EclipseSuite 4.0 Release Notes

The following are the fixes and updates implemented since the release of EclipseSuite version 3.0.

New Features

Automatic handling of DDP on Disc Images

Previous versions of EclipseSuite did not handle DDP on Disc images automatically. For example, ImageCopy v3.0 was able to detect DDP on Disc images but aborted the copy operation. The user was required to manually enter the path to the image in order to copy the image.

With EclipseSuite 4.0, this has been enhanced so that DDP on Disc images are handled automatically. When the EclipseSuite programs detect a DDP on Disc image, they automatically process the DDP on Disc image. There may be times when a user needs to make a copy of the disc containing the DDP image. In this case, the user can override the automatic handling of DDP on Disc images by selecting a new behavior that prompts the user for the action to take when a DDP on Disc image is detected.

Introduction

DDP on Disc refers to recordable DVD discs (generally DVD-R) that contain a master image along with the necessary DDP or CMF description files. Such images are not playable as-is and are intended to be used as input to a glass mastering process. DDP on Disc is sometimes referred to as DDPi or Archive Disc.

Before DDP on Disc, most DVD images were submitted to replication plants on DLT tape. DLT tape has several disadvantages including cost, slow access times, size, and incompatibility between successive generations of DLT tapes drives. The advent of recordable DVDs provides an opportunity to lower costs, save space, and speed up the process by moving images to a smaller, cheaper, and faster mastering medium.

Using DDP on Disc Masters in Your Process

A potential risk of allowing DDP on Disc masters into your process is that you replicate the non-playable image as-is rather than converting it into a playable image. This is only true with older or inferior premastering copy software. This version of EclipseSuite auto-recognizes DDP on Disc masters and requires no special operator intervention or handling. There are a few new rules that identify and describe the action taken with DDP on Disc images.

Dual-layer images are submitted as separate DDP on Disc masters for each layer. There are specific CSS key handling options that allow you to use existing keys or replace the keys when mastering from DDP on Disc images. (Refer to section DVD Layer 1 Handling on page 43 of the EclipseSuite Manual).

Creating DDP on Disc Masters

The ImageArchive option for ImageCopy allows you to create fully-compliant, checksum protected CD or DVD DDP on Disc masters. Refer to EclipseSuite Advanced Features (Refer to section ImageArchive p. 32 of the EclipseSuite Manual).

SafeDisc Support for DVD

Added support for detection of SafeDisc v3 and v4 for CD and SafeDisc for DVD-ROM. The new SafeDisc Plug-In version 2.0 is required and is included with EclipseSuite 4.0. This Plug In is required to identify SafeDisc DVD replicas in ImageAnalysis and ImageVerify.

To configure, Open the Plug-In Manager and select the cpmsafedisc.dll (version2.0) from the ImageTools40 directory. After selecting the Plug-In, select properties and configure the key Database.dll and the Key Database.db from the same directory. Choose Save.

Enhancements for ImageDecoder

- New Rules have been added. Refer to the end of these release notes for a complete list.
- Suppress "Prompt for Layer 0 Info File" when capturing Layer 1 with ImageDecoder.
- PIE, PIF, POF Graphs are now reported on every ECC block (instead of every 8) and there is a separate PIE_SUM8 graph

Support for ImageArchive Option

ImageArchive is an add-on module for ImageCopy that enables the storage of DDP and CMF images on recordable disc. Archival of images has become a necessity for many replication facilities. This is due in part to the emergence of electronic content delivery in the replication workflow. When masters arrive without physical media, it is up to the replicator to store the data offline for re-work and for anti-piracy compliance. Archiving to recordable disc is also gaining acceptance because of the high cost and time associated with making, copying and storing DLTs. Migrating to a recordable disc archive format saves significant expense and time compared to DLT. The ImageArchive option for ImageCopy allows you to archive your masters simply, with total confidence, and with very little impact on your existing process.

http://www.eclipsedata.com/communications/pr/PR-ImageArchive.htm

ImageIntegrity Option is Enhanced with Image Signatures

The ImageIntegrity option has been enhanced so that when copying a DVD image, ImageCopy will also generate an image signature. The difference between a checksum and a signature is that a checksum is calculated on the contents of the complete image file (MAIN.DAT), including any CSS scrambling flags. A signature is based only in the user data portion that will be copied to the replica, irrespective of CSS scrambling. This allows other products, such as ImageVerify to verify the replica to the signature. Signature calculation can be enabled via a behavior.

