

## EclipseSuite BD 4.0 Release Notes

### Below are the fixes and enhancements since the release of EclipseSuite BD 3.1

#### Key Features

- Support for Verance Cinavia Watermark
- Support for Bus Encryption
- Added AACS Integrity checks between CPS Unit Usage file and Titles
- Support for ImageArchive BD
- Improved performance of region code analysis
- Improved performance of 3D analysis
- Improved performance of SonyCMF to BDCMF conversion of 3D images
- Added support for several new BD drives including many that support Bus Encryption

#### Fixes & Enhancements

1. Enhanced ICheck to accept optical drive letters as input.

Similar to the EclipseSuite tools, ICheck will allow users to search for an image in optical drives. Previously, only hard disk locations were allowed.

2. Enhanced the "Limit analysis messages to 1000 per rule" behavior so that the message limit applies separately for each analysis section.

The analysis tab in ImageCopy and ImageVerify include multiple analysis sections. In the case of ImageVerify there is one section for the source and one for the target. In the case of ImageCopy, if Verify After Copy is enabled, there are two sections for the source (**Copy** = analysis during the copy process and **Source** = analysis during the verify pass) and one for the **Target** (output image).

Previously, the limit behavior would add the same rule message from all analysis sections and stop reporting it once the combined total reached 1000. In this version, the limit behavior will apply to each section independently.

3. Changed the severity of the rule "SHA-1 mismatch" from warning to error.

The BDCMF specifications include a SHA-1 for all files of a BDCMF image. However, since it requires extra processing in order to calculate the SHA-1, it wasn't always kept up to date. Recently, however, authoring studios have begun to include the SHA-1 for a Type A image. Since a Type A image will not include an Eclipse signature or file checksums, the SHA-1 is the only thing that can identify whether any file is corrupt.

This error will trigger for any image Type. Therefore, if using Eclipse's CMU to sign images, you should enable the option for updating the SHA-1 in ICheck. The CMU uses ICheck for recalculating the checksums and optionally the SHA-1.

4. Corrected a problem with ICheck that would cause a version error in the CMU.

ICheck is used by the Certificate Management Utility (CMU) for updating file checksums and SHA-1. Since there are different versions of both utilities, the CMU checks the version of ICheck when it is first launched. If it is not a compatible version, an error message is displayed. The version error was being triggered incorrectly in previous versions.

5. Enhanced the EclipseSuite tools to display the Content Certificate ID data in the analysis.
6. Corrected a problem in ImageCopy where the Info|Out DVD section was being displayed after copying a BD image.

The Info|Out DVD was incorrectly displayed since it is specific to DVD images.

7. Corrected a problem where the rule "Bad Title Structure component" was being triggered incorrectly.
8. Changed the severity of the rule "DDP/CMF file found on input media" from Flag to Error.

This change was necessary in order to prevent copying and/or mastering of an incorrect image. Images that are recorded on recordable media (i.e. DDP on Disc) are normally the source for copying and mastering. If the image is not detected during the initial pre-scanning, then the disc is loaded as though it was the master. If the resulting image was to be mastered, the replicas would include the original DDP image; obviously not what was intended.

This rule will be triggered if the DDP on Disc image was not automatically detected during the pre-scanning but detected later during the UDF analysis but after the copy process has started.

9. Corrected a problem where the UDF behavior "Discover invalid Anchor Volume Descriptor Pointers" was not being displayed in the Info|R&B information.
10. Corrected a problem where the Info|Preferences were not displaying the options "Encrypt with Replicator Plant ID", "Clear APS" and "Movie Studio common keys directory".
11. Corrected a problem where the Preferences "Default UDF extraction directory" and "Default UDF building directory" were labeled incorrectly in the Preference section of the Info tab.
12. Corrected a problem where the UDF tab was not updating its content when the window was resized.
13. Enhanced ImageAnalysis signature calculation and output to work with disc sources.
14. Corrected an ImageCopy problem where under certain conditions the disc analysis was not being performed during Verify After Copy.
15. Enhanced ImageCopy so that it always outputs dummy BDCMF Volume ID and KCD when copying "BD-ROM Data Media" image.

The Volume ID and KCD are required by encoders for the Rom Mark during mastering.

16. Enhanced ImageCopy performance when processing SonyCMF images.

Previous version could take many hours to process the Clip AV Stream extents.

17. Enhanced the HDMV Region Code analysis in the EclipseSuite tools.

In previous versions, it was possible that the HDMV analysis could take several hours and result in an application crash if the computer ran out of system resources.

18. Corrected a problem that was causing the error "JAR Signature file analysis error" with Additional Info "...JAR Manifest file entry ... not found"

This error was being triggered because a file entry was found in the Manifest file but it did not include a SHA1-Digest. The specifications allow authors to include the file entry with the missing SHA1-Digest. Therefore, this error will no longer be triggered when this condition is detected.

19. Corrected a problem with the rule 'PAC Content Error' where the Additional Info column contained incorrect information.

