DIVA Core

DIVAprotect User's Guide

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Preface

This book describes installation, configuration, and operation of the DIVA Core DIVAprotect system.

Audience

This document is intended for the Telestream Installation Team, System Administrators, and system users.

Documentation Accessibility

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Access to Telestream Support

Telestream customers that have purchased support have access to electronic support through the Telestream Support Portal located at https://portal.goecodigital.com.

Related Documents

For more information, see the DIVA Core documentation set for this release located at https://portal.goecodigital.com.

For information on Oracle Storage Cloud visit the following links.

For information regarding metered and non-metered accounts:
http://docs.oracle.com/en/cloud/get-started/subscriptions-cloud/csgsg/

For up to date Cloud information:
http://docs.oracle.com/cloud/latest/

For further assistance:
http://docs.oracle.com/cloud/latest/storagecs_common/index.html

Document Updates

The following table identifies updates made to this document.

Date	Update
June 2020	Minor formatting updates

Date	Update
February 2021	Rebranded document to Telestream
	Updated copyright notices

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
blue text	Blue text indicates a link to an outside source, or to another chapter, section, or glossary term in this book.

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Introduction

This chapter describes an overview of the DIVA Core DIVAprotect, new and enhanced features and functionality, and includes the following information:

- DIVAprotect Overview
- DIVAprotect Principles of Operation
- DIVAprotect New and Enhanced Features and Functionality
  - Events
  - Metrics
  - New Predefined Metrics

DIVAprotect Overview

DIVAprotect is an DIVA Core option that constantly monitors the digital storage infrastructure, and warns about media or tape drive degradation before it results in reduced performance or possible data loss. DIVAprotect provides long term content protection, management, and security to DIVA Core.

DIVAprotect features include:

- Continuous monitoring of tape drives and media
- Complete history of drive and media performance
- Full integration with DIVA Core
- Detailed Performance Analysis
- Preventive and corrective maintenance aid
- System Journal
- System Metrics

DIVAprotect gives you information regarding current and past performance numbers for various system components. You can use the information to project present and future system requirements based on various premises, and plan for appropriate system evolutions.

DIVAprotect collects quality and performance data in real time within the archive environment. You can use the information as an aid for selective migration of content, recycling of defective media, preventative hardware maintenance, network and storage system integrity, and content availability.

DIVAprotect performs the following tasks:

- Gather operational facts from the following sources:

- – DIVA Core System (*software components and equipment*)

- – Platforms (*servers and operating system*)

- – Exchanged Data

- Process operational facts into metrics by sampling, filtering, normalizing, counting, and aggregating data.

- Maintain a view of the system's current and past performance.

- Collect and verify checksum data to expose disk and tape errors, and report Disk, Tape, and Source/Destination failures.

- Assist in managing large volumes of data.

- Provide billing data for customers offering DIVA Core as a service to other customers.

- Predict operational conditions of interest (*for example, end of life of a tape or a drive*).

- Provide low-level diagnostic information to assist support staff investigations.

- Answer a broad range of questions about:

- – Optimal performance (*what can the system deliver in an optimal context?*).

- – Current performance (*is the system performing at its best?*).

- Causes of the current state. That is, what led to the current state. For example, how did so many tapes get consumed in the last month?

- History (*for example, evolution of the capacity, throughput, activity, and so on*).

- Possible solutions or adjustments (*for example, what needs fixing or relocation, what should be replaced, what should be reconfigured, and so on*).

- *What If* scenarios (*that is, what is the impact of a proposed change in the system, capacity planning, and so on*).

- Use of the system at various levels (*DIVA Core system, DIVA Core component, request type, tape, library, tape drive, disk, category, and so on*) as a basis for billing (*that is, who, what, when, how much, how many, how long*).

DIVAprotect Principles of Operation

The primary purpose of DIVAprotect is to collect operational data generated by activity in the archive system (*Archive, Restore, Copy, Insert Tapes, and so on*). Each activity generates events, for example, a TAPE READ or a DELETE INSTANCE. Events are collected in real time and stored in the database.

Each event has various information attached to it. For example, the size of a transfer, its duration, the DIVA Core Actor used, and so on. These are referred to as *Event Parameters*.

Metrics are generated and updated by processing event parameters using background jobs scheduled every hour. You can break down (*aggregate*) event data according to various resources or attributes (*for example, object name, tape barcode, storage device, and so on*), and per hour, day, week, month, or year interval. You can also use no interval to collect a lifetime metric. Various aggregation functions are provided; for example, **Count**, **Sum**, and **Average**.

For example, the TAPE_DRIVE_READ_WRITE_DAY built-in metric sums the transfer sizes of TAPE READ and TAPE WRITE events and breaks down the values per device, and per day.

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DIVAprotect supports additional data retrieval such as *DIVA Core Resource Statistics* and *Quick Response Data* (*QRD*), detailed in the Chapter 3. This data is processed separately and is not available in Metric Definitions.

DIVAprotect New and Enhanced Features and Functionality

This section describes new and enhanced features and functionality. These changes became effective in the DIVA Core 7.5 release.

Events

DIVAprotect Archive, Copy, Copy As, Restore, and DIVA Core Partial File Restore request events will populate the ***Transfer Size*** and ***Duration*** fields.

The ANALYZE_END and ANALYZE_ERR events were removed from the predefined DIVAprotect events.

Metrics

To standardize the *Metric ID* across all DIVA Core installations, all predefined metrics have a hard-coded *Metric ID* instead of using a database sequence. All user defined metrics start with *Metric ID* 1001. The database upgrade scripts handle this migration for you during upgrades from DIVA Core 7.4 to release 8.0. If you already had any user-defined metrics, they are automatically assigned a new *Metric ID* starting with 1001.

The following pre-defined metrics were remove in DIVA Core 7.5. However, there is no impact for earlier releases and customers currently using them; those metrics will continue to exist, update, and are not removed during the upgrade process to the 8.0 release. This only affects new installations of DIVA Core 7.6 and later.

- ANALYZE_NUMBER_DAY
- ANALYZE_NUMBER
- ANALYZE_ABORTED_NUMBER_DAY
- ANALYZE_ABORTED_NUMBER
- ANALYZE_DATA_DAY
- ANALYZE_DATA
- ANALYZE_AVG_THROUGHPUT_DAY
- ANALYZE_AVG_THROUGHPUT
- ANALYZE_MIN_THROUGHPUT_DAY
- ANALYZE_MIN_THROUGHPUT
- ANALYZE_MAX_THROUGHPUT_DAY
- ANALYZE_MAX_THROUGHPUT
- ANALYZE_TIME_DAY
- ANALYZE_TIME
- MEDIA_OBJECT_INSTANCE_CREATE_DELETE_DAY
- MEDIA_OBJECT_INSTANCE_CREATE_DELETE

New Predefined Metrics

The following predefined metrics were added in the DIVA Core 7.5 release. *See Metric Definitions for a complete list*.

