

**To:** Eclipse BD Customers

**Date:** October 24, 2008

**Subject:** EclipseSuite 6.0 Beta Z33 Release

**Description:**

This document is to notify all EclipseSuite BD customers of the availability of **EclipseSuite 6.0 Beta Z33**. The following is a list of the changes since the last beta notification. This beta software has undergone limited testing and is being made available as-is. Please review the following list of changes to determine if any are applicable to your needs.

**Fixes & Enhancements:**

- **Modify the PIC data when creating a Type P image from BD-R or BD-RE media to reflect read-only media.**

The PIC data includes properties that describe the image's physical structure. On a BDCMF image, these properties should reflect read-only media. Previously, when copying from recordable BD-R(E) media, the PIC data was copied as is. Since most of the PIC data is not modified during mastering, this caused replicas to have properties that identified them as recordable media. In this new version, ImageCopy will modify the PIC values so that all fields on the output will reflect a valid PIC for a Read-Only disc.

- **Update the size attribute in the BDCMF if any clip or AACS related file is incorrect.**

The way that the file size of AACS files is represented in BDCMF has changed throughout the different versions of the BDCMF specifications. Some versions require that the file size be specified in bytes, while other versions require it to be specified in sectors. Since the EclipseSuite tools are not affected by invalid lengths that may be specified in BDCMF, previous versions of ImageCopy left these values as is when copying the image. In this new version, ImageCopy will ensure that the file size is in the proper format to match the BDCMF version of the image.

- **Added new rule "MKB and BDCMF Media Key (Km) mismatch" to detect problems where the Media Key in the MKB file does not match the Media Key in BDCMF.**

When an image is signed, the MKB\_RO.inf file in the image is replaced with the one received from AACS LA. The Media Key in this file is also copied to the BDCMF file (or AACS1.DAT in case of BDCMF version 0.90). The Media Key value should be the same in both locations.

- **The EclipseSuite tools will now scan only the last 256 sectors of an image for Anchor Volume Descriptor Pointers (ADVP).**

The UDF specifications require an ADVP at sector 256 and recommend two additional ADVPs at the last sector of user data  $N$  and  $N - 256$ . Previous versions scanned the last 512 sectors, which caused some false errors when analyzing a BDCMF image stored on recordable media. Now, only the last 256 sector will be scanned since it will be enough to detect all ADVPs.

- **Fix problem where incorrect file sizes would be saved internally for files in the AACSFileInfo section.**

The file size for the AACS files (ContentHashTable, ContentCertificate, etc.) was being stored incorrectly by the EclipseSuite tools. This caused certain CMF images to incorrectly trigger the error "CMF File Extent missing or incorrect".

- **Validate the Offset and Duplicate locations in the BDCMF for Unit\_key\_RO.inf, ContentHashXXX.TBL and ContentYYY.cer files.**

Some versions of BDCMF include Main, Duplicate and Offset sector locations for these files. Since the EclipseSuite tools do not use these values, they were ignored and copied as is. In this new version, if an image contains incorrect offset values they will be automatically corrected by ImageCopy.

- **Continue to report the error, but forgive the condition where disc capacity is missing from the BDCMF files. The image will be processed with default values in this case.**

- **Show the new rule "Missing Clip AV Stream file" as a warning and continue when a BD clip file is not found in the UDF directory tree in case the file would be downloaded as part of BD-Live content.**
- **Enhance the BD analysis so that it checks data allocation restrictions according to Annex A of the AACS specifications. Two new rules are introduced for these checks.**
  1. Each physical sector in an Aligned Unit shall be allocated contiguously on the BD-ROM disc.
  2. If a Clip AV stream file is recorded over both physical layers in dual-layer disc, the total size of extents for the Clip AV stream file recorded in layer 0 shall be multiple of a hash unit.)
- **Change the behavior "Prompt for ISO on Disc action".**  
Instead of being ON by default, is it now turned OFF. The reason is that many masters include ISO files as part of the data content on the disc. Without this behavior turned ON, the disc will be loaded as the master image. Customers who receive masters as ISO images should turn this behavior ON.
- **Corrected a problem in ImageCopy that was causing it to hang at the end of the Verify After Copy process.**
- **Read and report the ISAN information if BD media includes the file mcmf.xml and it contains a valid ISAN.**
- **Added new warning "ISAN Error".**  
Since BD-Live is not fully supported yet, the severity of this rule will default to a WARNING.
- **BDCMF element "CMFInfo\TitleInfo" has been made optional for BDCMF Type P.**
- **Enhance the BD analysis when reporting AACS encryption problems.**  
When a Clip AV file belongs to an encrypted CPS Unit, it is expected that all Aligned Units of the Clip file be tagged for encryption. When analyzing images where not all Aligned Units were tagged, previous versions of EclipseSuite were incorrectly reporting "Clip AV Stream encrypted with unknown CPS Unit Key". The analysis has been enhanced to better detect this condition and now it is reported as "Unencrypted aligned unit in encrypted stream." This condition is known to cause playability problems. However, it can be corrected using ImageCopy v6.0 Beta Z27 or later (during encryption: Type A to Type B conversion).
- **Re-enabled the rule "Clip AV Stream in different CPS Units".**  
When a Clip is referenced by two or more CPS Units it causes problems in the generation of the Content Certificate and Content Hash Table files. This will still occur but the error "Clip AV Stream in different CPS Units" will be used to identify the problem.
- **Corrected a problem where the Royalty Report was not being saved if the directory specified in the Preferences did not exist.**  
If the "Central location" path specified in the Preferences for the Royalty Report option did not exist, the report was not getting saved. Now, the EclipseSuite tools will create the directory if necessary.
- **Corrected a problem where the Royalty Report log file was conflicting with the EclipseSuite XML log file.**  
The EclipseSuite tools have an option that will save the log file to an XML file. The filename can be the same as the standard log filename but with an XML extension. The Royalty Report was attempting to create a log file with the same filename, therefore, overwriting the existing EclipseSuite XML log. The Royalty Report log file is now saved in the format: filename\_ROYALTY.XML
- **Added a new behavior to select a version of BDCMF when transferring a SonyCMF image.**  
If Auto is selected and transferring an image with only one CPS Unit, then the output version will be BDCMF 0.90. Images with more than one CPS Unit will be output as BDCMF 1.01.
- **Created two new rules for internal EclipseSuite MKB process errors.**  
Internal error C0h will now trigger the rule: "Device Keys have being revoked" and error CEh will trigger: "Device Keys don't apply".
- **Added several enhancements to the analysis engine when processing images protected with AACS.**  
With these enhancements, several rules were renamed and several new rules were introduced. The list of rules is at the end of this document.
- **Add support for Optiarc BD-ROM drive as a BD reader drive.**
- **Corrected a problem where the behavior "Full Advanced UDF directory scan for computer data"**

