Stream 3.7 Software

Requirements and Licensing

System Requirements

Windows 7, Windows XP SP3, Windows Server 2008 or Windows Server 2003 32-bit operating systems.

Windows 64-bit operating systems are currently supported for systems with a Flux board (but not with other DRC capture boards).

Windows Vista Business and Ultimate Editions operating systems are also supported. Windows 2000 is no longer supported.

For Windows 7 and Server 2008 disable the UAC (user account control) before installing the Stream software (including drivers and the SxS assembly for the DRC Stream hardware). Keep the UAC disabled when using the Stream software.

For Server 2008 you must install the "Desktop Experience" option.

Please see the Known Limitations section at the end of this document for additional settings requirements and known limitations for specific operating systems.

Minimum system CPU: Intel Pentium 4 processor; Recommended CPU: quad-core at 2.4 GHz or higher

Registration

YOU MUST REGISTER YOUR PRODUCT TO OBTAIN A KEY TO UNLOCK PURCHASED FEATURES.

If you launch an unlicensed copy of the Stream software then a window will open with your product ID shown. This is the ID you need to register your software and obtain your key.

Go to http://www.digital-rapids.com/Support/Registration.aspx to register your product.

License

For Stream 3.7 you will require a license key for Stream 3.4 or higher. If you require a new key and your Maintenance period has not expired this new key is free. Please contact Digital Rapids Support for your new key.

Purchase of Stream 3 includes one year of Standard Software Maintenance. Software maintenance includes free "point upgrades" (e.g., upgrade from 3.3 to 3.4) and Standard support. Standard support includes phone and email support during regular business days from 10am to 6pm based on the time zone of the regional Digital Rapids Support Office.

Software Maintenance can be renewed annually. Contact Digital Rapids Sales or your Digital Rapids Dealer to purchase an additional year of software maintenance.

Stream 2 is no longer supported as of January 1, 2010.

Installation/Upgrade Notes

General Upgrade Note

When upgrading your software do NOT uninstall the "Digital Rapids DRHwAPISharedSxs" or "Digital Rapids Flux Support" components. The new components will overwrite the older components cleanly, and overwriting the older components with newer components will prevent possible conflicts that can occur on Windows XP in particular (but occasionally can occur on other versions of Windows as well).

Do uninstall the older version of the "Digital Rapids Stream" software. If you do not do this, then the installer will prompt you to uninstall the previous version when you try to install the new version.

For systems that include a Digital Rapids PCIe Flux board (DRC-6510, 6550, 4200, 4100, 3510, 3550, 2200 or 2100)

Install the 3 components in this order: (1) Flux drivers (2) DR Hardware Support SxS (3) Stream software

Once the Flux drivers have been installed, if your Flux board needs to update its firmware then you may see a message telling you that you must POWER CYCLE your system (shut down and turn off the power and then power on your system and restart). If you see this message then a reboot is not enough. This message will only be shown if it is necessary to power cycle your system to reprogram the board's firmware.

For systems with DRC-Stream PCI boards only (systems that don't include a Digital Rapids PCIe Flux board)

Install the 2 components in this order: (1) the DR Hardware Support SxS (2) the Stream software (which will include the drivers for your DRC board).

Reboot when the installer prompts you to do so

This is especially important if you are updating your software, or if you are installing the Stream software on a Broadcast Manager or Transcode Manager resource. If you have Digital Rapids C2 installed on the same system then you must reboot AFTER you finish installing the Stream software or the C2 software will not function correctly.

Note For those upgrading from Stream 1.5 or 2.x

Rebuild your codec profiles and projects in Stream 3. New sample codec profiles and projects will be installed with Stream 3. Codec Profiles and Projects saved in newer versions of the Stream software may not be useable in older versions of the Stream software.

Installation note for Windows PlayReady DRM

To use PlayReady DRM with your Smooth Streaming output you must also install the Microsoft Playready PC Runtime and Microsoft SOAP Toolkit 3.0. They can be downloaded from Microsoft's web site.

Installation note for the Updated Windows Media Codec

(This note does not apply to Windows 7, as Windows 7 includes Windows Media Player 12 so the Windows Media codec will be up to date.)

The Stream installer will detect which version (if any) of the Windows Media codec you have installed. If it is older than the codec installed with Windows Media Player 11, then you will see a window that recommends that you upgrade, and the installer will copy the required wmfdist_v11.exe file to your system. (On Windows XP systems this file will typically be copied to C:\Program Files\Common Files\Digital Rapids\WMF Installer\wmfdist_v11.exe.) After Stream has been installed, run this file to install the latest Windows Media codec.

Installation note for QuickTime

If you intend to encode to or transcode from QuickTime files, then Stream 3 requires the QuickTime 7 player to be installed. If you install **QuickTime 7.4** (or newer) the default codec list will be shorter then with previous versions of the player. To show the complete list, open the QuickTime player, select Edit > Preferences > QuickTime Preferences, then select the Advanced tab, and check the "Enable encoding using legacy codecs" box.

Note that the QuickTime H.264, AAC audio and AMR audio codecs are enabled in Stream 3 for Stream FE, but **not** for Stream LE.

Installation Options

The Stream Installer includes optional components that you will see if you select a "Custom" Setup.
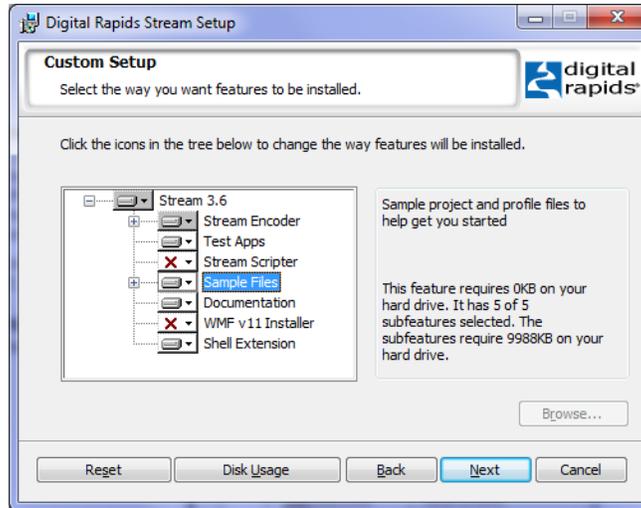
Digital Rapids Transcode Manager and Stream 3.7

If you install Stream 3.7 on a Transcode Manager resource ensure that all your Transcode Manager projects use system tags to create output files with a unique file name. There is a known issue where very occasionally (one in several hundred jobs) the Transcode Manager server does not get a response from the resource (the Agent system) for over 2 minutes, and then retries the job on another resource. After the new resource has started processing the job the original resource may then also start processing the job. If this occurs then you will see a job listed as "Discovered running" on the Jobs history tab in the Media Manager console, and you will have two output files created.

Tips for using StreamZHD software

For high data-rate HD capture direct your Output Media to the video RAID (4 or more drives striped together). If you attempt to capture uncompressed or high data rate HD video to a single system drive it will not be able to keep up and you will see dropped frames after the buffer fills to 100%.

For HD capture you can capture any resolution or frame rate to an uncompressed AVI or DRC Video file in real time. For capture to other codecs the real time capabilities will be dependant on the host system.

For HD capture using a DRC-5650 or 5600 PCI board:
For HD video capture you will need to install the board in a 64 bit slot running at 66 MHz or faster. These slots will typically be PCI-X slots. (The DRC PCI boards can be installed in PCI-X slots.)

Stream 3.7 Highlights

New optional encoding support for the Panasonic AVC-Intra format (in MXF and P2 structures)

64-bit Windows OS driver support for Flux capture and pre-processing hardware

New cue point insertion (onCuePoint) into live Adobe Flash RTMP streams (on-the-fly via Web Services API or from file) for triggering downstream events such as ad replacement

Enhanced AVC/H.264 encoding quality and performance

Improvements to pacing of live transport stream outputs

Insert Closed Captions from live sources or supported input files as subtitle track during encoding to MP4/MOV files

New and enhanced video and audio processing plug-ins:
- video fade to/from black
- audio fade in/out
- subtitle burn-in
- speed change: additional speed change supported (24 to/from 23.976 fps)
- video overlay: can now handle QuickTime 32-bit video file with alpha channel (previously the alpha channel had to be specified in a separate alpha channel file)

Support for Windows Media (ASF) multicast

Expanded XDCAM support: XDCAM in QuickTime MOV container

Expanded Avid DNxHD support: DNxHD in OP1a MXF operational pattern

iPhone/iPad: Added 608/708 closed captioning support.

iPhone/iPad: Added support for HTTP proxy for server types Akamai and HTTP.

New DFXP captions codec. Can convert CEA-608 captions into SMPTE Timed Text. Can be used to feed 608 captions in a live input to a Smooth Streaming processor.

Added a VBI-VITC Timecode trigger function when using an input from DRC Flux boards only.

Pulldown Plugin: Added support for 23.976p to 59.94p fps

Stream 3.6 Highlights

The Flux capture boards (DRC-6510, 6550, 4200, 4100, 3510, 3550, 2200 or 2100) as well as the DRC-5600 and 5650 can capture all of the SDI ancillary data. (This function is not available for the DRC-5550, 5500 or 5000 boards, or any other capture board.) The captured ancillary data can be preserved in GXF, MXF OP1A or MXF AS02 files.

When decoding a GXF file or an LXF file which includes ancillary data the 608/708 caption data can be preserved.

Dolby Digital AC-3 Pass Through function for Flux boards: If the input is an SDI input with AC-3 audio, then the AC-3 audio can be passed through to the muxer without decoding/re-encoding the audio.

iPhone/iPad Output via FTP: Added an FTP output option (previously only HTTP Put was supported)

Stream 3.5 Highlights

Added support for the DRC Flux 4200, 4100, 2200 and 2100 boards. Note that Stream 3.5 should not be used with any other board. This build is specific for the listed Flux boards.

Stream 3.4 Highlights

3D file encoding: Use 2 video source files (left eye and right eye) plus audio and encode them as an AVC side-by-side or top-and-bottom file.

JPEG2000 codec:
- Added support for YUV encoding and decoding and Y/C separted wavelet file decoding
- Added support for AS02 MXF muxing of J2K files.

Smooth Streaming:
- Playready support when using H.264 in a smooth streaming container (support for AVC PIFF format)
- Added support of multiple audio tracks (with different languages) to Live smooth streaming
- Enhanced fail-over support (for use in a Broadcast Manager installation)
- Added support of Low Latency Live Smooth Streaming.
(additional enhancements listed below)

Many iPhone/iPad enhancements (see details below)

Plugins:
- New Audio bit depth converter plugin.
- New Speed Up/Slow Down plugins for 24/23.976 to/from 25 fps (video and audio plugins)
- New Pulldown plugin has been added with various modes.
- Fixed the Deinterlace plugin so that it should once again deinterlace all footage.
- Added a new Intel Deinterlace plugin.
- Closed Caption Overlay plugin enhancements

Flux Hardware support:
- Continuous capture can now tolerate a large horizonal shift in the video and still do a clean switch
- Improved firmware programming and error handling

MPEG-4 timed text: Added support for 608/708 closed captions from a live source or an MPEG2 file to be inserted into an MPEG-4 file during the encode.

Stream 3.3 Highlights

Added support for the Digital Rapids PCIe Flux boards.

Made changes to support the Windows 7 32-bit OS.

iPhone/iPad: Added iPad layer option. Many Output option improvements.

JPEG2000 codec supports interlaced mode.

Added ASF script streaming option.

Added a new "Prepare" mode that can be used to put Stream in a standby mode so that the subsequent "Start" has a very low latency.

Stream 3.2 Highlights

Added a new Digital Rapids Streaming for iPhone codec. This codec uses the Digital Rapids AVC video codec, the Dolby Pulse AAC-HE codec, and an integrated transport stream muxer for making segmented files and the required index files. It also creates some basic html files that reference the index files.

The Dolby Pulse AAC codec is available for use with the Digital Rapids AVC for Web codec, for use in the group codec (with various muxers/wrapper) and with the iPhone codec.

Added the Kakadu JPEG 2000 codec which can be used to create JP2 image sequences and JPEG2000 wrapped in MXF (OP1A or OP-Atom). Note that only progressive images are supported at this time. (Interlaced JPEG2000 will be supported in a future release.)

When transcoding from files, Stream can now handle multiple audio input files as a source. Changes were made to the Input tab and to the Audio Channel Remapper/Selector Plugin. (Previously multiple audio sources had to be combined into one audio file before they could be used as a source in Stream.)

PlayReady DRM has been added as an optional output function for the Smooth Streaming processor.