- ACTOR_READ_WRITE_MONTH
- ACTOR_READ_WRITE_NUMBER_MONTH
- ACTOR_TIME_ALL_OPERATION_MONTH
- ACTOR_TIME_READ_MONTH
- ACTOR_TIME_WRITE_MONTH
- DISK_AVG_TRANSFER_RATE_READ_MONTH
- DISK_AVG_TRANSFER_RATE_WRITE_MONTH
- DISK_CHECKSUM_FAILURE_COUNT_MONTH
- DISK_NUMBER_READ_ABORTED_MONTH
- DISK_NUMBER_READ_MONTH
- DISK_NUMBER_WRITE_ABORTED_MONTH
- DISK_NUMBER_WRITE_MONTH
- DISK_READ_MONTH
- DISK_TIME_ALL_OPERATION_MONTH
- DISK_TIME_READ_MONTH
- DISK_TIME_WRITE_MONTH
- DISK_WRITE_MONTH
- DIVA Core_SYSTEM_ACTIVE_ARCHIVE_NUMBER_MONTH
- DIVA Core_SYSTEM_ACTIVE_COPY_AS_NUMBER_MONTH
- DIVA Core_SYSTEM_ACTIVE_COPY_NUMBER_MONTH
- DIVA Core_SYSTEM_ACTIVE_RESTORE_NUMBER_MONTH
- DIVA Core_SYSTEM_AVG_READ_WRITE_NUMBER_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_ARCHIVE_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_CREATED_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_DELETED_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_COPY_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_CREATED_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_DELETED_MONTH
- DIVA Core_SYSTEM_NUMBER_OBJECT_RESTORE_MONTH
- DIVA Core_SYSTEM_OBJECT_EXPORT_NUMBER_MONTH
- DIVA Core_SYSTEM_OBJECT_IMPORT_NUMBER_MONTH
- DIVA Core_SYSTEM_OBJECT_INSTANCE_EXPORT_NUMBER_MONTH
- DIVA Core_SYSTEM_OBJECT_INSTANCE_IMPORT_NUMBER_MONTH
- DIVA Core_SYSTEM_READ_WRITE_ABORTED_NUMBER_MONTH

- DIVA Core_SYSTEM_READ_WRITE_MONTH
- DIVA Core_SYSTEM_READ_WRITE_NUMBER_MONTH
- MEDIA_ARCHIVED_OBJECT_DATASIZE_MONTH
- MEDIA_DATA_SIZE_DAY
- MEDIA_DATA_SIZE_MONTH
- MEDIA_OBJECT_INSTANCE_EXTERN_MONTH
- MEDIA_OBJECT_INSTANCE_ONLINE_MONTH
- MEDIA_READ_WRITE_MONTH
- MEDIA_READ_WRITE_NUMBER_MONTH
- MEDIA_RESTORE_OBJECT_DATASIZE_MONTH
- MEDIA_TAPE_EXPORT_NUMBER_MONTH
- MEDIA_TAPE_IMPORT_NUMBER_MONTH
- SD_ARCHIVE_OBJECT_DATASIZE_MONTH
- SD_READ_MONTH
- SD_READ_NUMBER_MONTH
- SD_RESTORE_OBJECT_DATASIZE_MONTH
- SD_TIME_MONTH
- SD_WRITE_MONTH
- SD_WRITE_NUMBER_MONTH
- TAPE_DRIVE_DATA_RATE_MONTH
- TAPE_DRIVE_ERROR_RATE_MONTH
- TAPE_DRIVE_NUMBER_READ_WRITE_ABORTED_MONTH
- TAPE_DRIVE_OPERATION_TOTAL_TIME_MONTH
- TAPE_DRIVE_READ_WRITE_MONTH
- TAPE_DRIVE_READ_WRITER_NUMBER_MONTH
- TAPE_DRIVE_TIME_ALL_OPERATION_MONTH
- TAPE_DRIVE_TIME_READ_MONTH
- TAPE_DRIVE_TIME_WRITE_MONTH
- TAPE_LIBRARY_NUMBER_DISMOUNT_ABORTED_MONTH
- TAPE_LIBRARY_NUMBER_MOUNT_ABORTED_MONTH
- TAPE_LIBRARY_NUMBER_MOUNT_MONTH
- TAPE_LIBRARY_NUMBER_READ_MONTH
- TAPE_LIBRARY_NUMBER_WRITE_MONTH
- TAPE_LIBRARY_READ_MONTH
- TAPE_LIBRARY_WRITE_MONTH
- TRANSCODE_DATA_MONTH
- TRANSCODE_NUMBER_MONTH

- TRANSCODE_TIME_MONTH
- MEDIA_OBJECT_INSTANCE_CREATE_DAY
- MEDIA_OBJECT_INSTANCE_DELETE_DAY
- MEDIA_OBJECT_INSTANCE_CREATE
- MEDIA_OBJECT_INSTANCE_DELETE
- MEDIA_OBJECT_INSTANCE_CREATE_MONTH
- MEDIA_OBJECT_INSTANCE_DELETE_MONTH
- MEDIA_OBJECT_INSTANCE_EXTERN_DATASIZE_DAY
- MEDIA_OBJECT_INSTANCE_EXTERN_DATASIZE_MONTH
- MEDIA_OBJECT_INSTANCE_ONLINE_DATASIZE_DAY

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DIVAprotect Configuration

This chapter describes DIVAprotect configuration, and includes the following information:

Main Configuration

You must perform the main configuration tasks described in this section. You configure DIVAprotect on the **DIVAprotect** tab in the DIVA Core Configuration Utility.

Note: Some configuration options require logging in with the *Engineer* user account, which is reserved for Telestream Support.

Configure the following options, contacting Telestream Support as necessary:

Configuration Utility GUI: Enable/Disable DIVAprotect Configuration
This option enables you to view the *DIVAprotect* panel in the Configuration Utility. *The Engineer log in is required to modify this parameter; contact Telestream Support*.

DB: Maximum Possible History of Events in Months
This option identifies the maximum number of events that can be stored in the system. After this number is exceeded, DIVAprotect removes the oldest entries using an automated database job that executes every hour.

DB: Maximum Possible Number of Metrics
This option identifies the maximum number of metrics that can be stored in the system. After this number is exceeded, DIVAprotect removes the oldest entries using an automated database job that executes once per day, every day.

Manager: Enable/Disable DIVAprotect Data Collection
This option enables or disables DIVAprotect Data Collection. *The Engineer log in is required to modify this parameter; contact Telestream Support*.

Manager: Size Triggering Event Queue DB flush (nb events)
This option identifies the number of events collected ands stored in memory before saving them to the database.

Manager: Time Delay Triggering Event Queue DB flush (seconds)
This option identifies the maximum time interval for saving events to the database. If this interval is reached before the ***Size Triggering*** parameter is reached, the events are saved to the database regardless of how many have been collected.

DIVAprotect Resources

The DIVA Core Configuration Utility includes configuration elements specific to DIVAprotect as follows:

Tape Drives
You edit the drive serial number in the Drive Edit dialog box. This is useful if the information was either not retrieved, or entered improperly, during a *Sync DB* process. The firmware of the drive is displayed in a uneditable field. The firmware information is obtained from the Actors when they scan for tape drive devices. You can view this information on the **Drives** tab in the Configuration Utility

DIVA Core Actors
The *Actors* panel on the **System** tab in the Configuration Utility displays the ***First Utilization Date*** in a uneditable field. There is no additional DIVAprotect configuration necessary for the DIVA Core Actors.

Libraries
The *Libraries* panel on the **Robots** tab in the Configuration Utility includes an editable ***Name*** field to enter (or edit) the library description, and a uneditable ***First Utilization Date*** field. There is no additional DIVAprotect configuration necessary for the libraries.

Configuring DIVAprotect Events and Metrics

The *Event Definitions* panel displays the list of event definitions available for use in the metrics. Event definitions are factory set and cannot be modified. *See Event Definitions for a list of predefined event definitions*.

You can double-click an event definition to display a dialog box listing its associated parameters.

The *Metric Definitions* panel lists the available metrics. Built-in metrics (DIVAPROTECT* metrics) cannot be edited, and therefore do not appear in the *Metric Definitions* panel. *See Metric Definitions for a list of predefined metric definitions*.

You can double-click a **Metric Definition** to display an edit dialog box where you can examine or modify the metric. This has the same effect as selecting a metric in the list, and then clicking the **Edit** button. The **+** and **-** buttons allow adding or deleting a metric.

You can enter a description of the metric in the ***Description*** field that is displayed next to the ***Metric Name*** in the *Metric Definitions* panel. The description is also displayed in the Control GUI when you pause your mouse over an entry in the ***Metric Definition*** menu list.

The ***Enabled*** check box enables (*selected*) or disables (*deselected*) data collection for the metric.