was unchecked and no progress was being shown.

- **Added a new rule "Decrypted analog output is prohibited" to warn the users when the disc will play only for HDMI digital video connections.**
- **Create the file FAI.DAT when it is not present and BDCMF version 0.99 or greater is being used.**  
This includes outputting the file when converting from Sony CMF to BDCMF.
- **Remove any spaces from entries in the "AACSTFileInfo" sections before saving to the BDCMF file.**
- **Corrected a problem where the rule "Inconsistency between UDF Main and Reserve Volume Descriptor Sequence" was being triggered incorrectly.**
- **The Analysis tab includes a new column "Application Location" that will display the location within the video stream where an error occurs.**  
This location allows users to pin-point the locations in the movie where the errors have occurred and can go to that location and verify whether playability problems will occur. Also, as each Clip AV file is being analyzed, the EclipseSuite tools will identify video stream (MPEG-2, MPEG-4, and VC-1) and the duration. All this is displayed at the bottom of the EclipseSuite tools below the Errors/Warnings.
- **The DDP buttons have been removed from the Info tab when processing BDCMF or Sony CMF images.**
- **The information in the Info|BD-ROM has been reformatted to better display the information.**
- **Enable "Preserve keys found in external file" and "Preserve embedded values" in the CPS Unit Key Usage prompt if at least one of the keys doesn't have all zero bytes set.**
- **Improved XML log file saving routine with additional debug statements for troubleshooting purposes.**
- **Trigger the rule "Title missing from Unit Key RO file" when the number of titles does not match between the Unit\_Key\_RO.inf and index.bdmv files.**
- **Corrected a condition that caused the EclipseSuite tools to run in a loop that would run until the system ran out of memory.**  
The HDMV analysis engine was not recovering from an error condition when interactive titles were found with embedded buttons that had navigation commands. This would make the HDMV analysis continue until running out of memory.
- **When there is a missing "\BDMV\BDJO\nnnnn.bdjo" file, show the warning rule "BD-J object file not on disc" and continue normal processing.**  
Although a missing file may be a serious problem under certain conditions, currently this is only reported as a warning since some files are intended to be downloaded from an online server.
- **I Check Enhancements**
  - Enhance ICheck with more detail debug information stored in the ICheck log.
  - ICheck adds more details to the log file regarding the checksum and SHA-1 calculations. This extra information is useful when troubleshooting problems.
  - Corrected a problem in which ICheck was not reporting file read errors.
  - Corrected a problem in which ICheck command line arguments were not working.
  - Corrected a problem with the Open Input Folder menu option not functioning
  - Corrected problems in ICheck that was causing it to not save option settings properly.

**New Rules:**

Rule ID	Rule Title	Default Severity Level	Category
1568	BD-J object file not on disc	Warning	Blu-ray
1569	Reusing CPS Unit Key	Info	Blu-ray
1570	Encrypted aligned unit does not have CPI bits set	Error	Blu-ray
1571	Unencrypted aligned unit has CPI bits set	Error	Blu-ray

1572	Encrypted aligned unit in unencrypted CPS Unit	Error	Blu-ray
1573	Unencrypted CPS Unit Key	Error	Blu-ray
1574	CPS Unit analysis error	Error	Blu-ray
1575	Pre-encrypted HDMV stream	Error	Blu-ray
1583	Decrypted analog output is prohibited	Warning	Blu-ray
1584	Extent size not on AU boundary	Error	Blu-ray
1585	Clip AV Stream file size not an AU boundary	Error	Blu-ray
1586	ISAN Error	Warning	Blu-ray
1587	Content ID ISAN	Info	Blu-ray
1588	Online certificate	Info	Blu-ray
1589	BDA-CA signature verification error	Error	Blu-ray
1590	Online certificate file error	Error	Blu-ray
1591	Online content owner signature verification error	Error	Blu-ray
1592	Missing Clip AV Stream file	Warning	Blu-ray
1593	ISO and DVD file end locations disagree	Warning	DVD
1594	MKB and BDCMF Media Key (Km) mismatch	Error	Blu-ray
1595	BDCMF File attribute missing or incorrect	Error	Blu-ray

**Download Instructions:**

You can download the EclipseSuite 6.0 Beta Z33 from the following links:

<ftp://ftp.eclipsedata.com/es60/es60z33.zip>

Password: es60z33eDt9