Note: The Signature option requires that you have ImageIntegrity enabled.

Support for ImageSend

ImageSend is a file transfer program designed to simplify the electronic submission of masters to replication plants. It consists of two fully automated processes. The read-in process utilizes Eclipse's industry-standard analysis and copy engine. Using analysis rules defined by the receiving plant, ImageSend simultaneously analyzes, copies and protects the master image with checksums. The FTP process then sends the complete master image including logfiles and metadata to the FTP address defined by the receiving plant.

Note: ImageSend is a separate product that uses ImageCopy version 4.0. For more details, contact your sales representative.

For more information, please visit our web site at:

http://www.eclipsedata.com/communications/datasheets/ImageSend.pdf

New DVD Layer 1 Handling

Previous versions of EclipseSuite created a file in the temporary folder of the local computer when analyzing layer 0 of a dual-layer image. This file contained information that was used when analyzing layer 1.

While this process worked, it was inconvenient since it required that the layer 1 image be analyzed after its matching layer 0 image on the same device. This meant that if the user wanted a complete analysis of layer 1, then both layer images had to be processed in sequence. When dealing with DLT images, this process could take a long time since DLT devices are quite slow.

This process has now been enhanced with the introduction of layer Partner Locations and a new behavior that allows the user to select the layer 0 info file so that the user can use any device to process layer 1.

Setting a Partner Location

When loading layer 0 of a dual-layer image, ImageCopy still generates the layer 0 info file in the temp directory. However, it also copies this file to the image's directory. This file becomes available almost immediately. When loading layer 1 of the same image, the user can specify the location of its matching layer 0 in the Partner Location box of the Media Selection tab. When this is done, ImageCopy copies the temporary layer 0 info into its image directory so that a complete analysis can be performed on layer 1. At the end of the job, ImageCopy creates a permanent association between the two matching layer images. This is done by creating a shortcut link in both image directories.

Prompting for the Partner Location

The user can also enable the new behavior "Prompt for layer 0 info file," which prompts for the Partner Location when loading layer 1. This forces the user to select the location of the matching layer 0 image so that a complete analysis of layer 1 can be performed.

Verification of CSS Keys

When a Partner Location is specified, the EclipseSuite programs will also verify that both layers contain the same CSS keys, if the image is protected with CSS. This insures that the same CSS keys are used to master both layers.

New Device Support

Support has been added for the following devices:

- Plextor PX-712UF/PX-716UF. Both can read and write CD and DVD images. However, writing is limited to ImageArchive operations. The drives can be either IDE/ATAPI or USB.
- All Pioneer DVR series recorders (DVR-A06, DVR-A07, DVR-A08, etc.). These drives use the IDE/ATAPI interface.
- Toshiba 1711 DVD-ROM (SCSI)
- Sony Dual-Layer DVD-/+RW DRU-7XXX. This drive can be used as an output device only. There is no support yet for writing to layer 1 when using dual-layer media.

Enhancements

Verify the Location of DVD-Video Files

The Video Manager Information file (VIDEO_TS.IFO/BUP) contains pointers to the location of each of the Video Title Sets in the DVD-Video. In each Video Title Set, the Title Set Information file (VTS_XX_Y.IFO/BUP) contains pointers to the location of the rest of the files in the Video Title Set. Similarly, the ISO9660 file system contains path tables that include the locations of all files. When analyzing a DVD-Video image, the EclipseSuite programs compare the location given by the Video Manager and Title Set files to the location given by the ISO9660 file system. This is done to detect data shifts that may occur when a DVD-Video image is re-authored incorrectly.

