

To: Eclipse Support Agreement & Warranty Customers

Date: February 2, 2011

Subject: EclipseSuite BD 3.0 & ImageEncoder 4.0 Release

Summary:

This TechFlash is to notify all support agreement & warranty customers of the availability of the final release of EclipseSuite BD 3.0 & IEScheduler\ImageEncoder 4.0. This version is available to all support agreement and warranty customers.

IMPORTANT! *Both EclipseSuite 3.0 BD and IEScheduler/ImageEncoder require activation before use. While the EclipseSuite BD 3.0 will not overwrite any existing installation, the IEScheduler/ImageEncoder will. Do not install the IEScheduler/ImageEncoder software unless you have the activation code or unless you can obtain one from Eclipse or Eclipse representative. Contact Eclipse Customer Support for an activation code before proceeding.*

Key Features:

The following are the key features of EclipseSuite BD 3.0.

1. Added support for Blu-ray 3D images.

This includes support for the new BDCMF 1.20 and 1.21 specifications.

- Supports the "CMF-DOCS.ZIP" file (version 1.20 and higher). This file will be created by ImageCopy and will include customer's metadata files (defined in BDCMF 1.21). The EclipseSuite programs now include the Preference option "**Archive log files in BDCMF**" that when enabled will append the log file to the CMF-DOCS.ZIP file. This file is not described in the BDCMF.CMF file and therefore is not protected with a SHA-1 checksum like every other BDCMF file. ImageCopy will protect it by creating a checksum for it in the checksum.chk file.
- This version adds the new rules "BDCMF Version 1.19", "BDCMF Version 1.20" and "BDCMF Version 1.21".
- When converting a Sony CMF to BDCMF and the Automatic output behavior is chosen, BDCMF version 1.21 will be created if 3D data is found or if the input Sony CMF is version 0.933 or later.

2. Added support for Microsoft® Windows 7 (EclipseSuite only).

There has been limited testing in the Windows 7 operating system without any problems. Only the Professional and Ultimate 32-bit versions of Windows 7 are supported.

3. Enhanced the EclipseSuite tools with an option to specify a onetime usage of rule and/or behaviors file.

It is sometimes necessary to modify a rule or behavior for a specific job. In previous versions, users had to modify the existing configured rules or behavior files or save the changes under a new file. While this process worked, users sometimes forgot to return the rules or behaviors back to their original setting.

Instead of permanently saving the rule setting, the users can now specify a onetime use of a rule or behavior file. If users do not have a rules or behaviors file configured, then they can choose to modify the default rules or behaviors for the current job only. Once the job finishes, the rules and behaviors will automatically return to their original settings.

To use this new feature, hold down the Shift key while clicking the Start button or click File|Run Once. A window will popup asking you to select the rules and/or behaviors file to use for the job. Optionally, instead of selecting a file, you can select to modify individual rules and behaviors.

4. Added several enhancements to the Title Structure analysis.
5. Added support for new devices.
6. Added several new rules to the Blu-ray analysis.

Fixes & Enhancements:

The following summarizes the fixes and enhancements since the release of EclipseSuite BD 2.0.

1. Enhanced the EclipseSuite tools to identify the image format and copy protection during the analysis. This will be displayed above the progress bar in the Analysis tab.
2. Enhanced ImageCopy to also copy the PARTIAL_INFO directory and its contents when copying a BDCMF image.

The PARTIAL_INFO directory may be created by the CMU utility when signing an image. It will include the encryption keys and signed certificate files that can be archived along with the original Type A image for future use. Previously, when copying an image that included the partial info folder, the image was copied but the PARTIAL_INFO folder was not. ImageCopy has been changed to copy this folder when it exists.

3. Added several enhancements to the Title Structure analysis.
4. Added new rule "BDCMF/PIC BCA Flag mismatch".

This rule is triggered when the BCA flag in the BDCMF.CMF file does not match the BCA flag in the PIC.DAT file. The BCA flag on a disc will be determined by the BCA flag in the PIC.DAT file, unless it is overridden during mastering.

5. Update the EclipseSuite tools with the latest changes to the AACS requirement for Managed Copy compliance according to the "AACS Notice to Licensees 2010-05 MC Spec Update" document. The changes include:
 - New error rule "Incorrect size for AACS Managed Copy Manifest file" to indicate when the MCMF size is more than 768 Kbytes.
 - New info rule "No Content ID in Managed Copy Manifest file". This condition won't be an error as it used to be in previous versions. AACS recommends the MCMF to have a Content ID, but it is not required. The MCM can start the process providing the Content Certificate ID instead.
 - The severity for the rule "No AACS Managed Copy Manifest file" was changed from a warning to info. AACS recommends an MC-ready BD-ROM to have this file but if it is not present, MCM can start the process by accessing the Default MCS and providing the Content Certificate ID.
 - Added support for the new elements defined in the revised MCMF XML Schema.
6. Force the BDCMF "Density" attribute value to the only supported value of "25G".