This rule is triggered when the flags in the PAC zone indicate that the PAC zone contains data but it actually does not. Or, when the flags indicate it does not contain data but data actually exists. The Additional Info column of the analysis would display the setting of the flags. Previously, if the flags were set but no data existed in the PAC clusters, the EclipseSuite tools were incorrectly displaying that the '...flags were not set'.

20. Corrected a problem that was incorrectly triggering the error "Incorrect allocation order for Stereoscopic Interleaved files" on 3D images.
21. Corrected a problem that was causing incorrect file checksums when creating a Type P image from a BD-R.
22. Added the new item "Checking CMF file extents" to the progress tab when copying a SonyCMF 3D image.

Some SonyCMF 3D images include many Clip AV file extents which causes the EclipseSuite tools to take a long time processing. While the SonyCMF to BDCMF conversion has been enhanced, it is possible that it may still take a while to process. In previous version, this was taking many hours to complete without allowing the user to abort. In this version, users can click the Abort button to abort the job.

23. Updated the ImageCopy preferences to include the new tab 'ImageArchive BD'. Users can use the options on this tab to configure the ImageArchive BD option.
24. Corrected a problem where invalid characters were being saved to the EclipseSuite log files.

The EclipseSuite logs are saved as ASCII text files. However, some of the UDF fields include UNICODE characters. These characters were causing invalid characters to be saved into the logs. New versions will translate the UNICODE characters to ASCII in order to avoid this problem.

25. Added several new integrity checks for CPS Unit assignment to BD titles.

These checks will verify that:

- Every Title, including FirstPlayBack and TopMenu, are included in the Index Table file is assigned a valid CPS Unit number.
- All CPS Units are used
- All Titles are referenced at least once by a CPS Unit.
- Each Title in the Index Table file references the correct object type (Movie Object or BD-J Object).

These enhancements introduce the following new rules.

"CPS Unit Key File size not a multiple of 65,536 bytes"  
"CPS Unit Key File format error"  
"Invalid CPS Unit number"  
"CPS Unit value not set to zero"  
"Unused CPS Unit"  
"Title not included in a CPS Unit Usage File"

26. Add ICheck enhancements when running from the command line.

ICheck supports several command line arguments. However, in previous versions, users could only specify two. In this version, users can specify all supported arguments.

Also, when running from the command line, ICheck will not use the configuration settings from the registry for creating a log file and saving results in a CSV file. ICheck will do this only if it is specified via a command line argument.

27. Corrected a problem where internal SATA and eSATA drives were being identified as USB instead.

This problem was seen on Windows 7. As part of this enhancement, the EclipseSuite tools will identify a device's interface type and drive letter in the Media Selection tab.

28. Corrected a problem that was causing duplicate device entries in the device dropdown lists of the media selection tab.

This caused a lockup or crash when users attempted to use one of the duplicate entries.

29. Enhanced the Media Selection tab to include the drive letter and interface type of optical drives for easy identification.

30. Added miscellaneous enhancements to the Title Structure analysis.

31. Enhanced the EclipseSuite tools to display more attributes of the CPS Unit Usage file in the Info|Video Attributes tab.

The attributes displayed will include:

- Key Management Information for On-line Function structure: describes the Binding Type for a CPS Unit (Unit Key Status and Binding Type).
- Identify whether Titles are Basic or Enhanced.
- Identify the Title Permissions (Default, Instant or Cacheable). If Cacheable display the expiration data.

32. Added the new rule "Missing Basic CCI for AACs", which gets triggered if the 'Basic CCI for AACs' structure is not included in the CPS Unit Usage file.

33. Enhanced the EclipseSuite tools to compare Playlist, Clip Information, BD-J Object and JAR files to their backup copies. The backup files are not optional and must be an exact copy of the main files.

34. Enhanced the Title Structure analysis to allow HandShake and MVSupport permission request files to use Application Profile 1 instead of Application Profile 2.

Recent changes in the specifications allow these permission request files to use Application Profile 1.

35. Corrected a problem that caused a COM error when opening the CMU. The problem was caused when attempting to register ICheck.

### **New Devices:**

#### CD/DVD Drives:

- Plextor PX-LB950SA (internal) & PX-LB950UE (external USB)
- Plextor PX-L890, PX-B310, PX-B320 and PX-B940
- Pioneer BD-RW BDR-206

#### Blu-ray Drives:

- Plextor PX-LB950SA

- LG 'HL-DT-STBD-RE WH12LS30 1.00' (Product Id = 'BD-RE WH12LS30)
- MATSHITA BD-MLT SW-5583
- MATSHITA BD-MLT LF-PB271
- LG BD HL-DT-STBD-RE BH10LS30
- MATSHITA BD-MLT LF-PB371
- Pioneer BD-RW BDR-206

Blu-ray Bus Encryption Drives:

- LG HL-DT-ST BDDVDRW UH12LS28
- Lite-On ATAPI BD E DH12E3SH
- Sony Optiarc BD RW BD-5300
- Toshiba Samsung TSSCorp BDDVDW SN-506AB
- Optiarc BD RW BD-5740L
- Pioneer BD-RW BDR-206 (Mfg. on or after July 2011)