GV File System Release

Product Release: v4.0.1.2

Release Date:	3rd July 2019
Supported Operating System(s):	Windows 64-bit, RedHat/CentOS 64-bit, OS X 10.9, 10.10, 10.12
System Solutions:	Alchemist File (v4.0.1.2) Quasar File (v4.0.1.2) Kronos File (v4.0.1.2) MBG File (v4.0.1.2)
System Components:	GV File Client (v4.0.1.2) GV File Server (v4.0.1.2) GV File Node (v4.0.1.2) GV File Watcher (v4.0.1.2) GV File Browser (v4.0.1.2) Sentinel RMS License Manager (v8.5.3)

V4.0.1.2 (03/07/19)

New Features

1. Added an option to automatically match the input video resolution when creating an Apple ProRes output file using the Alchemist or Quasar solutions.
2. Added support for the latest generation of NVIDIA GPU devices and drivers.
3. Added support for commonly used social media video resolutions when creating H.264 Long GOP output files.
4. The current product version is now included in the user profile XML files for traceability.
5. Added the capability to strip audio from the conversion even for restricted output audio profiles dictated by the choice of file wrapper and CODEC type.
6. Improved user profile migration under Linux: this is now done via a prompt from the GV File Client which matches the behaviour of the Windows installation.

Bug Fixes

1. Fixed a bug with the GV File Client application that prevented it from remembering previous GV File Server connections on OSX 10.12.
2. Fixed a bug that could cause incorrect colour space conversion when the input profile was forced to segmented frame (PsF).
3. Corrected the implementation of colour space conversion to/from BT.2020 colour space which was incorrect unless HDR conversion was enabled; the conversion is now always performed in linear light.
4. HDR conversions now correctly pass through and translate sub-black and super-white luma ranges.
5. Fixed a bug introduced in the 4.0.0.16 release that prevented user profiles from being correctly migrated.
6. Corrected skewed timecode overlay for some CODEC and horizontal output resolution combinations.
7. Fixed a bug introduced in the 4.0.0.16 release that caused ProRes jobs to fail if they were created via watch folder with multiple GV File Node services available.
8. Now more robust when decoding MOV source files that contain audio chunks with an incorrect sample size recorded in the chunk header; these files will now decode up to the invalid chunk and then stop gracefully.
9. Improved the configuration of output audio channels using the GV File Client to better reflect the limitations of the selected output CODEC and file type.
10. Prevented the polling of watch folders that are not enabled.
11. Fixed a bug that caused audio crackles in the output file when converting some MOV source files with non-standard but legal audio sample distributions.
12. Fixed a bug that caused the GV File Client to crash on creation of a watch folder configuration that included a '%' in its name.

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V4.0.0.20 (01/10/18)

New Features

1. [NONE]

Bug Fixes

1. Corrected a problem that caused some source files with 96kHz audio to fail to decode.
2. Now more robust to DNx (VC3) source files that incorrectly specify an interlaced scan type in the file header in disagreement with the compression ID.
3. Ensured that GV File is compatible with OpenCL 1.1 (previous release 4.0.0.16 wrongly required OpenCL 1.2 support).

V4.0.0.16 (05/09/18)

New Features

1. Renamed the xFile framework to GV File and changed the company branding.
2. Removed the OS restriction on the processing of Apple ProRes: this was previously limited to Windows Server and Linux distributions that were not running an X session but is now available without restriction.
3. Made a number of improvements to picture quality, especially to small objects when performing high frame rate conversions.
4. Now supports the decode of 32kHz, 44.1kHz and 96kHz audio and performs audio sample rate conversion as appropriate.
5. Added decode and encode support for DNx (VC3) 4:4:4 CODEC profiles.
6. Added decode and encode support for MXF wrapped DNxHR files.
7. Made extensive changes to the audio processing and GV File Client to allow fully flexible audio channel routing irrespective of output file CODEC.
8. Added support for up to 32 audio channels per stream and/or up to 32 audio streams where appropriate and where compatible with file CODEC selection.
9. Added the option to set the audio channel grouping to 8, 10 or 12 when pitch correcting for an off-speed conversion; this allows the audio phase relationship to be maintained for all channels within the group.
10. Extended off-speed conversion modes to cover 30Hz and 60Hz frame rates and account for 2:2 and 2:3 output cadence.
11. Made improvements to the adaptive HDR to SDR tone mapping algorithm after customer feedback.
12. Added the option to perform a non-adaptive HDR to SDR conversion and included a number of user controls to adjust the transfer function.
13. Included a custom transfer function option for HDR translation and conversion to/from SDR.
14. Extended ARC controls to include an Overscan control and a Full Screen Stretch option allowing the non-linear removal of pillar box bars.
15. Significantly improved the ingest performance of the MBG File solution.
16. Extended support for BT.2020 colorspace and HDR to cover RGB output files.
17. Where possible, added the setting of output file metadata to include BT.2020 colorspace and HDR transfer function information.
18. Added the option to set the output colorspace to BT.2020 while maintaining an SDR (BT.709) transfer function.