Smooth Streaming optimizations have been made which provide significant improvements, and more layers per system.

The Digital Rapids AVC codec has been updated, and there are significant overall performance and quality improvements, particularly noticeable on faster multi-core systems.

A new MediaMesh output option has been added for interoperability with the Digital Rapids MediaMesh product. This output option creates the asset xml file that is required when submitting files to MediaMesh.

A new DRC Ancillary Data codec profile has been added for use with the DRC-5650 boards. This codec profile can be used with the GXF processor or can be used to make files that can be used by MediaMesh. To use this option enable DRC Ancillary Data using Options > Preferences > Appearance.

An optional Google fingerprinting plugin is available.

Stream 3.1 Highlights

Windows Media Smooth Streaming support in both Stream FE and LE. **Note:** If you are upgrading from Stream LE 3.0 you will need a new key to enable this feature.

Support for manual selection of AFD (Active Format Description) in MPEG2.
Note: AFD is not currently preserved when transcoding from MPEG2 or capturing from SDI.

Support for ad insertion points (SCTE35) from a text file when using the Manzanita Transport Stream muxer (in the group codec).

Red Camera file decoding available as a new, chargeable input option.

XDCAM HD 4:2:2 50 Mbps MPEG2 support with support for MXF wrapping in the group codec.

Stream 3.0 Highlights

New Plugins included in Stream FE

Audio Plugins: Level (Volume), Down Mix 5.1 to Stereo, Stereo to Mono, Channel Remapper/Selector
Video Plugins: Proc Amp, Black & White, Rotate 90 degrees, Burn in Timecode/Time of day
Third party DirectShow and DMO plugin support for both audio and video plugins.
New Optional Plugins:
Civolution Teletrax watermark plugin: embeds watermark and creates Teletrax log file; requires a dongle
Thomson NexGaurd watermark plugin: embeds watermark and creates NexGaurd log file; requires
license files from Thomson (generated from a Thomson system ID).
Note that CompoTrack plugin has also been updated to new SDK.

Closed captioning

Full CEA-608/708 DTVCC closed captioning support
If the source includes only 608 cc, then Stream will both embed that 608 and translate the 608 to 708 and
embed that in the 708 dataspace. (Previously in Stream 2.x and earlier Stream was not doing this 608 to
708 translation, and the 708 dataspace was being left empty.)
If an SDI source includes cc in the ancillary data then Stream is embedding the 608 and/or 708 found in
that ancillary data. (Note that in order to meet spec the HD SDI ancillary data is required to carry cc data
in both the 608 and 708 dataspace.)
Full CEA-608/708 DTVCC closed captioning been implemented for the following codecs:
MPEG2, VC1, AVC/H.264 (DRC Studio AVC and Ateme); also supported in drcVideo format
Additional codecs:
DVCPro/DV supports 608 closed captioning (there is no spec for 708 cc in DVCPro).
Preserving Closed Captioning when transcoding:
Closed captioning will be preserved when transcoding from MPEG2 with CC to other file formats,
specifically to MPEG2 and H.264 currently.

Caption retiming for Inverse Telecine (NTSC to Film):
When using the inverse telecine plugin the captions will be retimed from 29.97 fps to 23.976 fps.
Additional CC Tool:
Added a tool to insert cc into a H.264 file using an scc file as a caption source; this tool is included if the
customer has DRC Studio AVC or Ateme codecs.

New Codecs and Wrappers

DV, DVCPro 25, 50, 100/HD – in MXF, MOV, GXF, LXF or AVI; includes 608 cc preservation option

AES3 audio encoder codec is present when the MXF wrapper is enabled – supports SMPTE Formats
331M (for MXF D10), AES3-203 (MXF AES 3); AES3 audio decoding support is included for LE and FE.

New GXF reader – fixes bugs in previous GXF reader
GXF Wrapper (available as a Processor Profile in the group codec); can wrap MPEG1, MPEG2 or
DVCPro video, plus PCM/WAV audio

LXF reading – new input type
LXF wrapper (available as a Processor Profile in the group codec); can wrap MPEG1, MPEG2 or DVCPro
video, plus PCM/WAV audio.

Dolby Digital AC3 encoder – Implementation of the Dolby Digital Professional Encoder SDK
Options: Stereo File only, Stereo File + Live, Surround File only, Surround File + Live

Dolby Digital Plus encoder – Implementation of the Dolby Digital Plus Professional Encoder SDK; This
format can be used to provide audio for BluRay authoring.

New MOV Muxer for wrapping MPEG-2 D10 and DV/DVCPro. Also can be used to wrap AVC/H.264 plus audio. The output files can be imported into Final Cut Pro without additional rendering.

Reading Avid DNxHD which is wrapped in MXF
Writing Avid DNxHD – 8-bit and 10-bit support, all compressions supported; real-time encoding to VC-3 files (elementary stream video)
Wrapping DNxHD in MXF is supported. Import of these MXF wrapped files has been tested on Avid Media Composer.; Real-time wrapping of VC-3 in MXF is not possible on all systems. An automatic post-encode MXF wrapping step is recommended when capturing from live sources or VTRs.
(Note: Wrapping Avid DNxHD in MOV is planned for a future 3.x release)

Added SRT subtitle file codec profile (can be used for timed text)

Update to newer DR AVC/H.264 codec. This update is for both DR AVC for Flash and DR Studio AVC.
- more efficient, multithreaded (allows 1 slice real-time HD encoding on fast systems)
- Run 1080p in real-time on StreamZHD systems
- For 1080i (true interlace or MBAFF) in real time you must use one of the newer (faster) StreamZHD systems.

Support for RF64 WAV (WAV codec automatically uses RF64 if the WAV file grows over 4GB in size)

Broadcast WAV support as an option in the WAV codec profile. (Use the BWF Clip Information button.)
Note: only stereo Broadcast WAV files can be included in MOV, LXF or GXF files.
Note: when wrapped in MXF the metadata in the Broadcast WAV file is lost.

MXF wrapper: Added timecode track support; Only specific OP and encoders are supported.
Include starting timecode from the following encoders: MainConcept MPEG2, DR AVC, Ateme, DVCPro, Avid DNxHD; Also user-defined starting timecode is an option
Operational Paterns: Op1a, IMX, eVTR, XDCAM DV, Avid OpAtom

Added support for ASF/VC-1 captioning with a new script stream option for archive file creation only. (This is the type of captions that can be played in Windows Media Player.) Support for captioning script streams for live (broadcast) output will be addressed in a future build of the Stream software.

Stream Change History

Stream 3.7.2.b25 to 3.7.3.b32

Added a new chargeable option for SCTE 104 cue point preservation in RTMP when using DRC AVC for Web and a Flux capture board. Also added support to the group codec profile when using the RTP muxer to add a data track for this same purpose. Two new plugins were added to support SCTE 104.

Added support to the QuickTime encoder for 10-bit uncompressed YUV. When decoding these files in Stream you must select the DirectShow decoder for the video.

Stream 3.7.1.b21 to 3.7.2.b25

iPhone/iPad: Added support for HTTP proxy for server types Akamai and HTTP.

iPhone/iPad: Fixed a licensing bug that prevented closed caption support unless DR Studio AVC was also licensed.

New DFXP captions codec. Can convert CEA-608 captions into SMPTE Timed Text. Can be used to feed 608 captions in a live input to a Smooth Streaming processor.

The Smooth Streaming processor now supports a Data track which accepts closed captioning from the DFXP encoder specified by the user. (Note: only DFXP is supported. The dialog also shows SRT, but that is a bug – SRT is not supported.)

Smooth Streaming layers which use AVC/H.264 can now use different video structures, for example, main and baseline profiles, different numbers of b-frames, entropy coding mode, etc. (as newer versions of the Smooth Steaming player support this).

Added a VBI-VITC Timecode trigger function when using an input from DRC Flux boards only. For NTSC lines 16, 18, 14, 279, 281 and 277 are used. For PAL lines 19, 21, 332 and 334 are used.

Pulldown Plugin: Added support for 23.976p to 59.94p fps

Caption Overlay Plugin: Some languages did not have the proper support for all characters (e.g., Spanish)

Decoding Transport Stream with AC-3 audio: Fixed a decode bug that caused an audible pop at the start of the decode.

Stream 3.7.0.b16 to 3.7.1.b21

Video Overlay Plugin: Can now handle QuickTime 32-bit video file with alpha channel (previously the alpha channel had to be specified in a separate alpha channel file)

iPhone/iPad: Added 608/708 closed captioning support.

Stream 3.6.0.b24 to 3.7.0.b16

New output codec: Panasonic P2 compatible AVC-Intra in an MXF Panasonic OP-Atom. The output of this encode is the full P2 Card Data Structure with the required subfolders.

Plugins:
New Audio and Video fade in/out. Maximum fade duration is 5 seconds.

New Subtitle overlay: accepts a BDN xml subtitle file and 32-bit PNG graphic files.
Update the Speed Up/Slow Down Video/Audio: Extended to support 24 to/from 23.976 fps.

The Flux capture boards now have 64-bit drivers available.

Can now wrap DNxHD in MXF using OP1A. Stream can also decode these files.

Added DirectShow timecode source selection to the input Video Settings dialog. This allows you to choose between the timecode stored in the MPEG2 and the timecode stored in the MXF wrapper.

Increased the maximum number of audio channels that can be decoded in a QuickTime file from 16 to 24.

Updated DR AVC codec:
- Shows noticeable quality improvements in cross-fades when using VBR.
- Allow Level 5 to be selected and saved in the codec xml.

Added support for encoding XDCamHD using the MOV muxer. (Previously Stream only supported encoding XDCamHD in the MXF wrapper.)

Transport Stream Broadcast: Made improvements in pacing of the output stream.

MainConcept post encode MPEG muxer: Support for PCM and WAV audio
- Requires the user to supply information about the audio format (on the muxer dialog).
- When muxing a WAV file the file must be encoded without a header. There is a new setting on the WAV Archive output dialog to "Disable WAV header" for this purpose.

Dolby Digital AC-3 Decoder: When Stream is using the Dolby Digital AC-3 decoder the user can now set whether or not to use the Dialog Normalization setting in the metadata. (Previously just the Dynamic Range Compression metadata setting could be enabled/disabled for the decoder.) This is available on the Input tab in the Audio Settings dialog.

ASF Streaming: Added multicast output option. System tags can be used in the stream name and in the NSC file name.

iPhone Encoder - Allow user to specify the Level (up to Level 4.1) used in H.264 profile

Add a new user tag (system tags) for source file duration that can be used to name archive file names when transcoding %SRC.DUR_%. Also added %SRC.DUR% (which uses ":" and can't be used in Archive file names).

Audio VU meters during an encode: Working during an encode, for both the group and processor; when a group is previewed during an encode the VU meters shown as active correspond to the FIRST audio profile in the group.

RTP Streaming to External Server: Can now resolve server names, e.g., myhost.example.com. Previously Stream could only use IP addresses for the server name.

AVC for Web: Add live capture of 608/708 CC sources to the subtitle track in MP4 (MOV) muxer.

Support for live cue point insertion in a live RTMP stream. The cue points are inserted using the Steam web services SDK.

AVC for web RTMP streaming: Implemented a reg setting which will suppress the Unpublish call that occurs by default during connection to Flash servers. The default is still to call FCUnpublish on connect (this was introduced to resolve issues when a stream was stopped and restarted). However, this can now be suppressed when using a CDN that does not support it (e.g., NuLion).

Windows Registry Editor Version 5.00
[HKEY_CURRENT_USER\Software\DRC\KMRFCSpc]
"UnpublishOnConnect"=dword:00000000

Bug Fixes

The updated Flux 32-bit drivers include a bug fix for a rarely occurring bug that could lead to memory corruption or a bluescreen crash.

MainConcept MPEG2:
MPEG2 encoding: Fixed an issue where for a 1920x1080 codec profile the video quality suddenly dropped off when the CBR video bitrate was decreased to 11Mbps.
Fixed: Write Sequence End Code now working.
Fixed: Transcodes are now binary identical when XDS data is enabled.
Addition: When writing GOP timecode you can now use "Timecode from Source".

Input File - AVI files with DVCPro video could not be decoded in Stream 3.6. (Note: this worked in 3.4, the bug was only introduced in 3.6.)

Plugin - Graphics Overlay:
- Fixed an issue than caused an error when using an odd resolution image.
- Fixed an issue where the Frame Rate in the Plugin wasn't loaded correctly from a saved project and this affected the overlay timing on the encoded output.

The Inverse Telecine plugin was not changing its output format to progressive, causing problems with subsequent plugins that needed accurate interlace mode information (such as the Scaling plugin).