The ***Collection Type*** fields specify which event parameter (*for example, **Transfer Size***) is collected as the data, and the statistical computation operated on it (*for example, **Sum***). The available statistics are as follows:

- **Average**

- **Count**

- **Maximum**

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- **Minimum**

- **Sum**

- **Weight Based Average**

The *Weighted By* field specifies the divider parameter for **Weight Based Average** collection (*for example, Duration*).

The *Collected Event* list specifies the events from which the collected event parameter is retrieved. The list only displays event types suitable for the parameter specified in the second field for the *Collection Type*. Event types with no such parameter attached are absent from the listing.

The *Resource* menu list specifies which resource to use to break down the data. For example, if you select **Drive Serial Number**, DIVAprotect generates separate metrics for each drive.

The *Interval* field specifies the interval for metric calculation. For example, selecting **1 Day** generates a metric daily (*if corresponding data is available*). The metric calculation is based on the associated events that occurred in the last 24 hours.

Sample Metric Configuration

This is a sample configuration procedure to create your own metric that captures the average duration of read and write operations on a tape in a DIVA Core system. You use the following procedure to capture this data:

1. Open the Configuration Utility and navigate to the **DIVAprotect** tab.

2. Locate the *Metric Definitions* panel and click **+** to begin adding a new metric.

    The Metric Definition dialog box is displayed.

3. Enter a unique name for the metric in the *Name* field. For example ACTOR_READ_WRITE_ABORTED_NUMBER_SD.

4. Add a description in the *Description* field, and then enable it by selecting the *Enabled* check box.

5. Set both *Collection Type* fields, and the *Weighted By* field as appropriate.

    If you select **Weight Based Average** in the first list for the *Collection Type*, it enables the *Weighted By* field. You must then select a value to weigh the metric definition. The values for the *Weighted By* field are identical to those in the second *Collection Type* field (for example, **Event ID**).

6. Select the events to collect using the *Collected Event* check boxes.

7. Use the menu list top select the *Aggregation Resource* type.

8. You can use the menu list to set the *Aggregation Interval*, but it can be left at the default (*one hour*).

9. Click **OK** to complete the process.

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DIVAprotect Operations

The DIVAprotect module is an analytical and monitoring option integrated into the DIVA Core Suite, bringing long-term content protection, management, and security to DIVA Core systems. DIVAprotect includes reporting through the *Journal* using various metrics as described in the following sections. The following operational information is included in this chapter:

- Collecting Operational Events

- Collecting DIVA Core Hardware Resource Statistics

- Collecting Quick Response Data (QRD)

- Collecting Drive and Library Alert Logs Information

- Collecting and Calculating Metrics

    - Calculating Metrics Based on Operations Events

    - Calculating DIVA Core Built-in Metrics

- Monitoring Use and Statistics in the DIVA Core GUI

    - System Events (Journal)

    - Library Alert Logs Information

    - Drive Alert Logs Information

    - System Analytics (Metrics) Information

    - System QRD (Quick Response Data) Information

    - Source and Destination QRD (Quick Response Data) Information

    - Media QRD (Quick Response Data) Information

    - Library QRD (Quick Response Data) Information

    - Extended Tape Drive QRD (Quick Response Data) Information

    - Extended Tape QRD (Quick Response Data) Information

    - Extended Disk QRD (Quick Response Data) Information

    - Extended Object and Object Instance Information

    - Extended Actor Information

- Tracking Checksum Error Events in the DIVAprotect Journal

Collecting Operational Events

Operational events are the primary events collected by DIVAprotect. The following three tables identify event fields and the types of events associated with them. *There are three tables only due to the amount of entries*. Locate the desired field on the top row of the table, and then follow down the column to identify which events are valid for the selected field.

Table 3–1   Event Fields Table One

	Event Type	Tape Type	Tape Barcode	Drive Type	Drive Name	Disk Name	Drive Serial Number	Library Serial Number	SD Name	Actor Name
TAPE_INSERT	Yes	Yes	Yes					Yes		
TAPE_INSERT_ERR	Yes							Yes		
TAPE_MOUNT	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_MOUNT_ERR	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_POSITION	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_POSITION_ERR	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_READ	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_READ_ERR	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_WRITE	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_WRITE_ERR	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
DISK_READ[1]	Yes					Yes				Yes
DISK_READ_ERR[1]	Yes					Yes				Yes
DISK_WRITE[1]	Yes					Yes				Yes
DISK_WRITE_ERR[1]	Yes					Yes				Yes
SD_READ	Yes								Yes	Yes
SD_READ_ERR	Yes								Yes	Yes
SD_WRITE	Yes								Yes	Yes
SD_WRITE_ERR	Yes								Yes	Yes
TAPE_UNLOAD	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_UNLOAD_ERR	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_DISMOUNT	Yes	Yes	Yes	Yes	Yes		Yes	Yes		
TAPE_DISMOUNT_ERR	Yes	Yes	Yes	Yes	Yes		Yes	Yes		
TAPE_EJECT	Yes	Yes	Yes					Yes		
TAPE_EJECT_ERR	Yes	Yes	Yes					Yes		
END_OF_TAPE	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
TAPE_REPACK	Yes							Yes		
ARCHIVE_REQUEST	Yes								Yes	
COPY_REQUEST	Yes									
COPY_AS_REQUEST (to new)	Yes									
CREATE_INSTANCE	Yes									
RESTORE and PARTIAL_RESTORE	Yes								Yes	
DELETE_OBJECT	Yes									
DELETE_INSTANCE	Yes									

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Table 3–1   (Cont.) Event Fields Table One

	Event Type	Tape Type	Tape Barcode	Drive Type	Drive Name	Disk Name	Drive Serial Number	Library Serial Number	SD Name	Actor Name
TRANSCODE_END	Yes									Yes
TRANSCODE_ERR	Yes									Yes
STOPPED_ON_CANCEL	Yes									
CHECKSUM_ERROR_TAPE	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
CHECKSUM_ERROR_DISK	Yes					Yes				Yes
CHECKSUM_ERROR_SD	Yes								Yes	Yes
TAPE_IMPORT	Yes		Yes							
TAPE_EXPORT	Yes		Yes							

[1]   The transcoder work directory is not a DIVA Core disk. No DISK READ or DISK WRITE events are created when accessing this directory.

The presence of *Optional* in the following table indicates that it is optional. New Instance IDs are only generated after the final write to the destination media. Instance ID is not available in the following cases:

- Temporary instances created in cache disk by an Archive request

- SD READ or SD WRITE during the transcode phase of an archive when transferring to or from the transcoder work directory

- Cache DISK READ or DISK WRITE when performing a tape to tape Copy request

- Tape positioning before a tape write (*Archive request*)

- End Of Tape (*EOT exception*) encountered during an Archive request

Table 3–2   Event Fields Table Two

	Object Name[1]	Object Category[1]	Object Instance[1]	Media (group or array)	Request ID	Event End Time	Event Duration	Transfer Size	Transfer Rate
TAPE_INSERT						Yes	Yes		
TAPE_INSERT_ERR				Yes		Yes			
TAPE_MOUNT				Yes		Yes	Yes		
TAPE_MOUNT_ERR				Yes		Yes			
TAPE_POSITION	Yes	Yes	Optional	Yes	Yes	Yes	Yes		
TAPE_POSITION_ERR	Yes	Yes	Optional	Yes	Yes	Yes			
TAPE_READ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TAPE_READ_ERR	Yes	Yes	Yes	Yes	Yes	Yes		Yes	
TAPE_WRITE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TAPE_WRITE_ERR	Yes	Yes		Yes	Yes	Yes		Yes	
DISK_READ[2]	Yes	Yes	Optional	Yes	Yes	Yes	Yes	Yes	Yes
DISK_READ_ERR[2]	Yes	Yes	Optional	Yes	Yes	Yes		Yes	
DISK_WRITE[2]	Yes	Yes	Optional	Yes	Yes	Yes	Yes	Yes	Yes
DISK_WRITE_ERR[2]	Yes	Yes		Yes	Yes	Yes		Yes	
SD_READ	Yes	Yes	Optional		Yes	Yes	Yes	Yes	Yes
SD_READ_ERR	Yes	Yes	Optional		Yes	Yes		Yes	
SD_WRITE	Yes	Yes	Optional		Yes	Yes	Yes	Yes	Yes