The Density attribute will default to 25GB even when the attribute contains an invalid value or if it is missing. Currently, 25GB is the only supported density.

7. Support retrieving an existing key set from a secure BDCMF image.

In a Secure CMF image, the encryption keys are stored in the file KEY.DAT or KEY.DAT.EPKI rather than storing them in the Unit_Key_RO.inf file in the image as it is done normally. Since Secure CMF is not common, full support for this feature had not been fully implemented. Previous version of the EclipseSuite software still expected to find the encryption keys in the image and did not know to search the KEY.DAT or KEY.DAT.EPKI files.

8. The 'AACS' dongle option has been modified and the new option 'AACS Encryption' has been created in order to allow copying of images without encryption.

It is sometimes necessary to make a clone copy of a Type A image without encrypting it. In previous version, this was not possible since ImageCopy would always encrypt the image during the copy process. In order to allow this, ImageCopy requires the new option 'AACS Encryption'. The original 'AACS' option now only applies to ImageAnalysis and ImageVerify.

If upgrading from EclipseSuite BD 2.0 you will require a dongle activation for ImageCopy if you are doing AACS encryption. If you are upgrading from an older 3.0 Beta version, it is possible that you may also require an activation.

Note that these changes also affected the CMU. However, as long as the CMU is run on the same computer as ImageCopy there is no need for additional activation.

9. Added new warning rule to report PAC read errors when reading from disc.

Previously the generic PAC error rule was used to report this condition. Since the PAC data is currently not used, ImageCopy always creates it when copying from disc. Therefore, any read errors from disc can be ignored.

10. Corrected a problem where the log entry for the BD Live Options preference "Output ESW File Name" was set incorrectly.

11. Added logging of ImageCopy options "Do not encrypt", "DDP on disc" and "Disable Laser".

The ImageCopy log files will now include an entry that indicates the setting of these options when the job was run. The settings for these options can be found in Info|Runtime.

12. Added logging of preference settings "Archive log files in BDCMF" and "Overwrite logs under automation".

The log files will now include an entry that indicates the setting of these options when the job is run. You can view these settings in the Info|PREF display.

13. Corrected a problem where the "Limit analysis messages to 1000 per rule" and "Output DVD checksum version 0.99" behaviors were not being set to their default setting when running an application for the first time.

When no behaviors file is being used and an EclipseSuite program was started, the above behaviors were not initialized to their default setting.

14. Corrected a problem that was causing the EclipseSuite tools to abort with the error 'End of input encountered' during UDF analysis.

The problem was caused by invalid addresses in the backup anchor points of the UDF file system.

15. Corrected a problem in ImageCopy that was causing an unnecessary overwrite prompt when automatically saving log files with the timestamp naming convention.

When the automatic saving of log file was selected and the log naming convention was set to timestamp, there was always a user prompt to replace the existing log file. This prompt was occurring by error since the timestamp should have made the log filename unique.

16. Corrected a problem where empty lines in the log file were causing errors when opening the log.
17. Corrected a problem in ImageCopy where it was not properly setting the PMSN flag in BDCMF if the source image was Sony CMF.

When processing a Sony CMF image and the PMSN flag is set in the CPTBL.DAT file, previous versions of ImageCopy did not set the PMSN flag in the output BDCMF image.

18. If multiple individual sections for the same file entry are found in the JAR Manifest File when verifying the Java Signature File, the "SHA1-Digest" attribute value of the last section will be used according to the JAR File Specification.
19. Added several UDF analysis enhancements.
 - The UDF analysis was tuned for better performance.
 - Many UDF errors will provide more details in the Additional Info column in the analysis.
 - Improved the UDF analysis that checks Volume Descriptors for equivalence.
 - Added support for file/directory extents that are allocated but not recorded.