AVC for Web RTMP streaming to Akamai could fail after a reconnect. Akamai reports out of order timestamps. The muxer now calculates timestamps in the same manner as the FMS output classes when determining which sample to send next (using frame indices).

Fixed an AC-3 Decoder issue on XP systems where the wrong number of audio channels was detected and the audio preview was corrupted.

QuickTime file inspection bug fix: FPS of an MOV source file is now reported accurately in Stream.

Fixed an issue which caused invalid GXF output files to be created by Stream when DRC ANC data track is embedded.

Fixed an issue which caused MXF IMX files to have an "unknown duration".

Fixed an issue that caused LXF PAL files created by Stream to be seen as IMX files by Nexio video servers.

JPEG2000: Fixed an error when wrapping J2K in MXF OP1A with Timecode system track set to "Preserve from Source"
JPEG2000: When wrapped in MXF the chroma flag was incorrect; Fixed HorizontalSubsampling and VerticalSubsampling to define a 4:2:2 component sampling

Deck Capture
- When the preview is enabled and then you start the capture the preview no longer worked. Now it will continue to work (although it will take a few seconds to resume after the capture has started).
- Capture fails when capturing the second clip in the shot log when using a Flux card when concatenate is enabled and preview is turned off.

Smooth Streaming changes for Akamai: Stream now resends the FTYP, UUID and MOOV boxes in case of a disconnect from the IIS server.

Continuous Capture: Fix for: When using this with the Format Converter, the "Insert black frames after X seconds" will cause the capture to fail even if input is restored before the time specified.

DRC AVC encoded with CBR+Filler now has the correct 23.976 frame rate. (Previously there was an error which caused this mode to encode at 23.9713 fps.)

Stream 3.5.0.b5 to 3.6.0.b24

The Flux capture boards (DRC-6510, 6550, 4200, 4100, 3510, 3550, 2200 or 2100) as well as the DRC-5600 and 5650 can capture all of the SDI ancillary data. (This function is not available for the DRC-5550, 5500 or 5000 boards, or any other DRC capture board.) The captured ancillary data can be preserved in GXF and MXF OP1A or MXF AS02 files.
- To capture ancillary data: (1) enable DRC Ancillary data in the Options > Preferences > Appearance. This will add a codec profile for DRC Ancillary Data. (2) In the Group Codec add a muxer which supports Ancillary data and add a "Data" program to the muxer. (3) Add a DRC Ancillary Data codec profile to the Group Codec Profile and select it as the input for the Data program of the muxer.
- When capturing ancillary data you cannot use the format converter; that is you cannot change the frame rate, frame size, or convert interlaced to progressive.
- Note that when using the 1920x1080 23.987 psf format, that preserving 608/708 closed captioning as an ancillary data track into GXF or MXF is not supported.

When decoding a GXF file which includes ancillary data the 608/708 caption data can be preserved.

When decoding an LXF file which includes ancillary data the 608/708 caption data can be preserved. Added support for decoding LXF files with no headers.
LXF audio tracks were always downsampled to 16bps. It now correctly handles 20 and 24bps audio tracks.

Dolby Digital AC-3 Pass Through function for Flux boards: If the input is an SDI input with AC-3 audio, then the AC-3 audio can be passed through to a muxer without decoding/re-encoding the audio.
- To pass through AC-3 data: (1) In the Source Profile, in the Audio configuration dialog, enable the Pass Through option (2) add a Dolby Digital codec profile and enable the Pass Through option. (3) Add the Dolby Digital codec profile (with Pass Through enabled) to the Group Codec Profile and select it as the input for the Audio program of the muxer.

Dolby Digital AC-3 Decoding:
- Stream 3.6.0 includes a Dolby Digital decode filter. This filter must be enabled in the key. It will be enabled for new Stream 3.6.0 FE purchase, and can be added as a chargeable option to other Stream keys.
- By default when Dolby Digital is decoded it will not use the Dolby metadata to change the gain of the decoded audio. This is the normal, recommended transcoding mode for AC-3 decoding. If you have a special use-case where you do want to use the Dolby metadata to change the gain, then you can enable this using the audio Settings button on the Input tab.
- When using Transcode Engines with Stream 3.6.0, the default AC-3 decoding mode will be to not use the Dolby metadata. If you have a special use-case case where you do want to use the Dolby metadata to change the gain then you will need to upgrade to Transcode Manager 1.6. Transcode Manager 1.5 or earlier will not be able to use the Dolby metadata.
- If you do not have the Dolby Digital decode filter enabled in the Stream key, and are using a third party Dolby Digital decoder, that decoder will continue to function as it did previously.

Fixed an audio quality issue that occurred when using the Manzanita Transport Stream muxer to create a file that included 8 channels of 302M audio.

ASF Muxer: Added support for script streams in audio-only profiles

Closed Captioning Overlay Plugin: Improved the text readability by not attempting to anti-alias the text and only applying the mixer value to the background, and not to the text.

iPhone/iPad:
- iPhone/iPad Output via FTP: Added an FTP output option (previously only HTTP Put was supported).
- Note that FTP Passive mode is supported, but not Active mode.
- Use PUT as the default HTTP upload method (instead of HTTP POST).
- The default iPhone/iPad preset projects now run when the system OS is French Windows OS.
- iPhone Streaming to Apache server: Stream no longer tries to send the same segments longer than the set time out period.
- Note: The iPhone/iPad "Fail on server timeout" output option will not work if the system is running on Windows XP. (It does work when the system is running on Windows 7.)

MainConcept MPEG
- New decoding ability: Support for decoding a file which include more than one audio track with different audio formats, e.g. an AC-3 track and an MPEG Layer II track, or a stereo track and a surround track. For files which contain audio tracks which use different bit depths (e.g., 16 bits per sample, 24 bits per sample), all of the audio tracks will be use the higher bit depth for all audio tracks, padding the ones with lower bit depth with zeros.
However, for files which contain audio tracks where the different audio tracks use different sample rates (e.g., 48 kHz and 44.1 kHz), only the first audio track is decoded and other audio tracks are ignored.
- When using the MainConcept codec with the integrated muxer: Can now encode a Transport Stream file which includes PCM audio. Note that you still cannot use the Muxer tool to encode a Transport Stream file which includes PCM audio.
- Fixed: Can now once again make a CableLabs compliant Transport Stream file (with the correct AC-3 descriptor).
- Fixed: MPEG2 720p at 59.94 fps failed to encode when Closed Captioning from SDI Ancillary data is enabled.
- MPEG2 and XDS data (CGMA): Fixed an issue where some combinations of CGMS-A and Analog bit were producing corrupted XDS data.

Flux Boards and Deck Control
- Fixed an issue where Deck Control with concatenate enabled would fail.
Flux Boards and Continuous Capture
- When continuous capture is enabled Stream will now start an encode even if the specified audio is not present at the start of the encode. (As before, capture will continue if the audio is lost in the middle of an encode.)
- Continuous Capture preferences: Audio setting are now saved and displayed correctly in the dialog.

When using Deck Capture, during capture the preview window will show the video input that is currently being captured. (Previously during capture nothing was being shown in the preview.) It will take a few seconds for the preview to switch from the pre-encode monitoring state to the encoding preview state.

Fixed a bug where the preview would be blank if the preview was already running when you connected to the application remotely. (You could toggle the preview button to get the preview back.)
Avid DNxHD:
- Fixed: Avid MXF DNxHD 1080i59 file decodes back in Stream showing only the top half of the vertical resolution
- Fixed: DNxHD 10-bit Avid OP-Atom MXF file encoded in Stream from an 8-bit source decodes in Stream as a solid green video signal.
- Note: Avid DHxHD 220X files will now decode but 10bit data is not preserved, it is decoded as 8bit only.

Fixed: MXF with multiple audio was not using the specified audio routing order based on the Group Processor order.
Note: This fixes the Avid MXF DNxHD audio channel order - the channel order no longer has to be reversed in the codec profile. If you have an Avid MXF DNxHD codec profile that was made with a previous version of the Stream software which uses the reverse channel order, you must restore it to the correct channel order to make files with the correct channel order when encoding with Stream 3.6.

Smooth Streaming:
- Fixed a video/audio sync issue which occurred in long term Smooth Streaming encodes at exactly 27:03 (HH:MM).
- If the IIS publishing point is restarted the encoder now resends the startup stream information when it reconnects to the IIS publishing point. This is needed for error recovery due to server issues and/or network issues.

MP4 file decoding: Fixed a bug that was preventing some files from being decoded correctly (this bug was introduced in Stream 3.4, but was not present in earlier versions.)

Fixed the SRT Closed Caption encoder to properly handle roll up 608 captions. (Prior to this fix the last line of the captions was missing.)

Fixes to VU Meters:
- When there are multiple codec profiles with different audio configurations and different numbers of audio channels, the VU Meters no longer bounce uncontrollably between the different configurations.
- When monitoring audio from a group codec profile, only the audio of the selected codec will be monitored.
- When the VU meters are open in their own window they now display all the audio channels, not just the first 10.

LTC Trigger: Display LTC trigger info for the Flux cards, including the status on the main Stream gui. The tooltip has also been changed to "Timecode Trigger Indicator".

LTC Timecode: Fixed a crash that occurred when Stream was unable to detect LTC timecode from "LTC In". (This crash does not occur when using SDI-LTC timecode.) If Stream cannot detect the LTC timecode the encode will now fail with an error: Failed to capture timecode.

Microsoft VC-1 codec: Fixed a bug that prevented the Microsoft VC-1 codec profile from encoding when changing from Advanced Profile to Main Profile. (However, there is still a problem when changing from Advanced profile to Simple profile.)

JPEG2000 interlaced in MXF:
- Changed the frame layout for interlaced J2K from "Single Field" to "Separate Fields" (for better compatibility with other decoders).
- Changed the chroma flag that is being used when wrapping J2K in MXF so that it is now correct for 4:2:2 component sampling.

WMV encoding (using the integrated WMV codec profile): Created a TBC setting that can be used for long term WMV encoding on Flux boards. (The previous TBC setting only worked on non-Flux boards.)

Better import of film-based ALE lists which use 24 fps.

Updated the Civolution NexGuard SDK to v.5.2.
- Note that only a single instance of this plugin is allowed in a project. That is, you cannot use a project which includes multiple codec profiles and apply a NexGuard watermark to each codec profile.

The Ateme codec has been completely removed from the Stream software. Projects that include the Ateme codec that were made with earlier versions of the Stream software will not run in Stream 3.6.

Broadcast Manager: Fixed an issue where single channel DRC-2100 and 4100 boards were seen as 2 resources in Broadcast Manager, even though only one of those 2 channels could be used.

Stream 3.4.0.b35 to 3.5.0.b5

Added support for the DRC Flux 4200, 4100, 2200 and 2100 boards.

MainConcept MPEG Timecode: The drop frame flag was missing when the timecode was set to auto increment mode. This has been fixed.

iPhone: An issue where iPhone/iPad layers sometimes failed to encode unless the audio only layer was the first layer has been resolved.

The following bug fixes are in 3.5.0 and are also available as patches for Stream 3.4.0.b35:

Fixed GXF/LXF decoding issues. When previewing GXF and LXF files in Stream the playback appeared to be ok, but when transcoding to various output formats various problems occur on the transcoded output (e.g., Audio/video sync problem, repeated/skipped frames in the video, bad macroblock artifacts after about 10 seconds). This was caused by the way the decoder was handling the timestamps for MPEG2 long-GOP video.

Fixed an issue when using GXF and MXF file sources in Transcode Manager, where these files could only be decoded unless DirectShow was explicitly picked as the file type. With this fix GXF and MXF source files can be decoded when the file type is set to auto mode. (This issue did not affect Stream, only Transcode Manager.)

iPhone streaming: The default method of sending files to a server is HTTP Post. There is now a registry setting that will allow you to change this to HTTP Put. HTTP Put is required when using an Apache server for iPhone/iPad streaming.
        Windows Registry Editor Version 5.00
        [HKEY_CURRENT_USER\Software\DRC\KMiPhoneSpc]
        "UseHTTPPut"=dword:00000001

GXF and MXF projects: Fixed an error when loading older projects that included GXF or MXF.

Flash Media Server acknowledgement time: The default time is 2 second. The setting can be increased by applying a registry setting with the time in millisecond (in Hex). The wait period is the time for an acknowledgement for all commands published to any FMS server. For example, to set it to 5 seconds (5000 decimal = 1388 hex):
        Windows Registry Editor Version 5.00
        [HKEY_CURRENT_USER\Software\DRC\KMRFCSpc]
        "FMSAckWaitTime"=dword:00001388

Fixed an issue where Smooth Streaming outputs could no longer be sent to an Akamai IIS server (but worked when being sent to a local IIS server).

