- File-based transcoding software
- Breadth of included format support
- Intuitive user interface
- Automated operation
- Scalable transcoding
- XML-based SDK

Carbon Coder™ is file-based transcoding software that facilitates the conversion of media to a massive array of acquisition, editing, broadcast, Web and mobile formats. Carbon Coder can run as a stand-alone application or as part of a multi-node, fully-automated rendering farm under the control of Carbon Server or the Rhozet Workflow System (WFS). As part of the transcode process, Carbon Coder handles a wide array of critical operations including SD/HD conversion, PAL/NTSC conversion, logo insertion, color space conversion, color correction, closed-captions extraction and more. Carbon Coder includes an open API that allows for the creation of custom workflows or third party applications.



Breadth of Format Support - Included with Carbon Coder is the ability to transcode from virtually any media format to every media standard in use today. Supporting all major formats for SD and HD workflows, Carbon Coder is continually updated to accommodate new formats.

Intuitive User Interface - Carbon Coder's intuitive interface gives you complete control over every aspect of the transcoding process. The user interface is easy to use and allows you to configure the system to convert a single file into any number of target formats, each with a unique set of operations and filters applied. For example, you can burn in a logo and timecode on a review format, while applying special cropping to a mobile format.

Automated Operation - Carbon Coder can be run in a fully automated mode with support for batch processing, watch folders, and automatic

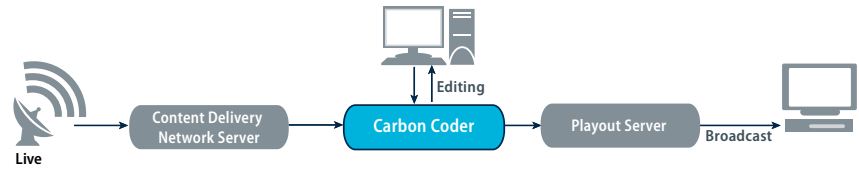
FTP transfers. Carbon Coder also provides intelligent transcoding to increase productivity by easily identifying source formats and intelligently transcoding them to the desired destination formats automatically.

Scalable Transcoding - For large transcoding tasks, multiple Carbon Coders can be configured as a transcoding farm, under the control of the Rhozet Workflow System software. WFS manages job distribution, prioritization, load balancing, FTP transfers, status monitoring and job notification.

XML-based SDK - Carbon Coder can be controlled directly via an XML-based SDK provided with the software. Every aspect of the transcoding process can be controlled by the SDK, including source/target destinations, transcoding parameters, filtering, compositing, ad insertion, titling, notifications, etc.