Table 3–2   (Cont.) Event Fields Table Two

	Object Name[1]	Object Category[1]	Object Instance[1]	Media (group or array)	Request ID	Event End Time	Event Duration	Transfer Size	Transfer Rate
SD_WRITE_ERR	Yes	Yes			Yes	Yes		Yes	
TAPE_UNLOAD				Yes		Yes	Yes		
TAPE_UNLOAD_ERR				Yes		Yes			
TAPE_DISMOUNT				Yes		Yes	Yes		
TAPE_DISMOUNT_ERR				Yes		Yes			
TAPE_EJECT						Yes	Yes		
TAPE_EJECT_ERR						Yes			
END_OF_TAPE	Yes	Yes	Optional	Yes	Yes	Yes			
TAPE_REPACK					Yes	Yes			
ARCHIVE_REQUEST	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
COPY_REQUEST	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
COPY_AS_REQUEST (to new)	Yes	Yes		Yes	Yes	Yes	Yes	Yes	
CREATE_INSTANCE	Yes		Yes	Yes	Yes	Yes		Yes	
RESTORE and PARTIAL_RESTORE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
DELETE_OBJECT	Yes	Yes			Yes	Yes			
DELETE_INSTANCE	Yes	Yes	Yes	Yes	Yes	Yes		Yes	
TRANSCODE_END	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
TRANSCODE_ERR	Yes	Yes	Yes		Yes	Yes			
STOPPED_ON_CANCEL	Yes	Yes			Yes	Yes			
CHECKSUM_ERROR_TAPE	Yes	Yes	Optional	Yes	Yes	Yes			
CHECKSUM_ERROR_DISK	Yes	Yes	Optional	Yes	Yes	Yes			
CHECKSUM_ERROR_SD	Yes	Yes	Optional		Yes	Yes			
TAPE_IMPORT				Yes		Yes			
TAPE_EXPORT				Yes	Yes	Yes			

[1]   Object information is not provided for Repack requests.

[2]   The transcoder work directory is not a DIVA Core disk. No **DISK READ** or **DISK WRITE** events are created when accessing this directory.

Table 3–3   Event Fields Table Three

	Transfer Error Rate	Error Code	Error Message	Transcoder or Analyzer Name	Number of Archive Operations	Data Size
TAPE_INSERT						
TAPE_INSERT_ERR		Yes	Yes			
TAPE_MOUNT						
TAPE_MOUNT_ERR		Yes	Yes			
TAPE_POSITION						
TAPE_POSITION_ERR		Yes	Yes			
TAPE_READ	Yes					
TAPE_READ_ERR		Yes	Yes			
TAPE_WRITE	Yes					

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Table 3–3   (Cont.) Event Fields Table Three

	Transfer Error Rate	Error Code	Error Message	Transcoder or Analyzer Name	Number of Archive Operations	Data Size
TAPE_WRITE_ERR		Yes	Yes			
DISK_READ[1]						
DISK_READ_ERR[1]		Yes	Yes			
DISK_WRITE[1]						
DISK_WRITE_ERR[1]		Yes	Yes			
SD_READ						
SD_READ_ERR		Yes	Yes			
SD_WRITE						
SD_WRITE_ERR		Yes	Yes			
TAPE_UNLOAD						
TAPE_UNLOAD_ERR		Yes	Yes			
TAPE_DISMOUNT						
TAPE_DISMOUNT_ERR		Yes	Yes			
TAPE_EJECT						
TAPE_EJECT_ERR		Yes	Yes			
END_OF_TAPE						
TAPE_REPACK						
ARCHIVE_REQUEST					Yes	
COPY_REQUEST					Yes	
COPY_AS_REQUEST (to new)					Yes	
CREATE_INSTANCE						
RESTORE and PARTIAL_RESTORE					Yes	
DELETE_OBJECT						
DELETE_INSTANCE						
TRANSCODE_END				Yes		
TRANSCODE_ERR		Yes	Yes	Yes		
STOPPED_ON_CANCEL						
CHECKSUM_ERROR_TAPE						
CHECKSUM_ERROR_DISK						
CHECKSUM_ERROR_SD						
TAPE_IMPORT						Yes
TAPE_EXPORT						Yes

[1] The transcoder work directory is not a DIVA Core disk. No **DISK READ** or **DISK WRITE** events are created when accessing this directory.

Collecting DIVA Core Hardware Resource Statistics

DIVAprotect collects hardware information from the tape drives and direct-attached libraries sent by the Actors. Library information is unavailable if a library server is used instead of direct-attached libraries. The information, called *DIVA Core Resource Statistics,* is updated in real time in DIVAprotect. The information is populated in the Drive Alert and Library Alert logs,

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and updates the tape drive's firmware information in the DIVA Core database. These special events are not available for use in Metric Definitions.

The following table lists the data sent by the Actors for each Quick Response Event type:

Table 3–4   Collected DIVA Core Hardware Resource Statistics

	Clean Alert[1]	Tension Alert[2]	Drive Alert	Drive Firmware	Library Alert
Time-stamp	X	X	X	X	X
Event ID	X	X	X	X	X
Request ID			X		
Drive Serial Num	X	X	X		
Library Serial Num					X
Tape Name (barcode)		X	X		
Tape Type		X			
Alert Log List[3]			X		X
Drive List[4]				X	

[1] The Actor issues Clean Alerts when a drive indicates it needs cleaning. These alerts are typically trapped by the library, or the library server, and the cleaning process is handled by those components. For this reason, DIVA Core does not include a drive cleaning mechanism.

[2] The Actor issues a Tension Alert when a drive indicates it requires re-tensioning.

[3] The Alert Log List is a variable length list of tape drive or library alerts. Each alert includes a parameter, a severity, and a text message.

[4] The Drive List is a variable length list of drive information objects. Each information object includes the Serial Number, Drive Name, and Firmware Release level. The Firmware Release level is saved in the database.

Collecting Quick Response Data (*QRD*)

DIVAprotect maintains a set of statistics about the archive system resources called Quick Response Data (*QRD*). QRD is not based on events, it is calculated from information available in the DIVA Core database, and updated every hour through an automated database job.

The following is a list of the QRD available, listed by resource:

Actors, Transcoders, and Analyzers
The QRD collected for these resources is the First Utilization Date.

Arrays
The QRD collected for arrays is as follows:

- Total used space - this is the exact sum of used space across all disks in the array, both online and offline.

- Total online object used space

- Total externalized (*offline*) object used space

Disks
The QRD collected for disks is as follows:

- First Utilization Date

- Last Access, Last Read, and Last Write dates

Groups
The QRD collected for groups is as follows:

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- Total used space - this is the exact sum of used space across all disks in the array, both online and offline.

- Total online object used space

- Total externalized (*offline*) object used space

Libraries

The QRD collected for libraries is as follows:

Note: Currently, a tape is considered offline only when it is ejected. After a tape is ejected it is not considered as part of the library.

- First Utilization Date

- Total number of tapes

- Total number of Nearline (*online*) tapes

- Total number of offline tapes

- Total number of blank tapes

- Total number of non-writable (*write protected*) tapes

- Total data stored in library

- Total data stored Nearline (*online*)

- Total data stored offline

- Total storage capacity (*online and offline total*)

- Total Nearline (*online*) capacity

- Total offline capacity

- Total free space capacity (*online and offline total*)

- Total number of objects archived to the tapes in the associated library

- Total number of objects Nearline (*online*)

- Total number of objects offline

Media

The QRD collected for media is as follows:

- First utilization Date

- Last Utilization Date

- Used space - this is the sum of offline and online instance sizes.