Flash RTMP streaming now supports 48kHz AAC audio and 48kHz AAC HE V2 audio. (Previously 44.1 kHz audio was supported, but not 48kHz audio.)

Stream 3.3.3.b47 to 3.4.0.b35

Licensing: Stream requires a new key that includes the Stream 3.4 version number.

Installer: Minimum DRHwAPIVersion required for Stream 3.4.0 is API 0.1.713.
The Installer now checks for the minimum version of the SxS (not the exact matching version). This will allow installed versions of Stream to use newer versions of the SxS and newer Flux driver builds.

3D file encoding: Added the ability to use 2 video source files (left eye and right eye) plus audio and encode them as an AVC side-by-side or top-and-bottom file. Note that you must set the SEI messaging flag in the AVC codec to indicate the type of frame packing to use during the encoding.

JPEG2000 codec:
- support for YUV encoding and decoding and Y/C separated wavelet file decoding
- support for AS02 MXF muxing of J2K files

Smooth Streaming:
- Playready support when using H.264 in a smooth streaming container (support for AVC PIFF format)
- Added support of multiple audio tracks (with different languages) to Live smooth streaming
- Smooth Streaming: Added support of Low Latency Live Smooth Streaming. (Using the low latency feature requires updates to the IIS Server and to the Silverlight player.)
- Better fail-over support: The startup time of the encoder can now be the number of seconds since a date/time in the past. If the two encoders are synchronized (NTP provides sufficient synchronization) this provides better failover. The start time can also be a custom system time. This change also allows for the encode to be started and stopped without having to restart the server publishing point.
- Added an option to stopping the publishing point at the end of the live encoding.
- Auto-reconnect: Can now configure the behaviour of the encoder when the connection to the server is lost during a live presentation.
- Auto-reconnect for Smooth Streaming container: discard the MP4 fragments when the connection to the IIS server is lost.
- Fixed the bug that was causing some streams to be closed and others to remain open.

Allow for an individual muxer within the group processor to fail, but allow for the rest of the group processor muxes to continue.
Example of a use-case: Redundant publishing points used in a live streaming scenario (e.g. Smooth Streaming). You can create a single Group Profile with multiple muxers. Each muxer can stream to a different publishing point. All muxers in the group can use the same encoded layers (that is, the layer is encoded once and then sent to more than one muxer in the group) to save on system resources.

VC1 Encoder now sends the source timecode to the muxer.

Plugins:
- New Audio bit depth converter plugin.
- New Speed Up/Slow Down plugins for 24/23.976 to/from 25 fps (video and audio plugins)
- New Pulldown plugin has been added with various modes.
- Fixed the Deinterlace plugin so that it should once again deinterlace all footage.
- Added a new Intel Deinterlace plugin.
- Closed Caption Overlay plugin enhancements

Flux Hardware support:
- Continuous capture: when switching the video from one source to another the board can now tolerate a large horizonal shift in the video and still do a clean switch
- Improved firmware programming and error handling
- When updating to 1.7.13 a rev. 2 board will need to be power-cycled, while a rev. 3 board will just need to be rebooted.

- Fixed a bug that prevented the Auxillary 9-pin connector on the extra bracket from being used for deck control.
- Added info on the Input tab for Flux boards: Add info fields to the input tab for the Source Data Format and the Capture Data Format. The Source Data Format will change with the input format while the Capture Data Format is obtained from the Source Profile.

iPhone/iPad enhancements
- Improved the stability of the TS muxer when faced with network upload limitations.
- Exposed advanced TS settings for MinSampleSize, InitialBufferSize and NonblockingMode for iPhone projects.
- Excessive amounts of PAT and PMT data was present in output files. Now they are present only once at the begging of each segment.
- Update HTTP put to accomodate Akamai's requirements. (If the server type is Akamai then remove the MKCOL command from our upload method.)
- Support for HTTPS upload.
- Added an "Add HTML File" option to the Output dialog (to make it backwards compatible with the earlier implementation in Stream pre-3.3)
- iPhone/iPad info is shown in Help>About as iPhone Streaming (previously nothing was shown in Help > About for this codec).
- Fixed an issue for iPhone live streaming fails validation (segment not found)
- Changed the "Max Connection Attempts" setting to a "Fail on server timeout" setting that is used when the encoder encounters a time-out on the upload of a segment.

MPEG-4 Muxer:
- Added support for timed text to be captured from the 608/708 closed caption data in the input (live source or MPEG2 file)
- Fixed the bug in the MPEG-4 muxer that was causing the closed captions from SCC to no longer be displayed in QT player. (Due to an SCC file change in an earlier 3.2 build made specifically for Pharos servers.)
- Added an option in the MPEG4 Muxer configuration dialog box in order to force the branding of the output file to "ISO".
- Timed Text: Coded the extended ASCII to UTF-8 conversion in order to handle special characters.

Updated AVC/H.264 decoder:
- MP4 files will now decode using DirectShow by default (previously it was QuickTime).
- This new decoder fixes the issue where MP4 source files were incorrectly reporting the interlace mode.
- AVC files muxed in a Transport Stream can now be decoded
- Elementary stream AVC files can now be decoded

MainConcept MPEG2: updated codec with new interface
- Older MainConcept codec profiles will load and can be re-saved to use the updated codec.
- SMPTE 328M timecode (picture-based timecode) implemented for both encoding and decoding. Note that this type of timecode permits discontinuous timecode to be captured.
- GOP timecode (where the timecode is only written into GOP headers) can no longer use timecode from the source. Use the SMPTE 328M timecode if this is required.
- Updated MainConcept decoder has been integrated. This resolves an issue where occasionally double frames were decoded.
- Implemented preserve closed captions when transcoding MPEG-2 to MPEG-2 with frame rate conversion. (implemented a CC queue to handle skipped/duplicated frames.)

Field order handling for source files: Added an override setting for field order on the Input tab in the Video section using the Settings button.

QuickTime: Files will now still decode after Calibrated XD has been installed. (This will fix: Does not decode HDV2 QuickTime files.)

Fixed an issue with QT files containing multiple audio tracks causing the decoding to fail in Stream.

Omneon wrapper now supports MXF OP1A output.
Fixed a bug where some Omneon XDCAM MOV source files had problems decoding the audio. This required a change in the channel layout label for certain types of MOV files.

Updated the RTP/RTSP streaming, in particular the SDP and Announce code.
Changed External Server's default ports to video = 6980 and audio = 6982.
Added the ability to specify the maximum number of Access Units per packet.
We now also expose this option in the Dicas profile dialog: SetMaxAUPerPacket (default = 10)

Dicas: No output file was written if the audio bit rate for HE audio was too low for the given sampling rate. Now the codec profile dialog will warn you if you try to save the codec profile with an audio bit rate setting that is too low.

MXF Wrapping:
- Allow the user to include a timecode track (as per SMPTE 326M and SMPTE 385M)
- Added extraction of 608 and 708 captions from the MXF ancillary data track.
- Fixed: Starting timecode for XDCAM-HD MXF outputs files is incorrect for 50 and 59.94 fps profiles
- Added support for AS02 MXF wrapping. Used to wrap J2K and MPEG2.
- When the DRC-5650 board is used, the Anc data captured can be inserted as an MXF data track.

Updated Manzanita Transport Stream Muxer:
- Exposed advanced settings for MinSampleSize (minimum number of bytes to deliver of video stream per muxer request), InitialBufferSize (video), and NonblockingMode (transport).
- Changes to dynamically resize video buffer if necessary based on bitrate.
- Exposed 2 new params: Audio.BDbuf (Bluray Disc buffer model for AC-3, DD+, and DTS) and Muxer.VBR.
- Now allow read access to archive file output during muxing.
- Fixed an error with incorrect DVB access units.
- Implemented a VBR option to offer zero null packets. There is also is flag that can be set that will remove the null packets from every transport stream which will also provide the ability to create CBR files with null packets removed.

Sony PSN Muxer:
Made some modifications to how PS2 subtitles are handled. The track order now matches the alphabetical order of the subtitle files. (It does NOT attempt to use the language indicator in the file as previously.)

MXF and GXF source files will now automatically be recognized as DirectShow file sources. (Removed MXF and GXF from the Media File input drop-down box.)

GXF muxer: Added options to create striped and HD timecode tracks.
Added the option to include an ancillary data track. This requires the use of the DRC-5650 board to capture the ancillary data from the source.

Added AES audio as a possible option for the Elementary Stream Archive Muxer.

Bug fix: Can now encode 10-bit input to Cineform codec.

In the Input, for Media File input, the number of audio files that can be added has been limited to 32 files. (This prevents an out of memory error.)

The On2 VP6 codec now supports time-code insertion.

Sorenson ACE is no longer a supported codec as of Stream 3.4.

Stream to 3.3.2.b28 to 3.3.3.b47

Adobe Flash Player and Live RTMP streaming of DR AVC/H.264:
When using Flash Player 10.0 there are no known issues with B-frames or A/V Sync.
When using Flash Player 10.1 and Stream 3.3.2 with B-Frames the playback stuttered. Stream 3.3.3 has changes to changes to the RTMP output so that when B-frames are used the output will play in this version of the player without stuttering. Note that you must use a closed GOP when encoding for live RTMP streaming with B-frames.
However, when using the latest release of the Flash Player 10.1 and Stream 3.3.2 or 3.3.3 to play back a live stream there can be an A/V Sync issue in the playback (from a barely noticeable amount to around 1 second). Note that if same live stream is played back in a 10.0 player it will not exhibit any issues.

QuickTime uncompressed files will now load in Final Cut Pro without requiring rendering.

iPhone/iPad: The encoder will no longer fail the encode if it is unable to delete an expired segment, folder or encryption key.
Also fixed a temp file conflict when 2 instances of Stream or of a Transcode Engine was running on one system, each with its own iPhone/iPad encode.

Flux driver updates:
- This version of the drivers includes a new "Continuous Capture" mode. This allows the board to continue encoding even when the input is temporarily lost, or a new signal is acquired (with the board automatically locking to the new input), or when using the format converter to go to a selected output and the input switches to a new format. There are new Continuous Capture options on the Input tab in Stream.
- New firmware changes were introduced to make these boards compatible with a wider range of motherboards.

Closed Captioning: Changed how Stream interprets the carriage return. This change allows SCC files to work with Pharos proxy playback or iTX playout. The problem was specific to roll up captions.
Note: This causes an issue with closed captions embedded in the mp4 muxer. Please contact DRC support if you require a work-around for this issue.

Fixed a transcode issue when using multiple audio source files where occasionally one of the audio channels would start before the video and the other audio channels (resulting in an A/V sync issue where the audio channel led the video and other audio channels from the beginning of the file with no drift).

Fixed an issue that prevented Stream from encoding 10bit input to the CineformHD Encoder v2 compressor codec.

ASF Muxer and Script Streaming: Changes for script streaming issues that were found when testing web service sample client.

Stream to 3.3.1.b24 to 3.3.2.b28

iPhone Streaming: made changes to support the new OS4 (this required changes in the TS)

Previewing for iPhone: Find the highest resolution layer in the iPhone codec profile for previewing

Smooth Streaming output: Archive is no longer enabled when a project is reloaded (if it was disabled in the original project)

Encoder error is triggered when group codec profiles are added/removed from the GUI

Updated On2 codec (now includes timecode streaming support).

Changed how multiple instances of Stream are identified. This solves an issue when using Media Manager to talk to multiple Broadcast Manager resources.

When using Broadcast Manager encoding resources that include Flux hardware are now being detected.

Flux SD capture boards DRC-3550 and DRC-3510 are also now supported in Stream software.
Note: When creating a source profile for the Flux SD capture boards you cannot use source profiles that do frame rate conversion. If you create such a source profile it will not work.

Stream to 3.3.0.b22 to 3.3.1.b24

Fixed an iPhone/iPad license key issue: Projects were not working if an iPad layer was present and the iPhone/iPad feature was in the key but not the DR AVC for Web or DR Studio AVC feature.

iPhone/iPad projects that include an iPad layer will now encode for more than 12 hours.

Smooth Streaming live: added a parameter to select the start reference time.

Stream to 3.2.1.b29 to 3.3.0.b22

Added support for the Digital Rapids PCIe Flux HD capture boards DRC-6550 and DRC-6510.

Made changes to allow Stream to run on the Windows 7 32-bit OS.

Using DirectShow Filters in Stream 3.3:
Stream will load its own filters when decoding files and will only look for third party decoding filters if none of its decoding filters apply. This means that any third party decoding filter that you add to the system will not be used by Stream unless you un-register the default filter used by Stream so that it is no longer available.