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Bug Fixes

1. Fixed a bug that incorrectly disabled motion compensation when converting between 59.94Hz and 60Hz resulting in a synchronisation only.
2. Now more robust when decoding source files that have a video track with a duration that is inconsistent with the duration of other tracks in the multiplex.
3. Corrected missing metadata when encoding XAVC files as it triggered an error in some QC tools.
4. Corrected the handling of corruption in the audio track encountered part way through a conversion.
5. Corrected a bug in the calculation of drop frame timecode when using an IN point offset from the start of file.
6. Fixed a bug in the setting of drop-frame timecode for the Quasar solution.
7. Corrected the setting of start timecode to be non-drop frame when converting from 23.98Hz to 29.97Hz or 59.94Hz with 'Follow Source Timecode' set.
8. Corrected a bug with the job progress reporting when substituting the Test Node application for a standard GV File Node.
9. Fixed the operational logging for multiple GV File Node applications running on the same system: previously they were all writing to the same log file.
10. Fixed a bug with the detection of custom film cadences which included a '1' (e.g. 1:1:1:2); these were being mishandled and as a result the duration of the resulting video track was incorrect.
11. Source MOV files with the illegal combination of compressed audio and an audio description version of 0 are now identified and rejected; previously these files stalled the GV File Node job queue.
12. Added the necessary CODEC ID to ensure that MOV wrapped DV files created by an Avid editor are correctly decoded.
13. Fixed a bug that prevented the GV File Client from correctly distinguishing between user profile XML files with filenames that had the same start string but a different suffix.
14. Fixed a bug that prevented the decoding of some true 30Hz and 60Hz source files as the GV File Node incorrectly reported that the frame rate wasn't supported.
15. Fixed a bug that caused the input colorspace setting to be ignored if any of the input 'Source Scan' overrides were set on the GV File Client.
16. Prevented certain legitimate conversion job failures from causing the GV File Node to enter an error state causing it to fail the next job from the queue that is presented.

V3.0.1.10 (31/05/17)

New Features

1. Significantly reduced the memory footprint of the xFile Node for most conversions; as a side effect, this should prevent the occasional job failures which occurred after the processing speed ups introduced in release 3.0.0.14 (as these were related to failed memory allocation) and provide a further significant speed up on most systems.
2. Added support for SDR to HDR colour conversion.
3. Added a new control that will automatically adjust the duration of a conversion output slightly to allow for the non-linear progression of drop-frame Timecode.
4. A warning message is now displayed in the job queue of the xFile Client when processing a source file which doesn't contain duration information as in this case the progress bar will remain at 0% until the job is complete.
5. When adding a job to the xFile Server job queue using the SOAP API, it is now possible to use a profile version wildcard ('current') when specifying the configuration profile.
6. Added IN/OUT point support for DPX files.
7. Now keeps a count of source frames that have failed to decode correctly due to file corruption and will fail a conversion job if more than 10 corrupt frames are detected.
8. Closed Captions decoding is now robust to source files with a VANC payload data count (DC) that is incorrect.

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Bug Fixes

1. When the source file has a frame rate of 29.97 Hz or 59.94 Hz but a non-drop frame start Timecode, this will now be respected in the output file when 'Follow Source Timecode' is selected.
2. Fixed the audio layout for D10/IMX output files in a MOV wrapper – in previous releases these had 4 or 8 single channel streams but this is now a single stream of 4/8 channels.
3. Changed the default setting for the xFile Client Job History Filter to only show the previous 4 week's worth of jobs; this should prevent a Client slowdown on systems where the number of entries in the job queue becomes unmanageable.
4. Prevent the xFile installers failing (without adequate notification) when run on a Windows system without a running firewall service.
5. Fixed the Output Cadence 'Auto' setting which was broken in release 3.0.0.14.
6. Fixed the MBG XF solution to correctly ingest 625 DVCPRO source files into a BioBank database as top-field first so they match the field order at play out instead of the (bottom field first) field order with which they are stored in the file.
7. Fixed job failures for certain source files with unusual resolutions.
8. Fixed the progress bar display on the xFile Client for the MBG XF solution.
9. Fixed the 'High Effort' conversion mode which was broken in release 3.0.0.14.
10. Fixed the decoding of AAC audio for some MOV files which in previous releases caused a job failure when insufficient audio samples were obtained from the first video frame.
11. Fixed a picture banding artefact when creating 1080i XAVC output files.
12. Fixed the incorrect interpretation of Adobe Premier marker files that use drop-frame Timecode.
13. Corrected the insertion of Timecode into DPX output files.
14. Fixed a bug that caused the xFile Watcher to crash when a watch folder was set up with a name or description that used characters from an extended (Unicode) character set.
15. Aligned the xFile SOAP <transformFault> response to correctly match the published WSDL.
16. Fixed a bug that caused the incorrect interpretation of a user specified IN point for XDCAM (and other long GOP) source files with an MXF wrapper.
17. Fixed the greying out of the 'Edit' button when re-submitting a Kronos job using the xFile Client.
18. Corrected a rounding error when calculating the start Timecode for output frame rates of 29.97 Hz or 59.94 Hz.
19. Corrected a bug that could cause audio corruption when changing bit depth if the original audio samples were clipped or at full-scale deflection.
20. Fixed a problem with off-speed conversion processing that could cause jobs to stall for certain audio layouts.