Typically, all extents will be allocated and recorded. However, the UDF file system supports another type that is 'not recorded but allocated'. The EclipseSuite tools are now able to detect these types of extents and will trigger the new rule "Extent not recorded and not allocated" when detected.
 - Don't display the "FE/EFE ICB File Type" info for each file when the UDF behavior "Basic Advanced UDF info" is checked to decrease memory requirements.
 - Don't log any debug statements and don't check for allocation errors during the quick UDF scan that gets used to determine the media content type. A UDF analysis is not intended when determining the media type.
 - Corrected a problem that could incorrectly trigger the rule 'Invalid Partition Descriptor' with the Additional Info '...Partition overflows'.
 - Show location information for file extents with error conditions under the UDF tab with the appended string "(Extent error)" to help during debugging.
 - Provide location information in the analysis tab when showing the rule "**Invalid Logical Block Number**" for allocation descriptors. Without a location it is difficult to know what descriptor was affected by the error.
 - Added new UDF behavior "**Support multiple partitions**" to optionally expect this possibility during address translations from LBN to LSN. The software expects multiple possible physical partitions but all known ROM formats use only one. By default this behavior will be turned off so that invalid LBN addresses can get translated to a meaningful LSN.
 - Allow an Extended Attribute space to contain only the Extended Attribute Header Descriptor and no Extended Attributes.

An Extended Attribute includes a header (Extended Attribute Header Descriptor) and 0 or more Extended Attributes. Previously, the ES tools expected at least one Extended Attribute. Recently, a customer submitted a log where an Extended Attribute included the header but not attributes. This triggered the rule "Bad Extended Attribute".
 - Added more UDF checks to comply with BDA File System Verifier requirements.

20. Corrected a problem where ImageAnalysis remained running in the background after a job was aborted and there were too many errors in the analysis.

The software was unable to process all the errors fast enough so they were queued in memory to be processed. The job was not allowed to abort until all errors were processed.

21. Detect the Content Certificate Bus Encryption Enable (BEE) flag on a Sony CMF image and set the BDCMF Bus Encryption Flag on the output image when converting to BDCMF.
22. Display the bus encryption flag on the Info | BD-ROM tab.

The EclipseSuite tools will check the Bus Encryption Enable flag in the BDCMF file and report it in the Info tab. The same will be done if the image is Sony CMF.

23. Enable/disable the button allowing unencrypted transfer when the user types in the DDP location manually.

When the user selects File as the source device, ImageCopy will enable the 'Do not encrypt' check button to allow the transfer of the image without encryption.

24. Corrected a problem that was causing SCSI read errors when analyzing BD media and copy-protection Plug-Ins were configured.
25. Corrected a problem that caused no default Sony CMF output behavior option.

The default output behavior for Sony CMF conversion is 'Automatic'. However, when loading behaviors from a file, neither option (**Automatic** or **BDCMF 0.90**) was selected. This is only a display problem as ImageCopy still uses the 'Automatic' behavior internally.

26. Enhanced the EclipseSuite tools to detect when the Content Hash Table files are not the correct size.

The EclipseSuite tools currently check when the file is too small. However, a problem surfaced where the file was larger than required. This problem was not detected until the CMU tried to sign the image. Because of the larger file size, the CMU thought the user was signing the wrong image. The CCs cannot be applied to the image and new CCs are required once the problem is corrected in the authoring system. This problem is now detected early in the process.

27. Corrected a problem where the incorrect media type was being set when reading a disc on a BD drive.

The Blu-ray drives are also CD and DVD readers. Before the media can be analyzed, the media type must be identified so that it can be handled correctly.

28. Corrected a problem that caused the preferences not to be loaded when the EclipseSuite and ImageEncoder programs were launched.
29. Added new rule "Full signature" which defaults to Ignore. This rule displays the full signature value.
30. Clarified each instance of the rule "Blu-ray Last User Data Address too large". Now the additional information will contain a more descriptive explanation of the issue causing the rule to be displayed.
31. Log all BD-Live preference options in the Info | PREF section of the analysis/log file.
32. Corrected a problem that was causing the EclipseSuite tools to crash when opening a log file that included certain UNICODE characters.

These Unicode characters in a log file caused an internal pointer to be NULL and crashed the EclipseSuite applications when they tried to use the pointer.

33. Perform the HDMV Region playback analysis even if there are CHT/CC errors.

Previously, the EclipseSuite programs would abort the HDMV Region playback analysis if there were any CHT/CC errors.

34. Modified the Sony CMF Output Behaviors to output a more current version of BDCMF during the conversion in order to support images that use the Bus Encryption Enable in the CC.

Previous Sony CMF behaviors were as follows:

Automatic – (Default) This option would create a BDCMF image using BDCMF version 0.90.

BDCMF 1.01 – Using this option would force IC to create a BDCMF image using BDCMF version 1.01.

In this version, the behaviors have been reversed. Now, **Automatic** will default to BDCMF 1.01. The option '**BDCMF 1.01**' has been renamed to '**BDCMF 0.90**' and will generate BDCMF 0.90.