This change was necessary because Windows 7 includes a Microsoft DTV-DVD video decoding filter that will normally override other DirectShow filters on the system even if the other filters have a higher merit. On a Windows 7 system, if you want to use a third party decoding filter, as well as un-registering the default filter used by Stream you will also have to disable the Microsoft DTV-DVD video decoding filter for file types that it can decode (e.g., MPEG1, MPEG2 and H.264). Please contact Digital Rapids support if you need more information about disabling the Microsoft DTV-DVD video decoding filter.

Added a new "Prepare" mode that can be used to put Stream in a "started-standby" mode so that the subsequent "Start" has a very low latency.

Trigger Settings: Added a new Pause Encoding triggering option (for use with GPI triggers) with two modes: Pause and Resume

DRC-500 Drivers: Corrected analog video levels (black levels were too high).

iPhone/iPad: Added an iPad layer option which uses AVC Main Profile instead of Baseline Profile.
New audio only layers option to include a jpg image.
The iPhone/iPad Output has been reworked:
- enable writing of alternate publishing points in playlists (for failover)
- encryption changes: auto key and auto rotating key (key generated by Stream software)

- allow caching option (caching on player)
- added a max connection attempts setting
- Separate settings for file writing locations (playlists and segments) and the retrieval link written into the playlists (for playlists, segments and keys)
- Creation of separate playlists for the iPhone (baseline layers only) and for the iPad (all layers, baseline and main) in one encode
- restricted the segment length to 60 seconds

Manzanita Transport Stream muxer: added support for 302M audio.

Added ASF script streaming option. Command scripts can be read from a file (with files using the same format as Expression Encoder), and can be added either in the header or as a separate stream.
(Stream SDK: can now send messages to a muxer for script streaming during encoding.)

SCC Encoder, SAMI Encoder and the SRT Encoder:
Added the option to select the 608/708 closed caption source from SDI Ancillary data. (Previously the only option was "From Video (VBI or file)".

New Closed Captioning Overlay Plugin: Inputs are "From Video (VBI or file)", SCC file, STL file

JPEG2000 codec now supports interlaced mode.

Added support for the Vobile VDNAIngest Tool. This tool will create a Vobile fingerprint file (.far file) for the specified media file. This tool can be run using the Stream\VDNAIngest\vdna.bat file.
Before using this tool it needs to be initialized. This requires a connection to the internet. Open the Command Prompt window, change directories to the Stream installation folder and type:
```
vdnaingest\vdna auth
```
This will authorize the VDANIngest tool. You only need to do this once. After the tool has been initialized the Ingest will be done locally, and a connection to the internet is no longer required.

Currently the Vobile vdna.bat Batch file will take the following Parameters:
arg 1 = auth or ingest (required – auth only required once for authorization as detailed above)
arg 2 = Media File Path (required for ingest)
arg 3 = Far file path (if not provided it will use Media File Path and append .far to it)
Here is an example of a Command Line that can be used in Stream in the Command output:
```
vdnaingest\vdna ingest %PROF.ARCHIVE.FILENAME% d:\%PROF.ARCHIVE.FILENAME.FILE%.far
```

Updated the Dolby Pulse codec. There is now a "No Metadata" option. (Some software players could not handle Dolby Pulse metadata.)

DR Studio AVC and AVC for Web codec
Added "displaywidth" and "displayheight" to the avc profile sent to the muxers.
Add Multi-Threading settings. These are mainly used when encoding with a DRC-5650 board.

RTMP Broadcast:
Added "Server with authentication" mode which uses the "generic" FMS authentication.
Allow user to specify number of retries on server connection error. Changed default number of connection attempts to 15. When reconnect count = 0, then retry indefinitely.
Added FCPublish/FCUnpublish calls to FMS streaming.
(Stream SDK: Ability to insert metadata using the web services API.)

RTP Muxer: added support for low bitrate MP3 audio; added support for MP3 profiles with sampling frequency of 48kHz, 32, 24, and 16 kHz.

Thomson MP3: Improved codec performance (now uses less CPU for an encode).

MPEG-4 Muxer:
Added Chunking Mode and number of GOPs per chunk parameters.
Added Fragmenting options.
Added the option to include a Flash Timecode Track.
Added a Flash System Time metadata option.

Optimized the Deinterlace plugin and Inverse Telecine plugin so that they are once again as efficient as they were in 3.1. (They were slower in 3.2 only.)

Removed the "essence type" field from the MXF dialog as is now read by the muxer directly from the codec profiles.

MediaMesh Asset Output:
- MediaMesh asset creation can now use the output of group codec profiles with system tags (e.g., for ASF proxy files).
- includes the ability to add extended metadata to MediaMesh assets via the ca.digitalrapids.mediamesh.assettemplate system property file.

Fixed: Encoder error is triggered when group codec profiles are added/removed from the interface.

Fixed a bug that was encountered when trimming long MXF files (due to an audio duration issue).

Microsoft Smooth Streaming:
Force the fragment duration to be equal to the chunking duration for Smooth Streaming. Also force the number of GOPs per fragment to be equal to the number of GOPs per chunk.

Dicas: When encoding Basline profile it failed to encode. It was failing because the number of B-Frames was not correctly being set to 0 (default is 3) and the Adaptive B-frames was not being set to off (the default is on). Selecting Baseline will now disable these 2 settings.

Fixed a bug that prevented DVD authoring from working when using Transcode Manager.

Stream 3.2.0.b22 to 3.2.1.b29

Fixed the iPhone encryption function.

When using a clip list to encode concatenated clips that include Dolby Digital audio (AC-3) there was an issue where audio padding was added at clip boundaries which caused A/V sync issues.

AVC for Web and Dolby Pulse AAC: When the Dolby Pulse codec is opened from the AVC for Web interface the default sample rate will be set to 44.1 kHz. This change was made because RTMP streaming only supports 44.1 kHz, and not 48 or 32 kHz.

JPEG2000 Encoding: Fixed a bug that prevented the compression setting entered by the user from being used for the encode.

iPhone: When using the Live Streaming broadcast option any required Temp folders & Files will now be created in the Output Folder.

RTMP broadcasting:
- Added a "Max Connection Attempts" setting. This is the number of times the encoder will attempt to connect to the FMS before the encode fails. When this number is set to 0 the encoder will keep retrying indefinitely.

- Now uses the FCPublish at the start of publishing to a Flash Media Server with the "no username or password" option. This allows the RTMP broadcast to be used with additional CDNs (for example, with Level 3).

The MediaMesh asset output is now also available when encoding MXF files.

DRC-5650 Preview Playback render filter: Fixed a bug that could cause incorrect frame selection depending on the DirectShow video media sample timestamps.

Broadcast Manager and Transcode Manager related bug fixes:

Fixed a bug that caused Broadcast Manager resources to be missing when you were within 30 days of the maintenance expiry date.

Fixed a bug that was causing multiple Broadcast Manager encoders all installed on one system to interfere with each other. For example, if two hardware resources were on line, and one was taken off line, and that off line resource was launched with the Stream interface to allow project creation, at that point the Broadcast Manager server could become confused as to which encoders it was controlling and which encoders were being controlled directly via a Stream interface.

When using Transcode Manager, occasionally the Transcode Manager Server was not getting a response from the resource (the Agent system) for over 2 minutes, and then was retrying the job on another resource. After the new resource started processing the job the original resource could then also start processing the job, and you would see a job listed as "Discovered running" on the Jobs history tab in the Media Manager console, and you would have two output files created. The response time is now faster, which should prevent this issue from occurring.

Stream 3.1.2.b36 to 3.2.0.b22

Digital Rapids AVC for Web can now use Dolby Pulse AAC (as an alternative to Nero AAC). This will be the default AAC codec for new purchases. To update the AAC codec in an existing Digital Rapids AVC for Web codec a Dolby Pulse license is required.

Fixed an issue when embedding translated 608 to 708 closed captions into an H.264 file, as well as a closed captions roll-up style translation error.

Smooth Streaming:
Many new speed optimizations, which are used in the installed sample projects.
Added support of port number for live smooth streaming.
Added support for AVC/H.264 for live smooth streaming.

Digital Rapids AVC has a new advanced setting for CPB removal delay.

Bug fix: Hardware Audio Process settings were being reset if you did not save the project before choosing another codec profile in the same project before saving the project, or when adding a new codec profile.

When you load a source file into Stream it now shows the interlaced or progressive information that Stream detects when loading the clip.

QuickTime source files: allow use of up to 16 channels of audio (previously limited to 8).
Also allow up to 16 channels of audio masking when using clip lists and watch folders.

QuickTime default Hint settings: changed to a value that does not cause the encode to crash.

Fixed a QuickTime multiple mono tracks issue, where only the first audio track was being decoded.

Deck tracking mode is now enabled when deck control is authorized. Previously it was only authorized for FE, which meant that the Stream LE + Deck Control option could not access those tracking modes.

WM DRM option now includes support for Irdeto Dayport.

Fixed an issue where an audio only Transport Stream Mux was failing (Stream now forces init load and InNau > 0 for audio only muxing).

Fixed an audio plugin bug when using Media File Input and concatenate mode, where only the first clip was using the audio plugin.

Remove Copper 1 output from the Stream interface.
Fixed an error that was triggered for multiple MP4 group profiles when progressive download is enabled. This also fixed a related issue in Transcode Manager when transcoding using simultaneous post progressive download steps.

Fixed a bug where the Post progressive download step for MP4 intermittently fails when the output directory is open in Windows Explorer.

Change to MPEG-4 muxer: Integrated a new post-process speed optimization.
When the source duration is known (e.g. when transcoding from a file, deck capture, duration trigger, file with In and Out points defined) then the muxer's progressive download or fragmented functions will automatically allocate space for the moov atom at the beginning of the file. Then the moov atom is written into that space at the end of the encode, but there is no longer any need for the entire file to be rewritten and for a temp file to be used.
If the duration is not known, or if the estimated duration was shorter than the actual duration, then Stream still runs the post-process step as before. If the duration is set to 0 then this optimization step will not be used, and the old method will be used again. The only advantage to the old method is that using the new method will result in some null packets at the beginning of the file if the space left for the moov atom is bigger than the required space.

There is now error propagation when the muxing fails (previously muxers could not display errors).

Added metadata to the RTMP stream to obtain the Stream Version String in the format:
"Stream/3.2.0b18". This is used as the metadata value for the "flashVer" name.

Fixed a crash that was caused when capturing Closed Captioning from SDI ancillary data when the ancillary data is no longer present.

The DirectShow AVI codec default frame size is now set to 720x480 if the video standard is NTSC and 720x576 if the video standard is PAL.

RTP Streaming:
The o field in the SDP file:
Added user Name field to the broadcast Dialog for Native RTP and Dicas RTP. This user field is entered in the o line of the sdp file.
Note: To accommodate the new Name field projects that use RTP with SDP that were created in previous versions of Stream will have to be opened and re-saved in Stream 3.2 before they can be used.
Fixed a problem that caused the sdp file to have 2 lines for video in for when the video is H263.

Dicas: Integrated the new Dicas SDK 3.5.5.
Added Adaptive B-Frames in the H264 Dialog.
Fixed: Stream stops encode when Time out period is reached for multicast streams.
Fixed: Dicas streaming project fails to write sdp file if a network disconnect has occurred.
Fixed: Max bitrate setting for ARB and ABR 2pass modes was not applied to the encoded file.

A new AAC-HE beta codec from Dicas has been included as an option.

MXF: Timecode is now being read from the MXF wrapper's timecode track; This means that timecode can now be persevered during a transcode from MXF.

Fix for failed to transcode XDCAM422/AES3 in the MXF Processor. Issue was that AES mono files were being detected as stereo by the MXF Processor.

Stream can now decode the output of XDCAM HD422 MXF files (using an updated MainConcept decoder solves the problem with XDCAM HD decoding).

Added an error message for: Total number of high resolution video frames in a MXF file must be even.

LXF Processor: A starting timecode option was added to the processor.

The following muxers will now force users to enable the archive option (returns an error if it's not enabled): LXF, GXF, MXF, MP4, Elementary Stream

Time Code Overlay Plugin:
Offset shown in percent rather than in pixels. Offset X & Offset Y: default to 0.5 and 0.8.
Ability to specify the burn-in to be shown in frames rather than timecode.

Fixed a bug where the On2 archive was enabled when the user added another codec profile that requires archive output.
On2 VP6 Transcode Manager issue: Fixed default module height/width value for On2 codec from 16 to 2.

Fixed: Changing the default directories in menu Options>>Preferences incorrectly adds a "slash".