V3.0.0.16 (17/01/17)

New Features

1. [NONE]

Bug Fixes

1. Fixed incorrect rate limiting of processing introduced in 3.0.0.14 that could cause jobs to run slower than program length if only one license was in use.
2. Fixed an error in the decoding of MXF wrapped, JPEG 2000 source files introduced in 3.0.0.14.
3. Fixed an error with MBG XF that caused Closed Captions to be wrongly ingested into a Media Biometrics database (BioBank).
4. Corrected xFile Client behaviour when accessing the Profile Manager from the Create Job dialog – sometimes the Profile being edited was not automatically selected for the current Job on exiting the Profile Manager.

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v3.0.0.14 (21/12/16)

New Features

1. The Kronos solution now supports hold-go-hold processing defined in the xFile Client or based on an externally created marker file.
2. The Kronos solution now includes support for input and output film cadence modes.
3. Added High Dynamic Range (HDR) to Standard Dynamic Range (SDR) conversion; four different transfer characteristics are supported: PQ, S-Log3, HLG and HDR10. This feature also allows cross conversion between HDR transfer characteristics.
4. Decoding of AAC audio is now supported for all relevant source file types.
5. Processing times have been reduced by up to 40%; the exact performance improvement will be system and conversion specific but good speed ups have been measured in most cases.
6. Added a Timecode overlay feature.
7. Detects and correctly processes previously unrecognized AIFF uncompressed, big-endian audio in an MXF file wrapper.
8. Increased the resolution of the luma and chroma gain Procamp controls to 0.01dB.

Bug Fixes

1. Improved the performance of the RGB Gamut Legalizer to cope well with source material that is extreme without introducing visible artefacts from legalization.
2. Corrected the active vertical resolution for 525 line H.264 Long GOP DVB and HQ outputs from 488 to 480 lines.
3. Fixed a problem that caused Off-Speed conversion jobs to fail if the source frame rate didn't match the requested conversion type.
4. Now more robust when the input audio has a non-standard audio sample distribution and a conversion requires the output to be padded with additional (silent) audio channels.
5. Fixed a bug that meant that AFD insertion was previously always enabled irrespective of the profile settings.
6. Now correctly calculates source frame rate using MOV file track edit duration – this stopped working when support for custom frame rates was added in release v2.2.0.12.
7. Fixed a metadata error for progressive, MPEG2-based output formats that prevented the files being decoded by some 3rd-party tools (for example the EVS XF Reader).
8. Now robust to AVC-I class 50 and class 100 source MXF files that are missing SPS and PPS header information (standard Panasonic headers are assumed in this case).
9. Fixed a bug that caused an additional frame to be built when the input and output frame rates were different but the conversion allowed an exact duration match to be possible between source and destination files.
10. Fixed a bug that could cause a job to fail if the number of input audio streams exceeded the number of output audio streams requested.
11. Prevented the creation of two xFile Browser shares that have the same name.
12. Ensured that xFile Browser shares are stored (and then subsequently displayed) in alphanumeric order.
13. Fixed a bug with the regular expression handling of the Watch Folder Filter Expression control when the Filter Exclusion option is checked.
14. Fixed an audio sample distribution error for Kronos that caused some jobs to fail at the end of a long conversion.
15. Fixed the output start timecode to allow for a non-zero IN point when following the source.
16. Prevented the creation of a variable GOP structure in XDCAM output files for some source material.

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v2.2.3.2 (12/09/16)

New Features

1. Added the option to set the Track Aperture metadata for MOV wrapped outputs; this is used to influence the DAR for some viewers (including QuickTime).
2. Changed the group permissions for output files created by a Linux installation of the xFile Node to allow read/write/modify (matching the default owner permissions).
3. Audio metadata (channel layout and stream titling information) is now preserved when the source and output files have a MOV wrapper and no audio routing is defined (i.e. the number of output audio streams on the xFile Client is set to 'Follow Number of Input Streams'). This functionality is not available if the output CODEC has audio restrictions (i.e. XDCAM or IMX\D10).

Bug Fixes

1. Fixed the passing of Closed Captions for systems with more than three GPU devices.
2. Fixed the encoding of 4:2:2 chroma for custom output resolutions with an odd line length.
3. Removed JPEG 2000 encoding options for custom resolutions as they were not properly supported.
4. Fixed a bug with the 8-bit 40Mb DNxHD profile for the 1080 25p output standard.
5. Fixed the 'low', 'medium' and 'high' DNxHD output profiles for the Quasar XF solution; these all resulted in the same encoded bit rate for previous releases.
6. Changed the handover of start Timecode from source file to output file so that hours, minutes and seconds are always preserved even if there is a translation to or from Drop Frame Timecode. In all cases the frame count will be adjusted to reflect any change in frame rate.
7. Fixed decoding of DNxHR HQX files.
8. Fixed the bit depth reported in the header of encoded DNxHR HQX files; it was previously set to 10-bit and has been changed to the correct value of 12-bit.

v2.2.2.10 (20/07/16)