Verify the Setting of the Seamless Playback Flag at the Layer Break

The seamless playback flag is used to indicate whether two adjacent DVD-Video Cells are played back seamlessly (i.e. without interruption). The DVD-Video specifications require that a Cell be contained within a layer. Additionally, the seamless playback flag on the first cell of layer 1 must be set to non-seamless playback mode due to the layer break.

There have been cases in which an incorrect setting of the seamless playback flag at the layer break has caused playability problems. In version 4.0, the EclipseSuite programs check the setting for the seamless playback flag at the layer break and trigger a rule it is not set properly.

Improved Reloading of a Tape with the DLT8000 Drive

If a DLT tape is inserted into a DLT8000 tape drive but a jot is not started within 10 minutes, the drive goes into a BUSY state. If the user tries to start a job then, the EclipseSuite programs would abort with the error “Drive not ready”. The EclipseSuite programs have been enhanced to recognize this condition and are able to start the job without problem.

Enhanced the Speed of the Postgap Scan

Some CDs with certain data patterns at the end caused previous versions of EclipseSuite to take longer scanning for the Postgap. The Postgap scan algorithm has been enhanced so that it does not take too long.

Enhanced the Verify After Copy Behavior

Separate the ImageCopy Analysis Results from the Verify After Copy Results

During the copying of a DVD image, ImageCopy will analyze and display image information in the Info tab, including Macrovision (if present) and file system information, such as ISO9660. If the Verify After Copy option is enabled, the Macrovision and ISO9660 information will be analyzed once more during the verify pass. This information is appended to the end of the original information that was obtained during the copy process. In previous versions of EclipseSuite, it was difficult to tell where the information from the copy process ended and the information from the verify process began. In ImageCopy 4.0, the information from the verify pass is separated from the rest with a blank line and the header "Verify results:"

Make Verify After Copy Enabled by Default When ImageIntegrity is Activated

Verify After Copy is a program behavior that is part of the ImageIntegrity option. In previous versions, this behavior was disabled by default when ImageIntegrity was activated. The user had to manually select it from the program behaviors. In EclipseSuite 4.0, this behavior is enabled by default.

Allow More User Configurable CD-Writer Speeds in the Output Behaviors

In previous versions of ImageCopy, the speeds in the Output Behaviors for CD writing was limited to speeds of 1X, 2X, 4X and Auto (maximum allowed by the CD-R writer). This was regardless of any other speeds supported by the CD-R writer. EclipseSuite 4.0 added 8X, 12X, 16X, 24X and 32X. However, these speeds are valid only if the CD-Writer being used supports it.

Enable the Burn-Proof Option on the Plextor 40/12/40S and 12/10/32S CD-Writers

Both writers support the Burn-Proof option, which helps prevent buffer underruns when copying CD-Rs. Previous versions of EclipseSuite did not enable this option. It is now enabled by default.

Suppress the rule "VOBU length & number of sectors disagree" if a VOBU is Part of a Copy Protection

The header in a VOBU includes a field that gives the length of the VOBU. When the EclipseSuite programs analyze a DVD-Video image, they verify that the VOBU length matches the length given in the header. If the length does not match, the above rule is triggered. Images with this type of problem typically have playability problems.

There are certain copy protections that alter information in a VOBU. This may cause the length of the VOBU to be inconsistent with the length in the VOBU header. Previous versions of EclipseSuite incorrectly triggered the above rule indicating that there was a problem. In EclipseSuite 4.0, this rule is suppressed if the VOBU is part of a copy protection.