Added ability for the SCTE 35 filename to reference System tags (SCTE 35 = the Ad insertion feature in the Manzanita muxer).

Manzanita TS muxer now succeeds when default settings are used to mux an AVC Interlaced top field first video. The video bitrate reported to the muxer was too low, which was causing the failure.

Fixed: Encoding won't start when switching from video only to audio only encoding mode. This bug affected all codecs.

Fix for a crash that occurs when SDI VITC1 Timecode trigger is used and the encode is stopped before the SDI VITC1 Timecode trigger is reached.

Change batch error message related to audio config:
"The hardware audio inputs are only configured for the Batch Master codec when using Batch Mode."

Fixed: If you preview after changing the source profile you were seeing "Encode Error: Failed to set the audio level". This no longer occurs.

Red file decoding: Update SDK to use R3D SDK v2_3_R176

Fix/clarification for HD AVC profile set to 2 ref frames or more fails with level limit exceeded (caused by internal doubling for interlaced mode, but obeying the MBAFF restriction of max. of 3 ref frames).

Update to Omneon SDK v5.5.0.

Fix for a problem where Media Manager was accessing Stream and the Stream Server service crashed. This was due to some memory leaks when the authorization was being checked.

Fixed a Transcode Manager issue where CableLabs muxing using the MainConcept post-encode muxer would not work properly in Media Manager when two resources (or more) on the same machine entered into post processing operation.

Stream 3.1.1.b34 to 3.1.2.b36

Updated the Smooth Streaming Container to support IIS Media Services 3.0 (released October 2009) and the new smooth streaming templates included in the Silverlight Player SDK and Expression Encoder 3. Note that templates from earlier versions are no longer supported when using this build.

Fixed a bug in the SDK where launchEncoder was no longer working from Web service. (This bug was not present in 3.1.0.b28.)

Stream 3.1.0.b28 to 3.1.1.b34

Known Issue: When using this build with Transcode Manager the DVD Authoring does not work. The file gets encoded but the post processing process(vob file creation) doesn't start. It works fine in Stream.

DR AVC SDK update: This fixes the MBAFF performance issue that was introduced in 3.1.0.

DR AVC scene detection threshold default changed to 35. When the value was set to 50, for some footage with quick scene changes the encoder could lock up.

Fixed an error that occurred while editing a DR AVC for Web codec profile that wasn't in a project (using the "Codec Profile > Edit" function).

Fixed: MOV Muxer fails when timecode enabled in wrapper

For the DRC-1000 to 2600 hardware, when the video standard is changed (NTSC/PAL) in the Preferences, the setting was not being saved.

For the DRC-5550 - 5650: Audio level controls were not working. (This bug was introduced in 3.1.0 but worked in previous builds.)

Output method for MPEG: VOD Packager (in Stream, not the stand alone app)
Update to version with unlimited file size support (for making Tar files greater than 8GB in size)

Changed wording of the error message when the file name already existed. Added "... make sure the filename is valid, not a duplicate ..."

For MXF wrapping from the Command output: Add new line before displaying the message "End of MXF Wrapper" and fix the message wording. (MXF wrapping can be used from Command output for Avid MXF file creation.)

Fixed: When using Broadcast Manager to control Stream, multiple simultaneous live streams failed to start (caused by an authentication issue).

MP4 Files and Progressive Download: Stream needs to be in a "busy (post processing)" state until the "progressive download" is finished. This affects Transcode Manager customers. Applies to MP4 files generated using both DR AVC and Nero Digital codecs. Known Limitation for Transcode Manager: Do not open the output folder during the encode/progressive download step. The progressive download function uses a temp file, and on some systems opening the output folder in Windows Explorer prevents the temp file from being renamed to the final output file name.

Fixed an issue with multiple Post Processing steps running simultaneously in Stream. (However, this is still an issue when using Transcode Manager.)

Fix issue with re-launched encoders not running post processing via StreamServer (primarily a problem for Media Mesh customers).

SDK: Deck capture when done via Web Service; issue: was unable to suppress "Is tape ready?" dialog.

Update to Stream3_Users_Guide.pdf to add link to Smooth Streaming doc, update Omneon and FTP sections; Added Smoooth_Streaming_using_Digital_Rapids_Stream.pdf

Updated VOD HD DR Studio AVC sample projects
Updated all DR AVC projects and codec profiles to use a scene change detection value of 35.
Update 4 sample projects for OmneonMOV (Note: NTSC projects now include the Field Dominance Conversion Plugin.)
Added Flash Dynamic Streaming projects and templates

Stream 3.0.1.b50 to 3.1.0.b28

Windows Media Smooth Streaming support. Added a new codec and a new group processor.

Support for ad insertion points (SCTE35) from a text file when using the Manzanita Transport Stream muxer (in the group codec).

Updated the codec used by DRC Studio AVC and DRC AVC for Web.

Digital Rapids Studio AVC:
- Closed captions can now be embedded for all encoding modes (interlaced, progressive, MBAFF).
- Fixed a bug with 1080 psf 708 CC embedding in AVC.

MPEG4 Muxer:
- Added the capability to create multiple Timed Text (subtitle) tracks in an MP4 file.
- Fixed a bug that was causing an invalid wrapping of interlaced AVC files.
- Added support of Dolby Digital Plus (EC-3, or Enhanced AC-3) to the MPEG-4 muxer.

Add a new DirectShow AVI Uncompressed UYVY 10-bit (v210) option that is compatible with existing DirectShow decoders. (e.g., Black Magic CODECs.v6.8.3.1.)

Flash RTMP Streaming: Added more metadata to the live RTMP Flash output. Specifically: Frame height and width, codec type, audio/video bitrate, framerate

Avid DNxHD codec profile: made some changes to the dialog for clarity (hopefully).
Added an Interlace Mode selection to the Avid DNxHD codec profile.
Fixed a crash when trying to transcode some MPEG2 files to Avid DNxHD

Added a new Elementary Stream File processor for the group codec.

System Tags: Fixed a bug where the tags:
%PROF.PROC.#.ARCHIVE.FILENAME%
%PROF.PROC.#.ARCHIVE.FILENAME.EXT%
%PROF.PROC.#.ARCHIVE.FILENAME.FILE%
%PROF.PROC.#.ARCHIVE.FILENAME.DIR%
were not being processed correctly by the Group Codec.

Modified System Tags lookup for Group codec profiles. The following will resolve to:
%PROF.ARCHIVE.FILENAME.DIR% -> %PROF.#.PROC.0.ARCHIVE.FILENAME.DIR%
%PROF.ARCHIVE.FILENAME.FILE% -> %PROF.#.PROC.0.ARCHIVE.FILENAME.FILE%
%PROF.ARCHIVE.FILENAME.EXT% -> %PROF.#.PROC.0.ARCHIVE.FILENAME.EXT%
%PROF.ARCHIVE.FILENAME%   -> %PROF.#.PROC.0.ARCHIVE.FILENAME%
%PROF.ARCHIVE.DISKSPACE%   -> %PROF.#.PROC.0.ARCHIVE.DISKSPACE%

Fixed a bug for system tags used in the group codec when the group codec included multiple processors. The system tags had incorrect information because the order of the processor outputs in the project file did not match the order of the actual processors.

Command Output (for a codec): Added a "Finish command output before starting other output functions" check box. Stream will appear "busy" until the Command output is complete.
Command Output (project level): Fixed an issue with project-level "Command" output hanging if it prints too much output (around 1000 bytes) to the console (the Command Prompt window).

The Archive output dialog for both MPEG-4 muxer and Nero Digital now has a Progressive Download checkbox. When this is enabled the encoder will be seen as "busy" until the progressive download step has been completed. That is, no other output options will start until this step completes.
For the MPEG-4 muxer there is still a Progressive Download option in the muxer, so that older projects will still work. However, for Media Manager compatibility, the new progressive download option on the Archive dialog should be used, and NOT the one in the muxer.

Fixed a problem with the RTP/RTSP announce message where the line ending was incorrect, causing problems with some media servers (but not with the Darwin Media Server).

QuickTime:
- When transcoding from a QuickTime file, after Stream finished the transcode it was maintaining a lock on the QuickTime source file. It now correctly releases the file after the transcode completes.
- Added support to handle decoding of various QuickTime audio bit types (8, 16, 24, 32-bits).
- For QuickTime file decoding Stream now computes the video frame rate based on the media time scale instead of the movie time scale. Using the movie time scale was causing a rounding error. This fixes a problem where transcoding from QuickTime to uncompressed AVI files was resulting in an AVI file with a lip sync problem.
- Fixed a bug that appears when updating the QuickTime Player from 7.2 to 7.6.2 that caused a crash when transcoding from some QuickTime files.

Improved the error handling when transcoding from a file with invalid timecode. This fix catches the exception caused by the invalid timecode, and starts to increment the TC manually from then on.

ASF muxer: Fails when both Time of Day Script and CC Script are enabled. Now the ASF Dialog prevents user from selecting both script stream types in the same profile.

MXF Processor:
- Added support in the MXF processor for XDCAM HD Op Pattern.
- Stopping encode of multiple MXF wrappers now always works (previously it would occasionally hang)
- MXF Processor: Universal Label in MXF metadata for MPEG Long GOP was incorrect
- Solved a lip sync issue when trimming an MXF file that included MPEG2
- MXF Wrapper: 3 Preserve timecode Modes:
"Custom" allows you to set a user defined timecode and DF/NDF mode
"Preserve from Video" uses the timecode setting found in the video codec profile
"Preserve from Source" uses the timecode from a live input as defined on the Stream Input tab
Implemented for the following codecs wrapped in MXF: MPEG, DNxHD and DVCPro

MainConcept MPEG:
- Added XDCAM HD 4:2:2 50Mbps preset types to the Group Codec and to the Codec Profile menu. Note, this does not include MXF wrapping, just the MPEG2 video encoding. Warning: When using the XDCAM

HD 4:2:2 codec profile it is possible to change all MPEG2 settings, even the ones that should not be changed in order to remain in spec for XDCAM HD 4:2:2.
- XDCAM HD 4:2:2 profiles created in the Group Codec default to "video only" with multiplex = none.
- Updated the MPEG2 decoder and now Stream can decode MPEG2 files with multiple audio streams
- Support for manual selection of AFD (Active Format Description) in MPEG2.

Omneon Enhancements and Bug Fixes:
- Omneon Wrapper Tool: add .dif video file type in the video list format
- Omneon Wrapper Tool: remove "use timecode from Deck" check box (doesn't apply to the tool)
- Fixed an issue that caused an Omneon MOV reference file to report a '0-bit' audio file. This was a result of the MOV file referencing a compressed audio format. If we detect this case we now try to extract '16-bit' audio. (Note: this will not work for some compressed audio formats, but not for all.)
- Fix for Omneon MXF file containing MPEG2 incorrectly using the field height instead of the frame height when being decoded in Stream

Added error message "Failed to load Hardware Graphic Overlay" when unable to load graphic overlay during monitoring and encoding. (Previous error message of "Unable to Monitor." was a bit vague.)

Fix Bug – Transcode Manager tasks that used MXF source files were failing when the agent system was updated to Stream 3.0.1.

Dolby Digital and Dolby Digital Plus: Changed default byte order to big endian by enabling the "create stand alone file" checkbox by default.

Maintenance expiry date now shown in Help > About info for Stream

Red Camera file decoding: This is a new, chargeable option.
The Red Camera file source frame resolution needs to be set before the decode starts.
By default Stream uses "full resolution, highest resolution & quality" but this is also the slowest setting.
To change the frame resolution used by the decoder you can use a registry setting. Available options:
    1 = DECODE_FULL_RES_PREMIUM full resolution, highest resolution & quality, but slow (Default)
    2 = DECODE_HALF_RES_GOOD half resolution, very good quality, fast
    3 = DECODE_HALF_RES_PREMIUM half resolution, highest quality, slow
    4 = DECODE_QUARTER_RES_GOOD quarter resolution, very good quality, fast
    8 = DECODE_EIGHT_RES_GOOD eighth resolution, good quality, fast
    16 = DECODE_SIXTEENTH_RES_GOOD sixteenth resolution, good quality, fast
Please contact Digital Rapids Support if you are not comfortable changing your system registry.
The registry setting:
    Windows Registry Editor Version 5.00
    [HKEY_LOCAL_MACHINE\Software\DRC\Stream\Codecs\]
    "RedCamFileSourceRes"=dword:00000001

Plugins:
- DirectShow plugins : Added a new method to detect DirectShow plugins. When you use the "Add DirectX Filters" option and select the DirectShow tab, you will now see a drop down box that allows you to choose between Standard and Legacy methods.
- Deinterlace plugin: When Auto mode is selected the plugin will only deinterlace if it can detect that the source is interlaced. When transcoding from a file, the plugin looks for interlace/progressive information in the header of the file, and if it does not detect any, then it assumes the file is progressive. This information can be detected in some file types (e.g., MPEG2 and WMV) but not for others (e.g., AVI files). Previous behavior: auto mode does exactly the same thing as if Field Interpolate (Bob) was selected.
New behavior for auto mode: if source is interlaced Field Interpolate (Bob), otherwise do nothing.
- Timecode Overlay plugin: added "Render Timecode" mode with a starting time in frames. Added a Date and Time mode (which uses the system date and time).