New Features

1. Created a new Kronos XF solution for clip duration adjustment.
2. Created a new MBG XF solution for Media Biometrics BioBank database ingest.
3. Added a new 'Motion Compensated High Effort (Ph.C)' conversion mode.
4. Added support for the setting of an IN point when the source is long GOP encoded.
5. Added decode support for AVC-I encoded MOV source files.
6. Added decode support for Apple ProRes 4444 XQ.
7. Watch folders no longer consider a previously failed job as already run.
8. Added a new Watch Folder parameter to allow the setting of a processing speed multiple.
9. Added a new Watch Folder parameter to include sub-directories when scanning to process existing files.
10. Added controls to maintain the time code for a 'Start-of-Material' point in the source clip when performing an Off-Speed conversion.
11. Added support for 59p drop-frame time code.
12. MOV file de-multiplex now checks for a time code track included via a Handler Reference atom.
13. Added reporting of Processing Speed multiplier, IN / OUT points and product solution to xFile Client job queue and job history views.
14. Added an option to the xFile Client that allows the column resizing of the job queue to be reset.
15. Added support for a new 'current' wildcard in the FIMs API when setting a job profile URL; this will be automatically substituted for the xFile system version by the xFile Server allowing upgrades without the need to modify URL references.
16. Changed the default output cadence mode to 'Auto' to prevent the unwitting conversion of low frame rate 'film' to high frame rate 'video'; if desired, this conversion can be explicitly selected by setting output cadence to 'Off'.
17. Changed the Trial license to allow VM operation.

Bug Fixes

1. Fixed a 10-11ms audio slip when performing a conversion with audio pitch correction or re-sampling.
2. Fixed audio distortion introduced when the source audio is already clipped and an audio pitch correction or re-sampling conversion is performed.
3. Fixed an issue that caused jobs to fail when performing a conversion with audio pitch correction or re-sampling, if the source had more than 8 channels of audio per stream or more than 8 single-channel audio streams.
4. Fixed an audio-video lip-sync error that could be introduced for some source files when detecting complex film cadence.
5. Prevent Watch Folder 'Process Existing File' logic from being re-triggered on system reboot.

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6. Fixed the Quasar XF solution to correctly decode custom input frame rates (matching the Alchemist XF solution).
7. Fixed a malformed SOAP fault message when responding to an incorrect job request.
8. Fixed to maintain exact clip duration when performing a simple Progressive to Interlace conversion.
9. Fixed to maintain exact clip duration when performing a frame rate conversion and the source clip duration is an exact multiple of the output frame period.
10. Improved the robustness of the xFile Node when handling source files that have no clip duration metadata.
11. Fixed the xFile Test Node application for a Linux installation (not working in the 2.2.0.12 release).
12. Fixed a problem with Quasar XF that caused job failures when creating a segmented frame output.
13. Fixed an issue that caused source files with a resolution of less than 256 samples in either dimension to fail when doing a Ph.C based conversion. The lower limit has been reduced to 128; source files with a resolution below this are unsupported.
14. Improved robustness to MOV source files containing edit list tables – this fix was originally introduced in 2.1.0.12 but regressed in the 2.2.0.12 release.
15. Jobs will now fail early if the source file contains more than the supported 24 channels of audio per stream; in previous releases, these jobs would hang and stall the job queue.
16. Changed the source file decoding to always convert to native file slashes when accessing source file paths (i.e. back-slashes for Windows), irrespective of the path that has been included in the job request.
17. Removed the invalid 1080 23p/24p MTS default profiles from the Alchemist XF solution.
18. Fixed the incorrect calculation of start time code frame count when frame rate converting.
19. Added a catch to the decoding of the first frame of a source file to ensure that it will fail gracefully if corrupt or invalid and not stall the job queue.
20. Fixed the MOV file decoding to proceed with a conversion when the audio CODEC is unsupported if no output audio streams are required.
21. Fixed the Watch Folder management to allow for user profile migration after an xFile upgrade.
22. Added validation of drop-frame time code when setting IN/OUT points.
23. Fixed the xFile Client Profile Manager to cope with extended alphanumeric characters in the description field.
24. Fixed the Closed Captions input line controls which were previously always set to default values of 21 and 284.
25. Fixed a bug that caused SMPTE 436 Anc. data to be processed incorrectly if there was a mismatch between the scan types of the input and output video standards (i.e. one was interlaced and the other progressive).
26. Changed the extraction of SMPTE 436 Anc. data to correctly handle source files with an Anc. data track but with no payload at the start of the file.
27. Removed the High Memory processing mode as it created GPU driver problems on some systems.

Known Issues

1. Timecode processing behaviour has changed, noticeable when source is NDF and Follow Source mode is used, this is to be corrected in the next release, please contact support@s-a-m.com for a patch if required.

v2.2.0.12 (02/02/16)

New Features

1. Changes to company name (Snell Advanced Media) and product name (xFile).
2. New look xFile Client which uses a darker colour scheme.
3. Added the option to commit multiple licenses and perform a conversion at up to 6x real-time (hardware allowing).
4. Allow the user setting of conversion IN and OUT points.
5. Re-instated “High Quality” profile for H.264 long GOP as previous encoder issues have been resolved.
6. Added encode and decode support for MOV wrapped DNxHR files.
7. Added support for custom input and output frame rates (between 12Hz and 300Hz).
8. Added a control to set the output field order where CODEC choice allows.
9. Optimization of the conversion algorithms and their implementation has yielded an increase in processing speed for interlaced source material.
10. Added a High Memory mode which offers an increase in processing speed of approximately 10% if hardware supported.
11. Improved picture quality for motion compensated conversions that will be particularly evident when the input is SD.
12. Added an option to create a non-standard XDCAM output file with 16 mono-channel audio streams.
13. Added an option to create a non-standard D10/IMX output file with 2 audio channels.
14. Changed the Closed Caption CDP packet reader to be robust to input files with 708 packets incorrectly labelled as 608 packets.
15. Allow the input file frame rate to be overridden if the file metadata is incorrect or missing.
16. Added the option to choose a 16x9 Full resolution DAR when creating a MOV file with a custom resolution.
17. Added an I-frame only, 80Mbps CODEC profile option when creating an MPEG2 (MPG) output file.
18. Added in support for 720p 50 and 59.94 when creating an MPEG2 (MPG) output file.
19. Added default profiles for MPEG2 (MPG) outputs.