When the **BDCMF 0.90** output behavior is selected, ImageCopy will check the image CC for the BEE flag and the Sony CMF data for version 0933 or SSIF data. If either of these is present or more than 1 CPS unit exists, an error is triggered and the job is aborted (BDCMF 0.90 does not support more than 1 CPS Units or the BEE flag).

The purpose of outputting version 1.01 is to support the 'Bus Encryption Enable' Flag in BDCMF when the image CC is Bus Encryption Enabled.

35. Corrected a problem that was causing dongle counts to be decremented more than once when analyzing a BD-ROM image.
36. Corrected a problem that was causing the ImageCopy process to wait 30 seconds before being shut down completely.
37. Corrected a problem that caused the drive LG CH08LS10 not to be recognized.
38. Make "BD-ROM AACs robustness requirement failure" rule be an abort instead of error since many masters are coming in as playable discs on BD recordable without an AACs directory.
39. Added a new rule "Managed Copy URI" which will display the valid URI found the mcmf.xml file under the Additional Info column.
40. Remove the Sony CMF output options. Now all is automatic:
 - If Sony CMF is version 0.933 or above, ImageCopy will output BDCMF 1.21
 - Any Sony CMF version with SSIF SA data will create BDCMF 1.21
 - If more than 1 CPS units are in the data then BDCMF 1.01 will be created.
 - If only 1 CPS unit then BDCMF 0.90 will be created.
41. The rule "Invalid video frame rate" was renamed "PAL compatible video frame-rate" and will now default to "Info" severity.

Video frame rates of 25MHz or 50MHz are valid but may still present some problems for certain BD players. According to specifications, not all players are required to support these video frame rates, except for players designed for regions that use these video frame rates (PAL). Customers should consult with the BD players for compatibility.

42. The new "Info" rule "Estimated HDMV Region playback" will be shown when the HDMV region playback analysis detected at least one clip that will play for at least one of the known regions.

The additional info column will display for each region if playback is:

- Allowed
- Partial (50% or less of the total amount of clips will get presented)
- Prohibited
- Not applicable

43. When a BDCMF image has no region information, show the message 'Not Applicable' in the additional info for the rule "BDCMF Region". Similarly, the same message will be displayed for the "Region" item of the Info|BDCMF.

44. The warning rule "Different BDCMF and estimated HDMV Region playback" will be shown for each individual region playback value that won't compare when at least one BDCMF and one estimated HDMV region assignment was determined to be applicable for images with no BD-J titles.

45. The "Warning" rule "Video frame-rate support is optional" will be used to highlight video clips encoded at PAL compatible (25/50 Hz) frame-rates that were determined to playback on regions "A" or "C" by the HDMV region playback analysis.

46. If presentation on all Blu-ray regions was determined to be "Partial" by the HDMV Region playback analysis, promote regions including more clips to "Allowed".

47. Corrected a problem in the XML output so that it does not log unprintable characters.

48. Don't show the warning rule "Different BDCMF and estimated HDMV Region playback" when playback for all the regions was set to "Allowed" in the BDCMF file but the HDMV playback for all regions was determined to be "Limited" during the analysis.

This is because presentation for some clips could be limited to parental settings or other configuration conditions in the player we are currently not testing.

49. Log the Bus Encryption Enable flag setting in the Info|BDCMF section.

50. Preserve all valid UTC-8 character sequences in XML files and display the new info rule "Multiple UTC-8 octet sequence" when they are found.

If an invalid sequence is detected, display the new error rule "Invalid UTC-8 octet sequence" and replace the octets with a space character so that the file can be processed and the applications can continue uninterrupted.

51. Corrected a problem with the XML library which was causing the EclipseSuite tools to crash when trying to handle invalid elements.

52. Do not show UCD Bus Encryption Flag errors when the Content Certificate BEE flag is set and the input is a disc.

Currently, drives do not support Bus Encryption so this BEF tests will always fail on BD media.

53. Make sure to check the layer 0 last address unit (LAU) against the theoretical maximum number of sectors for layer 0 - even when working with a dual layer image.

Previously, the software only checked the LAU for layer 0 for a single layer image.

54. Fixed Export to HTML function to correctly print out the Verify After Analysis categories.

55. Enhance ImageVerify completion status in the progress tab to show whether or not it was successful so that it is consistent with ImageAnalysis and ImageCopy.