The Tools > H.264 > Closed Caption Embedder should make a file once again. (Worked in Stream 2.5, but broken in Stream 3.0)

Closed Captioning: To disable any 608 to 708 translation from being embedded into the encoded data use the following regkey entry:

       Windows Registry Editor Version 5.00
       [HKEY_CURRENT_USER\Software\DRC\608To708Trans]
       "Disable"=dword:00000001

This may be particularly helpful for STBs that can handle 608 but cannot handle 708 captions.

SDK: Fix a bug that affected deck capture projects running from the high-level API.

The Hasp "FKU" components needed to update a green Digital Rapids dongle were added to the installer.

The new DRC-5600 board model will now be identified correctly Stream. In Stream 3.0 a DRC-5600 was identified as a DRC-5650, but otherwise should work.

Update to JRE1.6.0_14 for Stream 3.1.0

Stream 3.0.0.b34 to 3.0.1.b50

See the list of **Stream 3.0 Highlights** for an overview of Stream 3.0 changes.

Windows Media Streaming: fixed a bug that prevented live streaming for more than approximately 6 – 7 hours.

Changed the merit of the Digital Rapids GXF filter so that it no longer interferes when decoding Transport Stream files.

Added an optional checkbox to Dolby Digital to allow the codec to create a stand-alone AC-3 file with metadata that is accessible by third party muxers. (When this box is enabled the files are big endian and when it is disabled the files are little endian.)

Refined some of the default settings for Dolby Digital and Dolby Digital Plus audio codecs.

Made changes to ATSC and SCTE20 608 captions, in particular to the dual captions required for CableLabs compliance.

Made changes to how closed captions are handled when coming from a 1080 psf source for 608 and 708 closed captions.

Made some changes to the defaults used when Stream translates 608 captions to 708 captions (for cases where 708 captions do not exist in the source), specifically to the default text formatting (default pen color, font size and display position).

Stream 2.5.2.b63 to 3.0.0.b34

The Grace Period has been removed. You now must register the software to run Stream.

Synchronize A/V preview during encoding with a single codec (but not with the Group codec – that is, the encoded output will still be in sync, but preview of a group codec may be out of sync)

2-Pass encoding is supported while using the Group Codec and Clip Lists

VOD Package button as a post-encode output for MPEG2 (combines preexisting ADI files with media in a tar or folder – it is not used to create the metadata, that's a separate app)

DVD Output enhancements:
Publish from a clip list (When concatenate is selected a Chapter point will be put in at the beginning of each clip. When concatenate is not selected a DVD will be created for each clip input as if they were single encodes.)
Publish from a single live encode
Menu-less DVD with chapters (Create DVD menu checkbox present on gui)
Autoplay option (Will allow user to set the DVD to autoplay the first track of the video)
Change font and color of text for title and chapters
Support multi-line titles and chapter labels for DVD menus
Add support for all system tags, including date (%D%) and time (%T%) tags
Background color chooser (solid or gradient)

Thumbnail selection (set a time for the image sequence to capture a frame)

Files that are created by the user are now stored in a "Vista friendly" place compared to earlier versions of Stream. There is a new "Steam Documents" shortcut on the desktop that takes you to the new location. Also, when you upgrade from Stream 2.5 to 3.0 you have the option to use a "file migration wizard" to move your existing files to the new location. All installed preset profiles/projects will be installed to the new location.

Additional Codec/Technology Updates:
Updated to newest On2 SDK 2.5.3.0. Added a check box to enable VP6-S mode.
Updated to newest Dicas codec. Supports 2-pass H.264 encoding.
Updated to newest Omneon MOV output SDK.
Updated to MainConcept 7.6.1 SDK.
Updated OpenCube SDK (used by Stream for MXF Wrapping) to v.2.1.4.
Updated to Manzanita TS Muxer 5.2.0.v1.

Added Stream Scripter as an option in the installer (during a custom install)

Removed Compotrack Watermark Ticketing option. Any future plugin logging will be integrated with the plugin (as with the Teletrax or NexGaurd plugin).

Removed Stream Remote options that were part of Stream Enterprise 2.5.

Added the Maintenance date to the Help > About information. This date is when your maintenance expires. Maintenance entitles you to free "point upgrades" (from 3.0 to 3.1 for example) and basic support. A warning window will pop up when you have 30 days remaining in your Maintenance period.

Closed captioning: Fixed 608 SCTE20 packet construction. This was affecting the 608 dual format A/53 + SCTE20 captioning.

If more than one MXF Processor is present in a Stream project, either in the same group or in a different group, then the process may hang. Currently a warning window opens when there is more than one MXF processor added to a Stream project.

The MXF Processor now sets the Index Table to "true" by default. The index table is required for seeking in an MXF file (and trimming based on that seek).

Negative offset is now allowed for deck capture timecode reference.

SDP file created for RTP streaming: Added aspect ratio information ("a=cliprect:0,0,height,width") and more info to the 0 field in the SDP file. (o=<username> <sess-id> <sess-version> <nettype> <addrtype> <unicast-address>, but since there is no username field in our interface that is currently set to "-").

Change the warning that comes up when you enable VBI and then click OK. It had been warning you that "deinterlacing must be disabled", however changes have been made so that you no longer need to disable deinterlacing.

Added new fields to the Omneon Wrapper Dialog: Start TC and use Deck TC.
Ensure the Drop/Non Drop frame flag in the Omneon start TC field is correctly embedded in the MOV file.
Better support for Omneon MOV file decoding - Switch to using DSFileSource when opening reference MOV files.

Basic_WMDRM_Response.xml sample file: added a second = at the end of SignaturePrivKey
This was needed so that when encrypted files were played in WMP, the user would be redirected to the URL specified (even if the key values used are bogus as they are in this example file).

On the Input Tab, when Media Files is the input type, when "Audio Only" or "Video Only" is selected disable either the Video section or the Audio section (as appropriate).

MXF file trimming:
Fixed an issue when trimming large MXF files.
Fixed an issue when trimming MXF files that contain MPEG2 I-frame only video (such as D10/IMX).
Note: There is still a sync issue when trimming MXF files that contain MPEG2 with a GOP structure with IBP frames.

MainConcept MPEG2:
Changed the default field order for NTSC IMX streams to "Upper Field First". (to meet the IMX spec)
The MPEG2 codec profile now allows you to customize the output file extension.
Fixed a lip-sync issue when trimming MPEG2 files. (This does not fix the issue when it is MXF that contains MPEG2.)

MPEG2 in a Transport Stream (using the Manzanita muxer): Changed the sending data out by using circular buffer so that the muxer won't wait any more. This may help with broadcast to some STBs.

Trim duration in Stream was not being calculated correctly for 29.97 and 59.94 time code types.

Fix for lost plugins when editing a DRC AVC for Flash codec profile.

Added an option for delay on capture first frame for image sequence. (Can avoid capturing slates as the thumbnail for example)

MPEG-4 Muxer: Added tag processing to metadata, text, and CC filenames.

Trigger area on main GUI re-worked to give clearer indication of trigger status

Added ability to handle AVI source files with DV content. Fixes an audio up-conversion problem with 12bit audio.

Nero Digital codec:
Made changes to cope when transcoding from source files when the source file has bad timestamps.
Fixed a bug that prevented the saving of Chapter points from the Nero Muxer Settings.

On2 VP6 codec: Made changes to cope when transcoding from source files when the source file has bad timestamps.

Optimized the 601/709 Color Space Conversion plugin and the Color Space Converter plugin.

Compotrack Watermarking plugin: Removed restriction on height with multiple of 8. (There is still a width restriction.)

For DRC-5550 or 5650 boards only:
Allow trigger start/stop on timecode of types LTC, SDI-LTC, SDI-VITC1, SDI-VITC2 and SDI-ANY.

QuickTime:
QT File Source: Changed movie time scale to report more accurate frame rate. Should fix lip sync problems encountered when transcoding from QT to AVI.
Fixed problem in QuickTime file source at the end of the video/audio stream, a NULL sample might not be sent.
Added picture aspect ratio detection in QuickTime file source.

MXF File Source: Fixed an occasional bug in AudioCallback that was causing the possible loss of the last audio packets. This issue occurred infrequently, and was caused by a thread timing issue which varied from system to system.

If you are using Quantel MXF files as source files, there may be some issues, especially with older files. Please contact Digital Rapids Support for some custom settings that can aid in decoding these files.

DRC-1000 to 2600 drivers: Fixed rare crash when input notification queue becomes full. This was seen in the field once likely because of either a broken card or invalid input. The driver kept thinking the status of the input had changed and the notification queue filled up. The mechanism put in place to prevent overflow was not working properly and it caused a crash.

DRC Key Change
The Stream 2.5 release (and later) uses a new key authorization structure, expanded to allow more codecs/options. All keys made after April 13, 2008 will use this new key structure. If you are using a new key and Stream 2.4 or an earlier version use the DRC Key Patch found on http://www.digital-rapids.com/Support/StreamSupport.aspx.

Known Limitations

UAC (user account control) for Windows 7, Server 2008, Vista

Disable the UAC (user account control) before installing the Stream software (including drivers for the DRC Stream hardware). Keep the UAC off when using the Stream software.

64-bit OS Issues

The PlayReady DRM implementation in Stream software is not supported on 64-bit OS Windows 7 or Server 2008.

When using DirectShow AVI codecs some third party codecs which are supported on the 32-bit OS versions of Windows are not supported on the 64-bit OS versions of Windows. This will vary from codec to codec.

Windows 7 Issues

WMD drivers for DRC-500 to 2600 PCI boards are not supported on Server 2008, Windows 7 or Vista. Third party applications such as the Microsoft Expression Encoder or the Adobe Flash Media Encoder that can use WMD drivers will crash if you attempt to configure the Digital Rapids capture card. Note that WMD drivers are not available for DRC-5650 PCI boards or DRC Flux boards (PCIe boards).

Server 2008 Issues

For Server 2008 you must install the "Desktop Experience" option.

You must set the Processor Scheduling to "Programs" for good encoding performance.
- Right click on "My Computer" and select Properties.
- Click on "Advanced system settings".
- In the Performance section click the Settings button.
- Click the Advanced tab.
- In "Processor scheduling" set "Adjust for best performance of" to "Programs".

WMD drivers for DRC-500 to 2600 PCI boards are not supported on Server 2008, Windows 7 or Vista. Third party applications such as the Microsoft Expression Encoder or the Adobe Flash Media Encoder that can use WMD drivers will crash if you attempt to configure the Digital Rapids capture card. Note that WMD drivers are not available for DRC-5650 PCI boards or DRC Flux boards (PCIe boards).

When running a project with an ASF Muxer with VC-1 video and WMA audio, when doing a broadcast push if the Username and password are not present the project will drop frames and the encoder will crash. If the Username and password are provided the encoding does not crash or drop frames. (With Windows XP an appropriate message appears before the encoding starts, and the crash is avoided.)

Server 2003 Issues

For good encoding performance change the following setting:
- Right click on "My Computer" and select Properties.
- Click the Advanced tab.
- In the Performance section click the Settings button.

- Click the Advanced tab.
- In "Processor scheduling" and "Memory usage" set "Adjust for best performance of" to "Programs".

<u>Vista Issues</u>

Disable the Vista power saving mode. When Vista enters "power saving mode" (hibernation), the DRC Stream hardware is disabled, and when you return to the normal mode and attempt to use the DRC Stream hardware again, it cannot be re-enabled without rebooting the system.

After encoding an archive file, when you click on the Play button next to the Archive button to open the file, if the file would normally be played back in Windows Media Player the player will open, but the file will not be loaded. This same player behavior can be seen outside of Stream in Windows Explorer by right-clicking on a media file and selecting "Open with" and selecting the Windows Media Player: namely the player will open, but the file will not be loaded.

WMD drivers for DRC-500 to 2600 PCI boards are not supported on Server 2008, Windows 7 or Vista. Third party applications such as the Microsoft Expression Encoder or the Adobe Flash Media Encoder that can use WMD drivers will crash if you attempt to configure the Digital Rapids capture card. Note that WMD drivers are not available for DRC-5650 PCI boards or DRC Flux boards (PCIe boards).