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Bug Fixes

1. Fixed a bug in the creation of 4K and UHDTV XAVC output files that caused incompatibility with other decoders.
2. Fixed a bug that compromised the quality of motion compensated frame rate conversions from a 4K source file when using AMD GPU devices.
3. Fixed a bug with the selection of clean cut field (1 or 2) when the conversion mode is set to 'Synchronize'.
4. Improved the robustness of the xFile Node when handling filenames containing non-standard characters.
5. The xFile Node no longer requires Administrator permissions to run when installed as a Windows Application.
6. Fixed a bug that caused de-saturated chroma when decoding MJ2 wrapped JPEG 2000 files.
7. The xFile Client Profile Manager now lists profiles in alphabetical order according to their current name rather than the name with which they were created.
8. Fixed a bug that caused jobs to fail with some audio routing configurations (particularly when the input file had more audio streams than the output file).
9. Fixed the processing of Closed Captions when performing an off-speed conversion.
10. Fixed a bug which caused output Closed Captions to be offset from the video when input captions metadata is discontinuous or is not present at the start of the file.
11. Removed the option to create AVCHD/MTS output files with frame rates 23.97Hz and 24Hz; these frame rates were not properly supported and were previously offered in error.
12. Removed the option to create Silverlight output files with resolutions 1280x720 and 1920x1080; these resolutions were not properly supported and were previously offered in error.
13. Fixed the setting of audio delay when creating an output file with a restricted audio configuration (i.e. XDCAM, IMX/D10, MTS or MPG files) – in these cases, a global delay control has replaced the individual stream delays.
14. Fixed the xFile Client behaviour if a user profile is modified in one client while it is open in another client.
15. Fixed a bug that could cause a mix up between user and default profiles in the xFile Client allowing a default profile to be modified.
16. Fixed a rounding bug for 8-bit sample based output encoding that could cause horizontal banding for some picture content.
17. Fixed DAR calculation for sub-SD custom resolution outputs.
18. Improved audio repacking to be more robust when processing sources with audio streams that are present but empty.
19. Fixed a bug that caused a slight drop in the quality of motion compensated conversions from a low frame-rate 720p source.

Known Issues

1. When performing an off-speed conversion, audio gain of approximately 0.1dB is applied; this can cause clipping if there is little or no headroom in the source.
2. Watch folder configurations from a previous installation are not correctly migrated when this version is installed.
3. Processing speeds of greater than 1x real-time are not yet available from the watch folder configuration page.

v2.1.1.2 (10/08/15)

New Features

1. Support for decode of MPEG2 PS/TS.
2. Support for encode of MPEG2 PS/TS with MPEG audio (2 channels only).
3. Added DAR metadata options to specify full-frame 4x3 and 16x9 when creating MOV files.
4. Added off-speed conversion mode options when creating interlaced 50Hz video with a fixed 2:2 cadence.

Bug Fixes

1. Fixed audio phasing errors when processing single channel audio streams for off-speed conversions; single channel streams are now processed sympathetically.
2. Fixed incorrect video duration when creating mixed output cadences; this caused lip-sync errors.
3. Removed support for the H.264 Long GOP HQ CODEC profile after an encoder issue was identified that caused blocky picture artefacts for some source material. This profile will be re-enabled in a future release when the encoder issue has been resolved.
4. Fixed a bug with the input Scan Type and Field Order controls that led to incorrect conversions when one of the controls was set but the other was left in ‘Auto’. For example, the input was treated as progressive when the Scan Type was set to ‘Interlaced’ and the Field Order was set to ‘Auto’, and treated as top-field-first when the Scan Type was set to ‘Auto’ and the Field Order was set to ‘Bottom Field First’.
5. Fixed an error with the initial output cadence phase when the output field order is bottom-field-first.
6. Fixed a picture artefact at the left-hand edge when decoding Apple ProRes files with a horizontal resolution which is not an integer multiple of 16 pixels.
7. Corrected the behaviour of the Snell OD Client when adjusting the ‘Action on Missing Input Stream’ control. It previously reverted any user selected output stream muting.
8. Fixed the Snell OD Client to correctly display licenses with the same name but different feature versions.