Objects

The QRD collected for objects is the Last Read Date.

Object Instances

The QRD collected for object instances in the Last Verify Date.

System

The QRD collected for the system is the First Use Date.

Source/Destination

The QRD collected for Source/Destinations is the First utilization Date.

Tapes

The QRD collected for tapes is as follows:

- First Insertion Date - this is the date it first appeared in the system.

- First Utilization Date - this is the date it was first mounted.

Collecting Drive and Library Alert Logs Information

Drive and Library Alert Logs contain a history of the codes that have been generated by the hardware. The Actors read the codes during normal operation. The information is saved to the database whenever reported by the hardware.

The following table is an extract of the Sony SAIT-1 Tape Drive Specification. Refer to your manufacturer's manual for your particular hardware.

Table 3–5   Sample Sony SAIT-1 Manufacturer Codes

Code	Flag	Type	Client Message
01h	Read Warning	Warning	The drive is having problems reading data. No data has been lost, but there has been a reduction in the performance of the medium.
02h	Write Warning	Warning	The drive is having problems writing data. No data has been lost, but there has been a reduction in the capacity of the volume.
03h	Hard Error	Warning	The operation has stopped because an error has occurred while reading or writing data, which the drive cannot correct.
04h	Media	Critical	Your data is at risk: 1. Copy any data you require from this cartridge. 2. Do not use this tape again. 3. Restart the operation with a different cartridge.

Collecting and Calculating Metrics

This section describes how metrics are collected and calculated.

Calculating Metrics Based on Operations Events

Metrics are calculated and updated every hour by an automated database job running in the background. Each metric's calculation is based on a selection of **Event Types** (*for example,* **SD READ, SD WRITE**) from which a common event parameter is extracted (*for example, Transfer Size*), and processed by a statistical operation (*for example,* **Sum**). The metric takes into account events collected over a particular interval that depend on the Metric Type:

- Hourly

- Daily

- Monthly

- Yearly

- Lifetime

A Metric is calculated based on associated events that occurred within the previous hour. If none of the associated events occurred, the metric is not calculated nor updated. If some associated events occurred, the metric is calculated or updated. All of the Metric Types are based upon these hourly calculations.

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For example, if an associated event occurs at 10:00 AM on February 1st, 2017 the following Metrics (*if they are defined*) will be calculated or updated:

- 10:00 AM Hourly Metric
- 2/1/2017 Daily Metric
- February 2017 Monthly Metric
- 2017 Yearly Metric
- Lifetime Metric

The following is a list of collection types:

Sum Collection Type
This collection type calculates a metric by adding event parameter values.

Count Collection Type
This collection type calculates a metric by counting event parameter values.

Minimum Collection Type
This collection type calculates a metric using the minimum event parameter value.

Maximum Collection Type
This collection type calculates a metric using the maximum event parameter value.

Average Collection Type
This collection type calculates a metric by averaging the event parameter values.

Weight Base Average Collection Type
This collection type calculates a metric by dividing the sum of the event parameter values by a weight factor, in contrast to the standard average calculation being divided by the count of event parameter values. Metrics configured with this collection type must specify a weight factor, otherwise the following error is generated:

ORA-20200 Weight Factor to calculate Weight based average is not mentioned.

The following is a sample Weight Based Average calculation:

Metric Name
DIVA Core_SYSTEM_AVG_READ_WRITE_DAY

Collection Type
Weight Based Average

Collection Field
Transfer Size

Weight Factor
Duration

Calculation for Hourly Metrics
SIZE (SUM of Transfer Size) / TIME (SUM of Transfer Duration) = V (Velocity)

Calculation for Day, Month, Year and Lifetime Metrics
SUM (Velocity * Time) / SUM (Time)

Calculating DIVA Core Built-in Metrics

DIVAprotect comes with built-in metrics that do not appear in the Configuration Utility, and cannot be edited. The built-in metrics are available in the Control GUI with the standard ones. Built-in metrics names all start with DIVAPROTECT. The following are several of the built-in metrics. In each example, the first command is for daily counts, and the second command is for lifetime counts.

How many times was DIVAprotect executed?

The following metrics count how many times DIVAprotect has been executed. They update each time DIVAprotect runs the hourly database job.

DIVAPROTECT_EXECUTION_COUNT_DAY
DIVAPROTECT_EXECUTION_COUNT

How many events did DIVAprotect process?

The following metrics count how many events DIVAprotect has processed while calculating metrics. They are updated each time DIVAprotect processes an event.

DIVAPROTECT_EVENTS_PROCESSED_DAY
DIVAPROTECT_EVENTS_PROCESSED

How many metrics did DIVAprotect process?

This defines how many metrics DIVAprotect has calculated or updated. These metric values are updated each time a metric is calculated or updated in the DIVA Core system.

DIVAPROTECT_METRIC_PROCESSED_DAY
DIVAPROTECT_METRIC_PROCESSED

What is the number of DIVAprotect internal errors?

The following metrics count the total number of DIVAprotect errors that have occurred while calculating or updating a metric. They are updated each time an error occurs.

DIVAPROTECT_INTERNAL_ERROR_DAY
DIVAPROTECT_INTERNAL_ERROR_DAY

Monitoring Use and Statistics in the DIVA Core GUI

You can view the DIVAprotect Journal and Metrics through the Control GUI. Click the appropriate icon under the **Analytics** tab to display either the *Journal View* or *Metrics View*.

System Events (*Journal*)

DIVAprotect metrics are continually gathered and written to a temporary table in the database. Once per hour the metrics are removed from the temporary table and committed to a permanent table.

The *Journal View* provides a set of filters to narrow down data retrieval, and a list view for the retrieved information. You can filter by **Event Definition**, **Drive Serial Number**, **Begin Date/Time**, **End Date/Time**, and enter search keywords into the appropriate fields.

You can search for a particular **Barcode**, **Actor Name**, **Source/Destination**, **Object Category**, **Object Instance Number**, **Error Code** (*including warnings, errors, and so on*) and **Error Message**. You click **Refresh** on the top right of the display to apply your filters and perform the search.

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To disable a filter, you can enter the wildcard character (*an asterisk*) for a text field, select the **ALL** value in a menu list, or deselect the check box to disable date and time filtering.

You can recall a previously used set of filters using the **Previous Queries** list (*located in the lower right corner of the Journal view*). The menu list remembers the last 10 used filter sets.

The *Journal* view uses a color chart to identify the severity of each event:

- Blue indicates information.

- Orange indicates a warning.

- Red indicates an error.

The columns displayed in the *Journal View* are as follows:

Severity
This column displays the severity of the event.

ID
This column displays the ID used to identify the event internally.

Request ID
This column displays the DIVA Core Request ID associated with the event.

Start Time
This column displays the event start time.

Event Time
This column displays the time the event occurred.

Duration
This column displays the total duration of the event in seconds.

Event
This column displays the type of event.

Tape Barcode
This column displays the tape barcode associated with the event.

Drive Serial Number
This column displays the serial number of the drive associated with the event.

Library Serial Number
This column displays the serial number of the library associated with the event.

Disk Name
This column displays the name of the disk associated with the event.

Actor Name
This column displays the name of the Actor associated with the event.

Source/Destination
This column displays the name of the Source/Destination associated with the event.

Object Name
This column displays the name of the object associated with the event.

Object Category
This column displays the category of the object associated with the event.

Object Instance

This column displays the instance number of the object associated with the event.

Transfer Size

This column displays the total data transfer size, in bytes, for the event.

Transfer Rate

This column displays the rate of transfer, in bytes, for the event.

Error Rate

This column displays the number of errors per Gigabyte of data transferred. These errors are automatically recovered by the tape drive.

Error Code

This column displays the internal error code, when applicable, for the event.

Error Message

This column displays a standardized error message, when applicable, for the event.