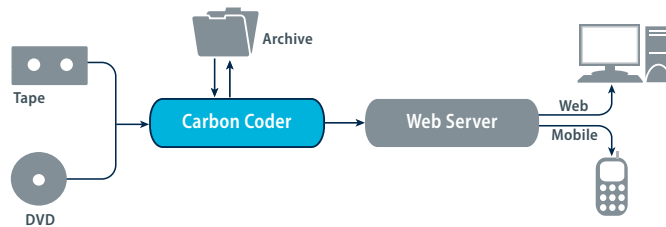
- Broadcast
- Webcast
- Workgroup

EXAMPLE CONFIGURATIONS



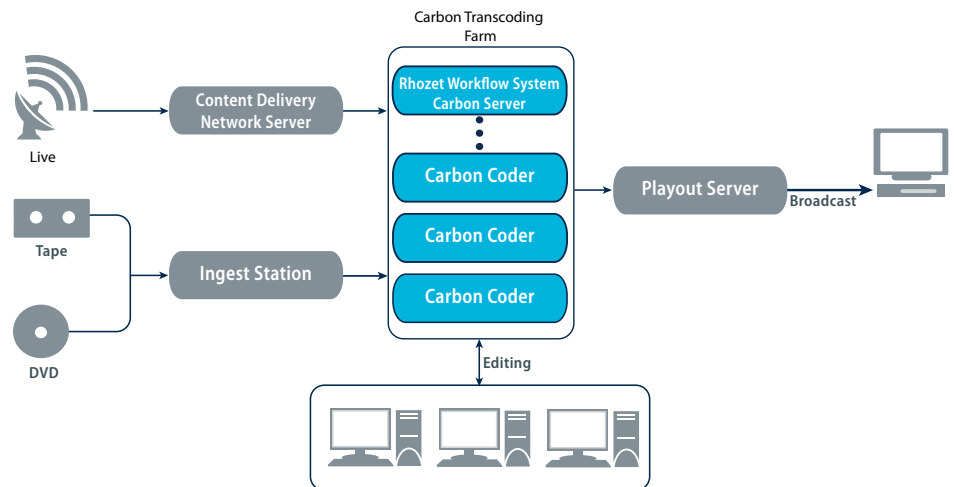
BROADCAST

Carbon Coder is used to convert from the format provided by the Content Delivery Network to formats needed within the broadcast facility. Content from the server can be converted directly to a playout format, or first be converted into an editing format. After editing, the finished program is converted for broadcast playout.



WEBCASTING

Carbon Coder is used to capture content directly from tape or DVD and then to convert it into a master digital format for storage in the archive. This provides maximum quality and flexibility for conversion to Web formats. Content is pulled from the archive, as needed, and transcoded into multiple final delivery formats, then pushed to the Web server.



WORKGROUP

Transcoding among a workgroup can be centralized into a transcoding farm of multiple Carbon Coder engines, under the control of the Rhozet Workflow System (WFS). This allows for automated processing of high-volume transcoding tasks, as well as preemptive special case jobs, managing job distribution, job prioritization, load balancing, FTP transfer, status monitoring, and job notification.

SUPPORTED VIDEO CODECS

- MPEG-1
- MPEG-2
- MPEG-4
- H.263
- H.264
- VC-1
- Flash
- DV25, DV50, DV100, DVCPPro
- DPS
- DivX
- JPEG 2000
- DNxHD, AVCIntra
- Image Sequences
- Windows Media, RealVideo

SUPPORTED AUDIO CODECS

- Dolby Digital
- Dolby Digital Plus
- Dolby E
- PCM
- RealAudio
- AAC
- AMR-NB
- Windows Media Audio
- MPEG-1 Layer II, MP3

BASIC OPERATIONS

- Frame size conversion
- Frame rate conversion
- Color space conversion
- Aspect ratio conversion
- Interlace/de-interlace
- Telecine/inverse telecine
- PAL/NTSC conversion
- SD/HD conversion
- Cropping
- Key-frame extraction
- Multiple target outputs
- Batch processing

VIDEO FILTERING

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

SUPPORTED MEDIA CONTAINERS

- AVI
- Quicktime
- HDV
- MXF (OP1a, OPAtom)
- MPEG-2 PS, MPEG-2 TS
- WAV, Broadcast WAV
- HTTP Live Streaming
- LXF, GXF
- WMV, WMA, ASF
- VOB
- 3GPP
- 3G2
- Smooth Streaming (H.264, VC-1)

SUPPORTED SYSTEMS

- ATSC, DVB, CableLabs
- Panasonic P2
- Sony XDCam
- Leitch VR, Nexio
- Grass Valley Profile, K2
- Omneon Spectrum
- Quantel sQ
- Avid MediaStream
- Apple Final Cut Pro
- Adobe Premiere Pro
- Grass Valley Edius

ADVANCED OPERATIONS

- Compliance checking
- Timecode imprint
- Subtitle/CC imprint
- XML controllable titler
- Metadata transport/conversion
- Line 21/CC conversion
- CEA-608 to 708 caption conversion
- Logo insertion
- 601/709 color space support
- Optional video capture board support
- Remote job submission
- Watch folder automation
- Segment extraction/insertion
- Teletext, STL handling

AUDIO FILTERING

- ITU 1770 Normalize
- Low-pass
- Fade In/Out
- Volume
- Dynamic range compressor

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