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v2.1.0.12 (09/07/15)

New Features

1. Snell OD Client for Mac (OS X 10.9 (Mavericks), 10.10 (Yosemite)).
2. Significantly faster conversion speeds for UHD/4K source files
3. New conversion mode that enables the 'off-speed' playback of 23.98Hz, 24Hz and 25Hz output files; this is supported by audio re-sampling and pitch correction modes.
4. Support for decode and encode of uncompressed MOV files with the following packing: YUV2, 2VUY, V210, V216.
5. Support for decode and encode of DV25/50 within MXF and MOV file wrappers.
6. Support for decode and encode of DVCPRO within a MOV file wrapper.
7. Support for decode and encode of D10/IMX within a MOV file wrapper.
8. New HQ profile option when encoding H.264 Long GOP (MP4) (constant bit rate 10Mbps SD, 50Mbps HD).
9. Support for CentOS/RedHat 7.
10. New 'Detect Safe' mode to supplement the existing 'Detect Sharp' mode for automatic input film cadence detection when there is a risk of misdetection (for example when different cadences are present within the same frame).
11. When creating multiple Snell OD Node instances, shortcuts can now be automatically launched at start-up.
12. Improvements to the Snell OD Client audio routing controls to assist usability.
13. The number of output audio streams can now be set to zero to remove all audio from the output.
14. The prompt for user profile migration after an upgrade can now be dismissed if not required.
15. The Snell OD Client notification area now provides a hint if there is an error that needs attention.
16. A warning will now be provided if no GPUs are enabled for any of the Snell OD Nodes in a deployment.
17. The number of GPUs that can now be used by a single Snell OD Node has increased from 8 to 32.
18. The Snell OD Client profile manager now periodically refreshes its profile tree to pick up user profiles that have been created with a different Client.
19. The custom film cadence entry has been extended to a maximum of 12 fields in total to cover the '2:2:3:2:3' cadence (the previous limit was 10).
20. The number of output audio streams can now be forced to 2, 4 or 8 for XDCAM HD output files.

Bug Fixes

1. Re-generated SSL certificates for the communications between the Snell OD Node and the Snell OD Server because the existing certificates will expire in May 2017.
2. Fixed occasional picture disturbance in output frames just before or just after a scene change.
3. Fixed occasional Snell OD Node uninstall failure on CentOS/Red Hat.
4. Improved automatic audio channel re-assignment when creating MTS output files.
5. Fixed incorrect behaviour when enabling GPUs on the Snell OD Client System page for a multi Node Deployment.
6. Fixed the unreliable update of the job information window when navigating around the Snell OD Client job queue or job history.
7. Fixed the operation of the drop-down box offering historical selections in the Snell OD Browser window.
8. Fixed incorrect file metadata when creating JPEG 2000 files with RGB colour space.
9. Prevented failures when running jobs with a significant number of audio channels on systems with four or more GPUs.
10. MOV files no longer contain a ‘clap’ tag unless they are uncompressed SD.
11. The CPU core count is now displayed as part of the Snell OD Node status.
12. Fixed incorrect film cadence detection when a custom cadence including a ‘1’ field had been entered (e.g. 1:1:1:2).
13. Now robust to MOV sources containing multiple ‘moov’ atoms.
14. Fixed AFD insertion for codes with the 16x9 aspect ratio bit set.
15. Fixed incorrect menu options for the encode of MTS files: 720p25, 720p29, 1080p25 and 1080p29 have been removed, 1080p50 and 1080p59 have been added.
16. Improved robustness to MOV source files with incorrect ‘stsc’ atoms.
17. Improved robustness to MOV source files containing edit list tables.
18. Fixed the DAR metadata for H.264 long GOP MP4 file outputs.
19. Removed the option to select the Blu-ray profile when creating Standard Definition MP4 files as it is not properly supported for these resolutions.
20. Fixed job failures under certain conditions when the Action on Missing Input Stream audio control is set to Mute.

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v2.0.0.12 (27/03/15)

New Features

1. [NONE]

Bug Fixes

1. Fixed conflict between Source Scan Type and Scan Field Order controls when both are set to a value other than Auto.
2. Fixed GPU memory allocation issue that caused job failures with the misleading message “Insufficient memory for OpenCL Platform” when using certain GPU cards (seen with NVIDIA M2070/C2070, Quadro 6000 and GTX 500 series).
3. Fixed issue with the Snell OD Client Profile Manager that caused Initial Cadence Phase control to reset to ‘1’ if a user profile was closed and re-opened.

V2.0.0.10 (18/03/15)

New Features

1. Automatic film cadence detection and removal including custom cadence support.
2. Film cadence insertion including support for mixed material.
3. Significantly faster conversion speeds for low frame rate 1920x1080 source files (speed-up in excess of 50%).
4. The option to install the Snell OD Node as an application allowing access to a wider range of GPU devices.
5. The option to run multiple Snell OD Node applications on a single host server.
6. Advanced audio channel and stream controls including delay, gain and program shuffle.
7. Support for Closed Captions using SMPTE 436M ancillary data and CEA-608 (Line 21).
8. Insertion of output AFD codes using SMPTE 436M ancillary data packets.
9. Support for decode and encode of XAVC I-frame and long GOP within an MXF file wrapper.
10. Support for decode and encode of H.264 long GOP (including AAC audio) within an MP4 file wrapper.
11. Support for encode of XDCAM within a MOV file wrapper.
12. Support for the creation of Closed GOP XDCAM output files.
13. Support for output resolution 4096x3112.
14. Creation of custom output resolutions up to 8K x 8K.
15. Support for more than 8 audio channels per audio stream when creating MXF files.
16. Synchronizer conversion mode for standards conversion.
17. Control to set Display Aspect Ratio output metadata for SD and custom output resolutions.
18. Support for encode and decode of growing MXF files (including Watch Folder support).
19. Control to override input field order (top or bottom-field-first) to process source files with incorrect metadata.
20. Improved conversion quality for clips with chaotic motion.
21. Watch Folder specific Snell OD Watcher configuration.
22. Snell OD Client shortcut to create default local deployment.
23. Snell OD Client Create Job dialog now preserves previous entries.
24. Reduced job start up time.
25. GPU descriptions are now displayed with the enable/disable controls in the Snell OD Node status and configuration.
26. Quicktime Format and Endianess controls for MOV output files to improve compatibility with other software that requires a particular Sound Sample Description version (for example Adobe Premiere).
27. Notification if no valid OpenCL devices are available.
28. All Snell OD components now report if they have been built for a Trial release.
29. Faster DPX file writing.