You can double-click any entry in the list to display its properties. A context menu is accessible for events specifically related to a DIVA Core request by right-clicking the entry in the *Journal* view. The context menu enables you to quickly navigate to the corresponding *Logged Requests* view or *Request Properties* dialog box.

Library Alert Logs Information

The *Library Alert Logs View* lists errors reported by directly-attached, SCSI protocol libraries. This information is vendor specific and varies depending on the library make and model.

A set of filters is available to narrow down searches. You can filter the results by *Severity* by selecting (*display*), or deselecting (*do not display*), the appropriate check box for *Information*, *Warnings*, and *Critical Errors*. You can also filter by *Message*, *Begin Date/Time*, *End Date/Time*, and *Alert ID*, and enter search keywords into the appropriate fields. You click **Refresh** on the top right of the display to apply your filters and perform the search.

To disable a filter, you can enter the wildcard character (*an asterisk*) for a text field, or deselect the check box to disable date and time filtering.

The columns displayed in the *Library Alert Logs View* are as follows:

Severity

This column displays the severity of the alert (*Informational, Warning or Error*).

Date/Time

This column displays the date and time of the occurrence.

Alert ID

This column displays the alert ID number as reported by the library, and is vendor specific.

Message

This column displays the message field as reported by the library, and is vendor specific.

Drive Alert Logs Information

The *Drive Alert Logs View* lists errors reported by tape drives. This information is vendor specific and varies depending on the make and model. A set of filters is available to narrow down searches. For example, instance errors are viewable related to a particular tape.

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A set of filters is available to narrow down searches. You can filter the results by **Severity** by selecting (*display*), or deselecting (*do not display*), the appropriate check box for **Information**, **Warnings**, and **Critical Errors**. You can also filter by **Tape Barcode**, **Request ID**, **Begin Date/Time**, **End Date/Time**, and **Alert ID**, **Drive Serial Number**, and **Message**, and then enter search keywords into the appropriate fields. You click **Refresh** on the top right of the display to apply your filters and perform the search.

To disable a filter, you can enter the wildcard character (*an asterisk*) for a text field, or deselect the check box to disable date and time filtering.

The columns displayed in the *Drive Alert Logs View* are as follows:

Severity
This column displays the severity of the alert (*Informational, Warning or Error*).

Date/Time
This column displays the date and time of the occurrence.

Drive Serial Number
This column displays the drive that reported the alert.

Tape Barcode
This column displays the barcode of the tape that was mounted when the alert was reported.

Alert ID
This column displays the alert ID number as reported by the library, and is vendor specific.

Message
This column displays the message field as reported by the library, and is vendor specific.

DIVA Core Request ID
This column displays the ID number of the request related to the alert (*if applicable*).

System Analytics (*Metrics*) Information

You can examine DIVAprotect Metrics in the Control GUI *Metrics View*. The *Metrics View* provides a set of filters to narrow down searches. You can filter information by **Metric Definition**, **Interval**, **Aggregation Item**, **Resource Name**, **Value**, **Count**, **Start Date**, and **Last Update Date**. The **Metric Definition** menu list contains the metrics defined in the Configuration Utility, and the built-in metrics (*that start with DIVAPROTECT**). You click **Refresh** on the top right of the display to apply your filters and perform the search.

Hovering over a metric produces a dialog box that includes the metric *Name*, *Description*, *Collecting* (*the event parameter selected metric is collecting*), *Resource*, *Type*, and *Included Events*.

Double-clicking an entry in the list will display its properties dialog box.

Right-clicking an entry displays a context menu enabling you to reset the current value or hit count of the metric to zero. You must be logged in the Control GUI as *Administrator* for these options to be enabled.

The columns displayed in the *Metrics View* are as follows:

Metric ID
This column displays the internal ID used to identify the metric.

Start Date
This column displays the date and time the collection of the metric started.

Last Update
This column displays the last date and time the metric collection was updated.

Metric Name
This column displays the name of the Metric Definition.

Interval
This column displays the metric collection interval.

Resource
This column displays the type of resource involved in the events the metric is based on.

Collecting
This column displays the event parameter the metric is collecting.

Resource Name
This column displays the name of the resource involved in the events the metric is based on.

Value
This column displays the current metric value.

Count
This column displays the number of times the metric was calculated or updated.

System QRD (*Quick Response Data*) Information

System QRD (*Quick Response Data*) includes the *First Utilization Date* and is displayed in the *DIVA Core Information* dialog box. You click **DIVA Core Information** under the Control GUI **Analytics** tab to access this information.

Source and Destination QRD (*Quick Response Data*) Information

You view the *Source and Destination QRD* (*Quick Response Data*) information in the Control GUI *Source/Destination View*. The information includes the *First Utilization Date*. You double-click an entry in the list to display additional information.

Media QRD (*Quick Response Data*) Information

You view the *Media QRD* (*Quick Response Data*) in the Control GUI *Media View*. The metrics displayed in the *Media View* are as follows:

First Utilization Date
This displays the date and time the media was first mounted.

Last Utilization Date
This column displays the last date and time the media was used.

Used Space
This column displays the sum of the used space on all online and offline media.

Library QRD (*Quick Response Data*) Information

You view the *Library QRD* (*Quick Response Data*) and Serial Numbers in the Control GUI *Library View*. Double-clicking an entry in the list displays additional information in a dialog box.

The metrics displayed in the *Library View* are as follows:

Note: All offline values mentioned are not supported in this DIVA Core release. Currently, a tape is considered offline only when it is ejected. After a tape is ejected it is not considered to be part of the Library.

Type
This column displays the type of library.

First Utilization Date
This column displays the date and time the library was first used.

Total Tapes
This column displays the total number of tapes in the library.

Total Data Stored
This column displays the total amount of data stored in the library (*in megabytes*).

Total Capacity
This column displays the sum of the total capacity of all tapes in the library (*in gigabytes*).

Free Capacity
This column displays the sum of the total amount of free space on all tapes in the library (*in gigabytes*).

Total Objects
This column displays the sum of the total number of objects stored on all tapes in the library.

Total Objects Online
This column displays the sum of the total number of objects stored on all online tapes in the library.

Total Objects Offline
This column displays the sum of the total number of objects stored on all offline tapes in the library.

Extended Tape Drive QRD (*Quick Response Data*) Information

You view the *Tape Drive QRD* (*Quick Response Data*) in the Control GUI *Drives View*. This information includes drive *Serial Numbers* and *Firmware* level. The Serial Number is displayed in the main view.

Right-click a drive to display additional information in a dialog box. The **Properties** tab in the dialog box includes the *Firmware Level* and other basic information about the drive. The **Usage** tab in the dialog box includes the following columns:

Installation Date
This column displays the date and time the drive was initially installed.

First Utilization Date
This column displays the date and time the drive was first mounted.

Last Upgrade Date
This column displays the date and time of the last drive upgrade.

Last Cleaning Date
This column displays the date and time of the last time the drive was cleaned.

Extended Tape QRD (*Quick Response Data*) Information

You view the *Tape QRD* (*Quick Response Data*) in the Control GUI *Tapes View* under the **Home** tab. You double-click your selected tape to open the *Tape Properties* dialog box to view additional information.

The QRD fields (*specifically*) displayed in the *Tape Properties* dialog box are as follows:

First Insertion Date
This field displays the date and time the tape was first inserted into the library.

First Utilization Date
this field displays the date and time the tape was first mounted.

Extended Disk QRD (*Quick Response Data*) Information

You view the *Disk QRD* (*Quick Response Data*) in the Control GUI *Disks View* under the **Home** tab.

The QRD columns (*specifically*) displayed in the *Disks View* are as follows:

First Utilization Date
This column displays the date and time the disk was first used.

Last Access Date
This column displays the last date and time the disk was accessed.

Last Read Date
This column displays the last time a read operation was performed on the disk.

Last Write Date
This column displays the last time a write operation was performed on the disk.