<u>General Issues</u>

- Digital Rapids only supports 64-bit and 32-bit Windows OS for the Flux capture boards. All other capture boards must be installed in a system running a 32-bit Windows OS.

- When creating a source profile for the Flux SD capture boards (DRC-2100, 2200, 3510 and 3550) you cannot use source profiles that do frame rate conversion. If you create such a source profile, it will not work.

- When using the DRC Flux 4200 or 2200 dual channel board and an NVideo GeForce 200 Series: When you are running 2 instances of the Stream software and both instances have the preview turned on occasionally the system will lock up. The workaround is to turn on compatibility mode. This will resolve the issue, but will use a small percentage of the CPU.

- For PCI DRC-1400 to 2600 boards: You cannot capture analog video along with embedded SDI audio. (Issue does not apply to Flux boards.)

- When using the DRC-5500/5650 board, you can only capture timecode from RS422 when using deck control.

- When using the DRC-5550 or 5500 you cannot capture SDI Ancillary data. This feature is only supported when using a DRC-5650 or 5600, or when using a Flux board.

- When using the DRC-5650 Preview DirectShow app, the first time an ASF/WMV file is played the video scrubbing will not work. If the same file is opened a second time, the video scrubbing will work. Other file types do not have this limitation.

- If you have a DRC-1400 to 2600 PCI board, and you enable the VBI before you have a video source input connected, you will see a green mask over the VBI while monitoring. Once you connect a video source input it will take a few seconds for the green mask to go away. (Does not apply to Flux boards.)

- When using a dual-channel DRC-2600, 2500, 2400 or 2000 board you can only capture closed captions on one channel. (This is not a limitation with dual channel Flux boards.)

- When the Timecode Overlay plugin is used, rendering the timecode will take some system resources, and the larger the font the more CPU usage will be required. When using this plugin during a real-time capture, if dropped frames are reported, reduce the font size.

- The BluRay AVC 720p and 1080p sample codec profiles make files that are not working in Sonic's authoring tools. However, those same files work when using Roxio Bluray authoring tools, and the Bluray dics play back correctly. (The 1080i29 project makes files that can be used with Sonic's authoring tools.)

- ASF live broadcast stutters when Closed Captioning Scripting is enabled for some footage (in particular, footage with long caption breaks). This does not occur if an ASF file is created with Closed Caption Scripting - the file plays back without stuttering.

- The "Fix Aspect Ratio" feature does not work for some Codec Profiles.

- Stream is unable to transcode from YUV image sequence files.

- When using rollover mode (for archive files) and incrementing number is added automatically, but tags are only generated for the initial file (e.g., if %D_% is used, only the date of the initial file will be used for all files).

- When using rollover mode the clip that was just closed will be missing the last couple of seconds of audio and there may be a slight video freeze at the beginning of the next clip (a couple of seconds). The audio continues normally in the new clip. When the video starts moving again in the new clip, the video and audio are in sync.

- When using the rollover mode for both a Windows Media codec and a SAMI codec, the SAMI file will be a little out of sync with each successive roll over clip. This is a known issue for roll over mode.

- When using rollover mode with Real Helix, the clips must be at least 60 seconds long.

- Stream software cannot decode AAC audio only files.

- When using the Inverse Telecine plugin, if you need to encode to an AVI file, do not set the Source Type to Unknown. Set it to Film or Video. When set to Unknown the video and audio loose sync. Note that this does not happen when encoding to other codecs, just when encoding to AVI.

- For MPEG-4 File muxing, if you use MP3 audio, only Stereo audio is supported. Mono audio is not supported. Playback will work in the QuickTime player, but not in the VLC Player. Other players results may vary with regards to MP3 playback.

- When adding Chapters to an MPEG4 File, a Chapter will be automatically added at time 00:00:00:00. For some players this Chapter must have a name (it cannot be an untitled chapter).

- The Avid DNxHD codec cannot run on a system that has more than 16 CPU cores enabled.
- Avid DHxHD 220X files will now decode but 10bit data is not preserved, it is decoded as 8bit only.

- The Dicas codec cannot run on a system that has more than 16 CPU cores enabled.

- Manzanita muxer: Adaptation Properties for PID 0x01E1, NoEmptyAF=YES: The Manzanita muxer was updated in Stream 3.0, and the pre-installed CableLabs projects were modified so that the PAT and PMT insertion frequency (under TRANSPORT—PSI settings) now needs to be set to 8. This is required in order for NoEmptyAF=YES. If you are using an older project created in 2.5.0 with newer versions of Stream, then you must update those values.

- Live MP3 RTP/RTSP/RTMP streaming at lower bit rates (below 128 kbps) is not working.

- When using the MOV Muxer in the Group Codec you cannot use MPEG audio (MPEG-1 Audio Layer II). You can use WAV, AAC and MP3 audio. If you attempt to make an MPEG audio only codec using the MainConcept codec and use that as your audio input for this MOV Muxer then the muxer will crash.

- If you attempt to decode DVCPro 50 or HD and you have not purchased the DVCPro decoder for Stream, the file will not be rejected by Stream, however it will not decode correctly until you purchase the decoder. This also applies to MXF, GXF, LXF or MOV files that contain DVCPro.

- The DVCProHD decoding option in Stream is a DirectShow filter. It cannot be used to decode DVCPro in MOV. To use a DVCPro in MOV as a file source in Stream you must add a third party QuickTime filter.

Encoding QuickTime MOV files using the Codec Profiles > QuickTime option:
- For codecs that have a fps drop-down box (e.g. H.264 and photo JPEG) choosing the 23.98 fps option does not give an accurate output frame rate. Instead choose the "custom" fps option and set the frame rate to 23.976 fps.
- Note that this problem does not occur when you are using the DR AVC for Web codec to make MOV files, where the frame rate is set in the DR AVC codec.

Adobe Flash Player and Live RTMP streaming of DR AVC/H.264:
- With some specific previous versions of the Flash player 10.1 and 10.2 there were issues with B-frames or A/V Sync. When using Flash Player 10.3 there are no known issues with B-frames or A/V Sync. Note that you must use a closed GOP when encoding for live RTMP streaming with B-frames.
- The new Flash player template included with FMS 4.0 causes playback stuttering. However, this appears to be an issue with the template, as the same problem exists when streaming with Adobe FME. The template included with FMS 3.5 does not exhibit this issue.
- From the Adobe 10.3 Flash Media Player Release notes: Adobe is aware of issues with specific GPU driver versions and has notified manufacturers of any issues discovered during testing.
- When GPU issues occur the user will hear the audio but will not see the video. Adobe recommends: Developers can work around this issue by forcing the video to be decoded in software.
- Related issue: There are issues playing back on some Mac systems when hardware acceleration is turned on. (This has been observed when the Nvidia 320 graphics chip is used.)

- When using a Windows 7 OS, and encoding an On2 archive file, if you use system tags in the file name and the resulting file name is more than 7 characters long the encode will fail. (This does not happen with other versions of the Windows OS, or if you do not use system tags to create the file name.)

- When using the On2 (Flash 8) codec to broadcast to a Flash Media Server (FMS) you must use FMS version 3. (In DRC testing FMS version 3.02b222 was found to be compatible.) The newer Flash Media Server 3.5 (or higher) is not compatible with the On2 codec used in Stream.

MainConcept MPEG2:
- MPEG2 Split file options are not functioning.
- New decoding ability: Support for decoding a file which include more than one audio track with different audio formats, e.g. an AC-3 track and an MPEG Layer II track, or a stereo track and a surround track. However, for files which contain audio tracks where the different audio tracks use different sample rates (e.g., 48 kHz and 44.1 kHz), only the first audio track is decoded and other audio tracks are ignored.
- The MPEG2 Broadcast output option is not working in Stream 3.7. (It did work in Stream 3.6.)

DVD Output:
- When "Force I-Frame at in-points" is enabled the DVD Chapter start times are not obtained from the deck capture list. The resulting DVD chapters all point to the start of chapter 1. When "Force I-Frame at in-points" is NOT enabled the DVD Chapter start times will use the I-Frame at the closest GOP for the chapter start time.

- When using the DRC-5500/5650 board, if you are making a DVD Output with concatenate and you are using format conversion, then the audio video sync will drift. (If you are not using format conversion the audio and video will remain in sync.)
- DVD chapter marks may be one or two frames off from the clip in-point.
- DVD output will not playback audio. This is because the generated .ifo file does not have the audio information. If the .ifo file is manually edited (using IfoEdit, for example) and the audio information is added then the DVD output will play back the audio correctly.

- MXF files that contain MPEG2 with top field first decode in Stream as bottom field first. (Workaround: use the field dominance plugin)

- The MXF AS02 files created in Stream are valid files, but cannot be correctly decoded in the Stream software (there will be an A/V sync problem when the files are decoded in Stream).

- The iPhone/iPad "Fail on server timeout" output option will not work if the system is running on Windows XP. (It does work when the system is running on Windows 7.)

- iPhone/iPad FTP Passive mode is supported, but not Active mode.

Civolution NexGuard Plugin (watermarking):
- Only a single instance of this plugin is allowed in a project. That is, you cannot use a project which includes multiple codec profiles and apply a NexGuard watermark to each codec profile.
- The plugin includes a field for "Generate XML Log File In" where you specify the path for the log file. This path must exist before you start the encode or no xml log file will get created.

- When using Transcode Engines with Stream 3.6.0 or later, the default AC-3 decoding mode will be to not use the Dolby metadata. If you have a special use-case case where you do want to use the Dolby metadata to change the gain then you will need to upgrade to Transcode Manager 1.6. Transcode Manager 1.5 or earlier will not be able to use the Dolby metadata.

- When capturing SDI ancillary data using a Flux board or DRC-5650 board you cannot use the format converter; that is you cannot change the frame rate, frame size, or convert interlaced to progressive.
- Note that when using the 1920x1080 23.987 psf format, that preserving 608/708 closed captioning as an ancillary data track into GXF or MXF is not supported.

When OpenCube's Front-End is installed and licensed on a system which already has Stream installed, Stream will not be able to use the MXF processor. Reinstalling Stream will fix the issue.

To use the Manzanita muxer to encode a Transport Stream with 302M audio you must supply the muxer with WAV audio, not with AES3 302M audio. If you attempt to use 302M audio the muxer will hang.

The %SRC.DUR_% tag which gives the duration of the source file in HH:MM:SS:mmm may be inaccurate by a few milliseconds.

CableLabs MPEG2 video encoding: When the MainConcept MPEG2 CableLabs preset is selected the Auto GOP value is not automatically set to Off. To change this go to the video settings, then to the Advanced Settings tab, and change the Auto GOP Placement from "SCD Regular" to "Off". If this is not set to off then the resulting muxed file may include some black frames. (Note that the provided pre-set projects that are installed with Stream this has been set to "Off".)

When using the MainConcept post-encode muxer, currently you cannot use MPEG Layer 2 audio in the mux. You can use PCM, LPCM, 302M and AC-3 audio in the mux. (There is a patch available to fix this issue.)

When decoding Transport Stream files, if the files, if the files contain multiple audio tracks the audio will not be decoded in the order of the PIDs. You will need to use the Audio Remapper plugin to assign the output of the decode to the correct channel of the codec profile.

For Panasonic P2 compatible files the file name must be exactly 6 characters long, as well as obeying the following filename restrictions as listed in the P2 spec:
The first four characters shall be a number such as "0001" and shall be unique within the directory. The next two characters shall have a value of "0" to "9" or "A" to "Z" such as "AB".

Sorenson ACE codec: This codec is no longer supported in Stream (starting with Stream version 3.4.0).

Ateme AVC codec: This is no longer supported as of Stream 3.6.0. Projects created in previous versions of Stream which include the Ateme codec will no longer run in Stream 3.6.0.

Trimming audio only source files (no video): When using the Duration trimming option on the Input tab the audio file will not be trimmed. As a workaround, use the Trigger settings and set the duration there to trim the audio file. Note: This bug only affects audio only file trimming, it does not affect video/audio or video only file trimming.

Video Overlay Plugin: When a QuickTime 32-bit source file is used, if you add keyframes to turn it on/off the video more than once, you will see the video overlay for the first keyframe but not for the subsequent ones. This is due to a bug: in the project file, when you set up a keyframe, any parameter that is not changed between the current keyframe and the previous keyframe is not saved in the project file. To workaround this bug set a keyframe to clear the video file name between keyframes. For example, if you have 2 keyframes with the same video filename at 1:00 and 2:00, you can set a keyframe with an empty video filename at 1:30.