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Bug Fixes

1. Fixed failure to decode the final 1 to 3 output frames of source files with a MPEG2 or H.264 based CODEC.
2. Fixed incorrect bottom-field-first field order metadata when creating DVCPro 100 MXF files.
3. Corrected state of ‘Drop Frame’ checkbox when Start Timecode is set to ‘Follow source timecode’.
4. Fixed Snell OD Client crash on CentOS 6.6.
5. Improved configuration and profile migration to reduce problems when upgrading and downgrading Snell OD components.
6. Now robust to MOV wrapped DNxHD input files that have been created without any field order metadata.
7. Now robust to MOV files with a zero length handler reference (‘hdlr’) atom.
8. Now robust to MOV files which contain a ‘wide’ atom of an incorrect length (and therefore do not match the QuickTime specification).
9. Fixed Snell OD Client job history queue filtering for Daylight-Saving time.
10. Fixed Snell OD Client localhost lookup which caused a crash on start up when using DHCP without a DNS server.
11. Fixed occasional Snell OD Client crash when scrolling the job history queue.
12. Fixed ‘Process existing files’ bug that caused previous jobs to be resubmitted when the Snell OD Watcher was restarted.
13. Fixed incorrect reporting of Snell OD Node hyper-threading status.
14. When downgrading, incompatible deployment configurations can now be deleted using the Snell OD Client.
15. Fixed ‘flutter’ artefact at the bottom of the picture for some conversions.
16. Previously, if the source picture height was close to SD, it was assumed to be an exact SD resolution and the conversion was corrupted; this has been fixed.
17. Fixed issue with MOV wrapped DNxHD output files that prevented them from playing correctly in Avid Media Composer.
18. Fixed issue with MXF wrapped XDCAM output files that caused compliance problems with Sony XDCAM viewers.
19. Clean cut is now properly disabled if set to ‘Off’ on the Conversion menu.
20. Snell OD Browser and metadata retrieval is now robust to filenames which include an extended character set.
21. When overriding the DPX source frame rate from the Input menu, previously the control was actually setting the source field rate; this has now been corrected.
22. Fixed incorrect colour space conversion when creating DPX output files.
23. Removed menu option to create 24-bit audio when encoding MTS files as this is illegal.

Known Issues

1. If Source Scan Type and Source Scan Field Order controls are both set to a value other than Auto, one of the controls will be ignored.

v1.2.0.20 (04/11/14)

New Features

1. [NONE]

Bug Fixes

1. Fixed dead pixels on the right-hand edge of the image for DVCPro and DNxHD output files.
2. Fixed a vulnerability that could cause the Snell OD license server to appear off-line to the Snell OD Server.
3. Changed the MOV unwrapping so it is more robust to a file with a ‘wide atom’ that does not meet the QuickTime specification.

Known Issues

1. The decoding and encoding of JPEG 2000 is not correct for interlaced video standards.

v1.2.0.18 (19/09/14)

New Features

1. MOV unwrapping is now more robust to malformed source files with missing audio metadata.
2. Added 960x540 50p and 960x540 59.94p video resolutions for Apple ProRes and DPX outputs.

Bug Fixes

1. Removed AVCHD (MTS) menu entries for 720p30, 720p60 and 1080p30 video standards, these had been included in error.
2. Fixed Luma Clipper and RGB Legalizer so they are completely bypassed when disabled in the menu.

Known Issues

1. The decoding and encoding of JPEG 2000 is not correct for interlaced video standards.
2. Dead pixels appear on the very right-hand edge of the image for DVCPro and DNxHD output files.

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v1.2.0.14 (05/09/14)

New Features

1. Quasar OD format conversion solution added to the Snell OD framework.
2. RGB Gamut legalization including presets for 700mV, 721mV and 735mV.
3. Support for decode and encode of JPEG 2000 within MXF, MOV or MJ2 file wrappers.
4. Support for decode and encode of AVCHD within an MTS file wrapper.
5. Support for decode of XDCAM within a MOV file wrapper.
6. 2K and 4K video resolutions are no longer Trial Features, they are available as standard.
7. Extended the number of audio channels that can be supported per stream for Apple ProRes from 8 to 24.
8. Support for encode of XDCAM HD 1080p 23.98 and 29.97 Hz frame rates.
9. Support for encode of 2K resolutions at 23.98, 25, 29.97, 50 and 59.94 Hz frame rates.
10. Added reverse SMPTE 268 datum control for DPX inputs to enable support for files created by the DVS Clipster.