Help Files System Annotation Enhancement

Previous versions of EclipseSuite required that the EclipseSuite Help System Annotations be located in the installation directory of EclipseSuite. This meant that if a user had multiple systems that shared the same annotations, they had to be copied to each system. If a new annotation was created or an existing one was changed, the user had to update all systems.

In EclipseSuite 4.0, the location for the annotations has been made configurable. The user can now choose the location via a setup window. The location can be set to a local computer or any computer on the network, which makes maintenance of the annotations a lot easier.

The annotations setup window also includes user notification options. A user can choose to be notified if an annotation document exists for the rule they are viewing. The user can choose to automatically open the annotation document or to be notified via a message.

ImageCopy Log File Saving Preferences

Enhanced the ImageCopy Log File preferences by adding an option to save the log file in the default directory. Previously, the log file did not get saved in the default directory if the options "Store log file in image directory" was used.

Fixes

Video Attributes and CSS Information is no Longer Overwritten

In certain cases, previous versions of EclipseSuite would overwrite the Video Attributes and CSS information in the Info tab of the EclipseSuite programs. This occurred with images that contained several Video Title Sets. This was due to a limitation in the amount of data that could be written to the Video Attributes and CSS windows. This has now been corrected in EclipseSuite 4.0.

Skip SafeDisc Checking if the Source Input is a Tape

Previous versions of EclipseSuite would attempt to check an image on tape if the SafeDisc Plug-In was enabled. This has now been disabled since SafeDisc does not apply to tape images.

Do Not Trigger the rule "Missing ISO9660" on DVD-ROM Images

DVD-ROM images do not required to include the ISO9660 or UDF file systems. A DVD-Video image, on the other hand, is required to have both. In previous versions, the EclipseSuite programs checked all DVD images to make sure that both file systems were

present. While most DVD-ROM images do include ISO9660, there are few that do not. In such cases, this caused the EclipseSuite programs to incorrectly trigger the rule "Missing ISO9660".

In version 4.0, the EclipseSuite programs first identify whether the image is a DVD-Video or DVD-ROM. A DVD-Video is assumed if the UDF file system is present and includes at least the VIDEO_TS.IFO file. In this case, the "Missing ISO9660" rule will continue to be triggered if ISO9660 is missing. However, if the DVD image is not a DVD-Video and it is missing the ISO9660, this rule will not be triggered.

EclipseSuite Now Prints the Full Path of Hard Disk Images

When the user printed the results of a job that involved an image on the hard disk, the EclipseSuite programs did not print the image's full path. This has been corrected in version 4.0.

EclipseSuite Programs No Longer Crashes When Printing

Corrected a problem where the EclipseSuite programs would sometimes crash when printing the results of a job.

The EclipseSuite Programs No Longer Process Rules that are Set to Ignore

When a rule is disabled by setting its severity level to 'Ignore', the EclipseSuite programs are not supposed to process any occurrence of the rule. Similarly, when the behavior to limit the number of occurrences of any rule is selected, the programs are supposed to treat any new occurrences as though the rule was set to 'Ignore', once the limit was reached.

While the behavior to limit the number of occurrences did stop the display of new occurrences in the Analysis tab, internally, the EclipseSuite programs were still processing the rule. The same occurred with rules set to 'Ignore'. This sometimes caused the EclipseSuite programs to become slower, which is the problem that this behavior supposed to correct. In the case of ImageEncoder, this could result in a buffer underrun condition.

This has now been corrected in EclipseSuite 4.0.

Corrected a Problem in the Pre-scanning of a CD Image When Searching for Index 0

During the pre-scanning of a CD, previous versions of EclipseSuite would sometimes fail with the error "LBA out of range" during the searching for Index 0. This only occurred in tracks with a long pause.

Do Not Show the Conform Dialog Window if Unable to Disable the AutoPlay/AutoRun

When logged in as a user without administrator privileges, the EclipseSuite programs may not able to read the registry to find out the setting for the AutoPlay/AutoRun feature of Windows. When the programs failed to read the registry setting, it was assumed that these features were set and the EclipseSuite would prompt the user to disable these options. This would occur every time any of the EclipseSuite programs were opened. In

EclipseSuite 4.0, this has been changed so that the AutoPlay feature is ignored if the user does not have read/write access to the registry.