56. Renamed analysis category labels in the XML logs to match with user interface labels.

57. Fixed XML export problem where categories are printed multiple times.

58. Corrected a problem where the rule "AACs Managed Copy Manifest file error" was being triggered incorrectly.

59. Added several enhancements for Secure CMF.

- Added a new behavior to IC "Prompt for BDCMF 1.10 Secure encryption targets".
- When "Prompt for BDCMF 1.10 Secure encryption targets" is enabled, display a dialog box asking the user to select the secure BDCMF targets in ImageCopy at the beginning of a transfer.
- Change the software to always select a matching public key for the inserted private key when encrypting – regardless of whether the user has chosen that key as a target.

60. Corrected a problem in ImageCopy that was causing a job to abort with the error "Abnormal program termination" and the additional info "UDF File System structure is not Blu-ray compatible" when copying a Type P image.

61. Corrected a problem that caused the rule "Macrovision" was being displayed always as a Warning for Blu-ray images regardless of the severity setting.

62. Corrected a problem that was randomly triggering the error "Clip AV Stream not assigned to a CPS Unit".

63. Corrected a problem where the EclipseSuite tools were not running the HDMV Region Code analysis on Type V images.

64. Update the Royalty Reports to include information for 3D images.

65. Corrected a problem that was causing the warning rule "Elementary HDMV stream not found" to be triggered incorrectly.

66. Change rule "Decrypted analog output is prohibited" to "Digital Only Token enabled - Analog Output prohibited" and "Image Constraint Token enabled" to "Image Constraint Token enabled: High Definition Analog Output prohibited".

67. The EclipseSuite applications could crash during the Region Code analysis with the error "not enough space for thread data" if the image had many buttons executing Call Title commands.

68. Added a message to the Progress tab to indicate when the EclipseSuite tools are "Evaluating Managed Copy compliance".

69. Fixed last user data address and number of layer 0 sector checks. They were off by 1 (using an offset instead of a count).
70. Don't show an error if padding words are inserted between AppInfoPlayList() and PlayList() data structures in a Blu-ray PlayList file.
71. Enhanced the EclipseSuite HTML logs by displaying error messages in bold so they are more noticeable.
72. Renamed the rule "Image Constraint Token disabled" to "Image Constraint Token enabled".
73. Added the ability for the EclipseSuite tools to recognize the BD region code setting 'Not Applicable'.
74. Changed the ImageCopy to write an empty TitleInfo section in the BDCMF file if the source BDCMF does not include it or if it is present but is empty.

Previous versions removed the TitleInfo section from the output in either case. However, the DCA and Singulus encoders were expecting this section and aborted if it was not found.

New Devices:

- Plextor PX-B310U
- Plextor PX-B320SA
- Plextor BD PX-B910, PX-B920, PX-B930, PX-B940 (Blu-ray formats only)
- LiteOn BD iHES106

New Rules:

ATC duration of EXT1 is less than 300 milli-seconds
BD-ROM Content Category
BDCMF Version 0.9011
BDCMF Version 1.19
BDCMF Version 1.20
BDCMF Version 1.21
ClipInfo file requires Extent_Start_Point() definition
ClipInfo file structural error
Common CPS Unit Key was not used for encryption
Different BDCMF and estimated HDMV Region playback
Directory not in Authoring Studio namespace
Equivalent 2D data block not found
Equivalent Base data block not found
Estimated HDMV Region playback
Extent of file is less than 500,000 bytes
Extent size too big for 3D Output Mode
Extent size too small for 2D Output Mode
Extent size too small for 3D Output Mode
First SPN for 3D clip extent differs
Incorrect allocation order for Stereoscopic Interleaved files
Managed Copy URI

Maximum Stereoscopic average bitrate exceeded
Maximum inter-layer jump distance exceeded
Maximum intra-layer jump distance exceeded
Multi-angle PlayItem requires at least two angles
No corresponding EXT1 allocation on Base file
No corresponding EXT2 allocation on Dependent file
PlayList file structural error
Rom Mark unit did not return to idle state
Stereoscopic Interleaved file allocation error
Stereoscopic content assigned to multiple CPS Units
Unexpected BDCMF file size
Video frame-rate support is optional

Download Instructions:

The EclipseSuite BD 3.0 software is available from the following link.

<ftp://ftp.eclipsedata.com/es30bd/esbd30.zip>

Password: ch3Er\$0Bd1

The IEScheduler/ImageEncoder software is available from the following link.

<ftp://ftp.eclipsedata.com/ies40/ies-ie40.zip>

Password: rELiE40TeD8

You may be required to login to Eclipse's FTP site. Contact Eclipse Customer Support if you don't already have the username and password.

NOTE: The software download links and passwords in this email are provided to you as a benefit to your Eclipse software support contact. Please do not forward or share this information outside of your company.