Extended Object and Object Instance Information

You view the **Last Read Date** (*and time*) for an object in the Control GUI *Archived Objects View*.

You can view the **Last Verify Date** for an object in the *Instances* panel under the *Object Properties View*. You double-click the object you want to view in the *Archived Objects* list to open the *Object Properties* dialog box.

Extended Actor Information

You view extended information for your Actors in the **Usage**, **Transcoders** and **Analyzer** tabs of the *Actor Properties* dialog box in the Control GUI. You display the *Actor Properties* dialog box by right-clicking an Actor in the *Actors View*, under the **Home** tab, and selecting **Properties** from the context menu.

Note: Linux-based Actors only support Telestream Vantage transcoding operations.

The **Usage** tab in the *Actor Properties* dialog box contains the **First Utilization Date** field. This field displays the date and time when the selected Actor was first used.

The **Transcoders** tab in the *Actor Properties* dialog box contains the following columns:

Name
This column displays the transcoder name.

Version

This column displays the transcoder release level.

Type

This column displays the transcoder type.

First Utilization Date

This column displays the date and time the transcoder was first used with the selected Actor.

The **Analyzer** tab in the *Actor Properties* dialog box contains the following fields:

Version

This field displays the analyzer release level.

First Utilization Date

This field displays the date and time the analyzer was first used.

Tracking Checksum Error Events in the DIVAprotect Journal

You view *Checksum Error Events* in the DIVAprotect Journal under the Control GUI **Analytics** tab. The following table identifies the Checksum Event Types:

Table 3–6   Checksum Event Types

Event ID	Event Name	Event Description	Severity
180	CHECKSUM_ERROR_TAPE	A checksum verification produced an error reading for the tape.	2
181	CHECKSUM_ERROR_DISK	A checksum verification produced an error reading for the disk.	2
182	CHECKSUM_ERROR_SD	A checksum verification produced an error reading for the Source/Destination.	2

4

Frequently Asked Questions

This chapter contains frequently asked questions about DIVA Core DIVAprotect, and includes the following information:

- How often are metrics updated?
- How is DIVAprotect installed in a new DIVA Core installation?
- Can you choose not to install DIVAprotect?
- Can DIVAprotect be disabled?
- How is Engineering Mode accessed?

How often are metrics updated?

DIVAprotect calculates and updates the data metrics every hour through an automated database job running in the background.

How is DIVAprotect installed in a new DIVA Core installation?

DIVAprotect is automatically installed with DIVA Core; no additional installation is required.

Can you choose not to install DIVAprotect?

You cannot select to bypass DIVAprotect installation. DIVAprotect is a mandatory subsystem built into DIVA Core. However, you can disable DIVAprotect data collection and computation after the system has been installed.

Can DIVAprotect be disabled?

Yes, you can disable DIVAprotect functionality through proper configuration. *See Main Configuration for detailed configuration options*.

How is Engineering Mode accessed?

You must contact Telestream Support to access the system in Engineering Mode. Engineering Mode is only accessible to Telestream Support personnel to avoid accidental misconfiguration of the system. Misconfiguration can possibly result in degradation of DIVA Core operations.

A

Event and Metric Definitions

The following table identifies DIVAprotect event and metric definitions.

Event Field Definitions

The following table identifies DIVAprotect Event Field Definitions:

Table A–1   DIVAprotect Event Field Definitions

Event Field ID	Displayed Name	Aggregatable Resource?	Collectable?	Type	Quantifier
1	Event ID	No	Yes	Number	
2	Event Definition ID	Yes	No	Number	
3	Tape Type	Yes	No	String	
4	Tape Barcode	Yes	No	String	
5	Drive Type	Yes	No	String	
6	Drive Name	Yes	No	String	
7	Drive Serial Number	Yes	No	String	
8	Actor Name	Yes	No	String	
9	Object Name	Yes	No	String	
10	Object Category	Yes	No	String	
11	Object Instance	No	No	Number	
12	Media	Yes	No	String	
13	Request ID	No	No	Number	
14	Event End Time	No	No	Date	
15	Event Duration	No	Yes	Number	Seconds
16	Transfer Size	No	Yes	Number	Bytes
17	Transfer Rate	No	Yes	Number	MBps
18	Transfer Error Rate	No	Yes	Number	Errors per GB
19	Error Code	Yes	No	Number	
20	Error Message	No	No	String	
21	Disk Name	Yes	No	String	
22	Library Serial Number	Yes	No	String	

Table A–1   (Cont.) DIVAprotect Event Field Definitions

Event Field ID	Displayed Name	Aggregatable Resource?	Collectable?	Type	Quantifier
23	SD Name	Yes	No	String	
24	Transcoder Name Analyzer Name	Yes	No	String	
25	Local DIVA Core System	Yes	No	String	
26	Number of Operations	No	Yes	Number	
27	EV_SIZE	No	Yes	Number	Bytes

Event Definitions

The following table identifies DIVAprotect Event Definitions:

Table A–2   DIVAprotect Event Definitions

Event ID	Name	Description	Severity
1	TAPE_INSERT	Tape insert event	3
2	TAPE_INSERT_ERR	Tape insert error event	2
10	TAPE_MOUNT	Tape mount event	4
11	TAPE_MOUNT_ERR	Tape mount error event	2
20	TAPE_POSITION	Tape position event	4
21	TAPE_POSITION_ERR	Tape position error event	2
30	TAPE_READ	Tape read event	4
31	TAPE_READ_ERR	Tape read error event	2
40	TAPE_WRITE	Tape write event	4
41	TAPE_WRITE_ERR	Tape write error event	2
50	TAPE_DISMOUNT	Tape dismount event	4
51	TAPE_DISMOUNT_ERR	Tape dismount error event	2
60	TAPE_EJECT	Tape eject event	3
61	TAPE_EJECT_ERR	Tape eject error event	2
70	TAPE_UNLOAD	Tape unload event	4
71	TAPE_UNLOAD_ERR	Tape unload error event	2
72	TAPE_IMPORT	Tape import event	3
73	TAPE_EXPORT	Tape export event	3
80	TAPE_DRIVE_CLEAN_ALERT	Tape drive clean event	3
81	TAPE_DRIVE_TENSION_NOTIFY	Tape drive tension notify event	2
82	TAPE_DRIVE_LOG_ALERT	Tape drive log alert event	4
83	TAPE_DRIVE_LIST	Tape drive list event	4
84	TAPE_END_OF_TAPE	End of tape event	4
90	TAPE_REPACK	Tape repack event	3
91	TAPE_REPACK_ERR	Tape repack error event	2

Table A–2   (Cont.) DIVAprotect Event Definitions

Event ID	Name	Description	Severity
103	DISK_READ	Disk read event	4
104	DISK_READ_ERR	Disk read error event	2
105	DISK_WRITE	Disk write event	4
106	DISK_WRITE_ERR	Disk write error event	2
110	SD_READ	Source/Destination read event	4
111	SD_READ_ERR	Source/Destination read error event	2
112	SD_WRITE	Source/Destination write event	4
113	SD_WRITE_ERR	Source/Destination write error event	2
120	ARCHIVE_REQUEST	Archive Object event	4
122	COPY_REQUEST	Copy Instance event	4
124	COPY_AS_REQUEST	Copy As event	4
126	RESTORE	Restore Object event	4
130	DELETE_OBJECT	Delete Object event	4
132	CREATE_INSTANCE	Create Instance event	4
134	DELETE_INSTANCE	Delete Object Instance event	4
141	TRANSCODE_END	Transcode event	4
142	TRANSCODE_ERR	Transcode error event	2
160	REQUEST_STOP_ON_CANCEL	Request Cancel event	4
161	REQUEST_STOP_ON_INTERRUPT	Request Interrupt Event	4
170	LIBRARY_LOG_ALERT	Library Log alert event	4
180	CHECKSUM_ERROR_TAPE	Checksum verification error reading from tape	2
181	CHECKSUM_ERROR_DISK	Checksum verification error reading from disk	2
182	CHECKSUM_ERROR_SD	Checksum verification error reading from Source/Destination	2
190	PARTIAL_RESTORE	DIVA Core Partial File Restore event	4

Metric Definitions

The following list describes the DIVA Core metrics definitions. All listed metrics are enabled.