The EclipseSuite Programs Will Not Omit the DDP Information from the Info Tab

In EclipseSuite v3.0, the DDP information was missing from the Info tab. This has been corrected.

Corrected a Program Crash Problem in ImageCopy

ImageCopy would intermittently crash during the Verify After Copy process. This has been corrected.

Verify After Copy Process Will Not Run if ImageIntegrity is Not Enabled

The Verify After Copy behavior is part of the ImageIntegrity module. When selected, it causes ImageCopy to verify the image it just copied back to the original source. In EclipseSuite 3.0, this behavior was selected by default. It also caused ImageCopy to run this process even when the ImageIntegrity module was not activated. This is now corrected in EclipseSuite 4.0.

Check the Task "Searching for DDP on Tape" in the Progress Tab

In EclipseSuite 3.0, the Task item “Searching for DDP on Tape” was not being checked as completed in the Progress Tab. This made it seem as though the programs were skipping this task. This has now been corrected in v4.0.

ImageCopy Did Not Run the Verify After Copy Process on a File-to-File Copy Operation

Verify After Copy for File to File was not performed in previous versions of ImageCopy. This is now corrected in v4.0.

The EclipseSuite Programs No Longer Check for Title Keys on DVD-Audio Files

Previous versions of EclipseSuite would command a drive to check for CSS Title keys on DVD-Audio files tagged for CPPM encryption. While some drives did not have a problem with this command, it caused other drives to return invalid information. This invalid information triggered rules indicating that the image was not authored properly with the encryption. The EclipseSuite programs have been enhanced so that they do not check for CSS Title Keys on DVD-Audio files.

Report DVD-Audio Comparison Errors Outside the Media Key Block Location

A problem was corrected where Verify After Copy and ImageVerify would not report comparison error on DVD-Audio image. Normally, a source DVD-Audio image has space reserved for the Media Key Block file that will be included during the mastering process. When a verification of the original source and a replica is performed, comparison errors in the location of the Media Key Block file are expected and, therefore, ignored. Unfortunately, a problem occurred with previous versions of EclipseSuite where they ignored any comparison error throughout the whole image. In EclipseSuite 4.0, only

comparison errors within the Media Key Block location are ignored and all others are correctly reported.

New Rules

Archive failed
CyberAsia CA-Protect Dongle counts have expired
CSS keys present on input media
DDP on Disc detected - using DDP on Disc for operation
DDP on Disc detected, but overridden - using Disc as an Image
DDP on Disc detected, but file set incomplete
Different CSS keys used for layers
Duplicate sectors found; removing extra sectors
Early Windows Copy Protection
File location out of bounds
HD DVD-ROM
Hexalock Dongle counts have expired
Image signature mismatch
ImageCopy start error
Invalid partner layer
Invalid Signature format
Invalid Video Manager Information
Invalid Video Title Set Information
ISO and DVD file locations disagree
Layer Number mismatch
Macrovision RipGuard dongle counts have expired
Macrovision SafeDisc DVD-ROM dongle counts have expired
Non-standard Reference Code Zone values
Non-zero bytes in Buffer Zone area
ODME LBR Error:
ODME LBR Info:
Parity Outer failure in Reference Code Zone area
Seamless playback flag not set completely at layer break
Sectors out of sequence at input; padding missing sectors
Signature
Signature comparison error
Signature file not found
Signature not computed
Sony SecuROM Dongle counts have expired
SSCRST type mismatch
Subchannel CRC error
Track Path mismatch
ThinkBay SecuMedia Dongle counts have expired
UDF: Non-zero tag serial number
Unreadable sector in file
Uvarta dongle counts have expired