Bug Fixes

1. Fixed MPEG2 based CODEC picture performance for systems with greater than 32 CPU cores.
2. Improved speed performance for conversions where the CODEC was causing a bottleneck (particularly DNxHD and 1080p at high frame rates).
3. Fixed Horizontal and vertical alias suppression controls which were previously not connected in the framework.
4. Fixed DNxHD 40Mbit and 45Mbit 8-bit encoding.
5. Removed a dependency on .NET 4 from the Snell OD Node application.
6. Corrected conversion length issue that was caused by a failure to process the final two source frames.
7. Fixed an error in black level for Apple ProRes 4:4:4 output files.
8. Fixed interlaced, bottom-field-first metadata reporting in the Snell OD Client for Apple ProRes files.
9. Corrected creation of a second license server configuration when upgrading the Snell OD Server.
10. Changed default clean-cut field from ‘Field 1’ to ‘Any’.
11. Fixed incorrect blanking control limits for some video standards.
12. If set, the DPX source frame-rate control was interfering with conversions from non-DPX sources.
13. Fixed failure to process files with non-ASCII characters (e.g. ö).

Known Issues

1. The decoding and encoding of JPEG 2000 is not correct for interlaced video standards.
2. Dead pixels appear on the very right-hand edge of the image for DVCPro and DNxHD output files.

v1.1.1.16 (16/07/14)

New Features

1. [NONE]

Bug Fixes

1. Fixed incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions.
2. Fixed reliability concern when running with six GPUs.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.

v1.1.1.12 (07/07/14)

New Features

1. Added support for 64-bit RedHat/CentOS.
2. License configuration for a Snell OD Node now set up via a Snell OD Client.
3. Automatic resolution of localhost name when making a Snell OD Server connection from the Snell OD Client.
4. Snell OD Node status now reports CPU type and speed.
5. Drop-frame timecode can be disabled for output video standards where it is the default.

Bug Fixes

1. Fixed occasional loss of synchronization between Snell OD Client and Server when cancelling a queued job.
2. Fixed loss of Deployment and Watch folder configuration on upgrade.
3. Fixed Snell OD Server error when Watcher adds a lot of jobs at the same time.
4. Fixed mismatched GPU types causing slow processing and job failures.
5. Fixed Windows Handle/Linux File Descriptor leak.
6. Fixed corruption of audio packets when creating XDCAM HD output files.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

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v1.1.0.12 (20/06/14)

New Features

1. [NONE]

Bug Fixes

1. Fixed audio ‘clicking’ for AVC-I 100 source files.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

v1.1.0.10 (29/05/14)

New Features

1. [NONE]

Bug Fixes

1. Prevented the expiration of a trial from a previous release from invalidating a new trial installation.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

v1.1.0.8 (28/05/14)

New Features

1. [NONE]

Bug Fixes

1. Fixed trial Snell OD Node application which was incompatible with Alchemist OD trial license.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

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v1.1.0.6 (22/05/14)

New Features

1. AMD GPU support.
2. Support for MOV wrapped ProRes encode and decode.
3. Support for MOV wrapped DNxHD encode and decode.
4. Node resource detection and configuration.
5. Video file metadata display in Browser window.
6. Job metadata display now available from Job Queue and Job History panes.
7. Setting of output start Timecode.
8. Improved picture performance for 4K/2K and 1080p conversions.
9. Job Queue warning display.
10. Setting of output audio bit depth.
11. Simplification to system configuration which allows Host and Port settings to change without the need to remove and re-add components.

Bug Fixes

1. Fixed chroma frequency response when down-converting.
2. Stopped Watch folders triggering early when a large file was being copied into the directory.
3. Improved performance of Browser window.
4. Fixed reliability issues with some combinations of source file and conversion profile.
5. Removed Alchemist OD banner from DPX file outputs.
6. Took out vulnerability to SSL Heartbleed bug.
7. Fixed setting of double-digit numbers in the Hours field of the Job History filter.
8. Took out the Node licensing requirement that demanded that the logon credentials of the current user matched the logon credentials of the installer.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

v1.0.2.6 (06/03/14)

New Features

1. [NONE]

Bug Fixes

1. Fixed the Ph.C control which was causing all jobs to fail when it was disabled.
2. Corrected the output audio which was missing for some conversions.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

v1.0.2.2 (27/02/14)

New Features

1. Soft Y and C clipper.
2. Reduction in GPU memory requirement to 2GB.
3. Job history display filtering.
4. Improved Node error reporting.

Bug Fixes

1. Fixed the job queue ‘Delete All’ function which was failing if the job at the top of the list was running.
2. Fixed the DNxHD bit-rate which was previously always set to the maximum.
3. Ensured that user deployment/configuration is preserved when components are upgraded.
4. Added more efficient job queue management for long job queues.
5. Trapped duplicated configurations in different deployments.
6. Corrected System page deployment count which was occasionally incorrect.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

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v1.0.0.10 (03/02/14)

New Features

1. [NONE]

Bug Fixes

1. Fixed incorrect license file included in Trial installer.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.

v1.0.0.8 (24/01/14)

New Features

1. First release.

Bug Fixes

1. First release.

Known Issues

1. MPEG2 based CODECs are not properly supported on systems with more than 32 CPU cores.
2. Incorrect program length for 29.97Hz/59.94Hz to 24Hz conversions causes lip-sync problem.