ACTOR_READ_WRITE

- **Description**: Actor - the amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Transfer Size
- **Aggregation Field**: Actor Name
- **Collection Interval**: Lifetime

ACTOR_READ_WRITE_ABORTED_NUMBER

- **Description**: Actor - number of ABORTED READ and ABORTED WRITE operations with drives.

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Lifetime

ACTOR_READ_WRITE_ABORTED_NUMBER_DAY

- **Description**: Actor - number of ABORTED READ and ABORTED WRITE operations with drives.

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Day

ACTOR_READ_WRITE_ABORTED_NUMBER_SD

- **Description**: Actor - number of ABORTED READ and ABORTED WRITE operations with Source/Destination.

- **Events**: SD_READ_ERR, SD_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Lifetime

ACTOR_READ_WRITE_ABORTED_NUMBER_SD_DAY

- **Description**: Actor - number of ABORTED READ and ABORTED WRITE operations with Source/Destination.

- **Events**: SD_READ_ERR, SD_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Day

ACTOR_READ_WRITE_DAY

- **Description**: Actor - amount of data READ and WRITE.

- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Actor Name

- **Collection Interval**: Day

ACTOR_READ_WRITE_MONTH
- **Description**: Actor - amount of data READ and WRITE.

- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Actor Name

- **Collection Interval**: Month

ACTOR_READ_WRITE_NUMBER
- **Description**: Actor - number of READ and WRITE operations.

- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Lifetime

ACTOR_READ_WRITE_NUMBER_DAY
- **Description**: Actor - number of READ and WRITE operations.

- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Day

ACTOR_READ_WRITE_NUMBER_MONTH
- **Description**: Actor - number of READ and WRITE operations.

- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Actor Name

- **Collection Interval**: Month

ACTOR_TIME_ALL_OPERATION
- **Description**: Actor - time in all operations.

- **Events**: DISK_READ, DISK_READ_ERR, DISK_WRITE, DISK_WRITE_ERR, SD_READ, SD_READ_ERR, SD_WRITE, SD_WRITE_ERR, TAPE_END_OF_TAPE, TAPE_MOUNT_ERR, TAPE_POSITION, TAPE_POSITION_ERR, TAPE_READ, TAPE_READ_ERR, TAPE_UNLOAD, TAPE_UNLOAD_ERR, TAPE_WRITE, TAPE_WRITE_ERR

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Actor Name

- **Collection Interval**: Lifetime

ACTOR_TIME_ALL_OPERATION_DAY

- **Description**: Actor - time in all operations.

- **Events**: DISK_READ, DISK_READ_ERR, DISK_WRITE, DISK_WRITE_ERR, SD_READ, SD_READ_ERR, SD_WRITE, SD_WRITE_ERR, TAPE_END_OF_TAPE, TAPE_MOUNT_ERR, TAPE_POSITION, TAPE_POSITION_ERR, TAPE_READ, TAPE_READ_ERR, TAPE_UNLOAD, TAPE_UNLOAD_ERR, TAPE_WRITE, TAPE_WRITE_ERR

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Actor Name

- **Collection Interval**: Day

ACTOR_TIME_ALL_OPERATION_MONTH

- **Description**: Actor - time in all operations.

- **Events**: DISK_READ, DISK_READ_ERR, DISK_WRITE, DISK_WRITE_ERR, SD_READ, SD_READ_ERR, SD_WRITE, SD_WRITE_ERR, TAPE_END_OF_TAPE, TAPE_MOUNT_ERR, TAPE_POSITION, TAPE_POSITION_ERR, TAPE_READ, TAPE_READ_ERR, TAPE_UNLOAD, TAPE_UNLOAD_ERR, TAPE_WRITE, TAPE_WRITE_ERR

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Actor Name

- **Collection Interval**: Month

ACTOR_TIME_READ

- **Description**: Actor - time in READ operations.

- **Events**: DISK_READ, SD_READ, TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Actor Name

- **Collection Interval**: Lifetime

ACTOR_TIME_READ_DAY
- **Description**: Actor - time in READ operations.
- **Events**: DISK_READ, SD_READ, TAPE_READ
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Duration
- **Aggregation Field**: Actor Name
- **Collection Interval**: Day

ACTOR_TIME_READ_MONTH
- **Description**: Actor - time in READ operations.
- **Events**: DISK_READ, SD_READ, TAPE_READ
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Duration
- **Aggregation Field**: Actor Name
- **Collection Interval**: Month

ACTOR_TIME_WRITE
- **Description**: Actor - time in WRITE operations.
- **Events**: DISK_WRITE, SD_WRITE, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Duration
- **Aggregation Field**: Actor Name
- **Collection Interval**: Lifetime

ACTOR_TIME_WRITE_DAY
- **Description**: Actor - time in WRITE operations.
- **Events**: DISK_WRITE, SD_WRITE, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Duration
- **Aggregation Field**: Actor Name
- **Collection Interval**: Day

ACTOR_TIME_WRITE_MONTH
- **Description**: Actor - time in WRITE operations.
- **Events**: DISK_WRITE, SD_WRITE, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Duration

- **Aggregation Field**: Actor Name

- **Collection Interval**: Month

DISK_AVG_TRANSFER_RATE_READ
- **Description**: Disk - average transfer rate of READ.

- **Events**: DISK_READ

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_AVG_TRANSFER_RATE_READ_DAY
- **Description**: Disk - average transfer rate of READ.

- **Events**: DISK_READ

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_AVG_TRANSFER_RATE_READ_MONTH
- **Description**: Disk - average transfer rate of READ.

- **Events**: DISK_READ

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_AVG_TRANSFER_RATE_WRITE
- **Description**: Disk - average transfer rate of WRITE.

- **Events**: DISK_WRITE

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_AVG_TRANSFER_RATE_WRITE_DAY
- **Description**: Disk - average transfer rate of WRITE.

- **Events**: DISK_WRITE

- **Operation**: Average

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- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_AVG_TRANSFER_RATE_WRITE_MONTH
- **Description**: Disk - average transfer rate of WRITE.

- **Events**: DISK_WRITE

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_CHECKSUM_FAILURE_COUNT_DAY
- **Description**: Disk - checksum failure operations count.

- **Events**: CHECKSUM_ERROR_DISK

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_CHECKSUM_FAILURE_COUNT_MONTH
- **Description**: Disk - checksum failure operations count.

- **Events**: CHECKSUM_ERROR_DISK

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_NUMBER_READ
- **Description**: Disk - total number of READ operations.

- **Events**: DISK_READ, DISK_READ_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_NUMBER_READ_ABORTED
- **Description**: Disk - total number of ABORTED READ operations.

- **Events**: DISK_READ_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_NUMBER_READ_ABORTED_DAY
- **Description**: Disk - total number of ABORTED READ operations.

- **Events**: DISK_READ_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_NUMBER_READ_ABORTED_MONTH
- **Description**: Disk - total number of ABORTED READ operations.

- **Events**: DISK_READ_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_NUMBER_READ_DAY
- **Description**: Disk - total number of READ operations.

- **Events**: DISK_READ, DISK_READ_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_NUMBER_READ_MONTH
- **Description**: Disk - total number of READ operations.

- **Events**: DISK_READ, DISK_READ_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

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- **Collection Interval**: Month

DISK_NUMBER_WRITE
- **Description**: Disk - total number of WRITE operations.
- **Events**: DISK_WRITE, DISK_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Disk Name
- **Collection Interval**: Lifetime

DISK_NUMBER_WRITE_ABORTED
- **Description**: Disk - Total number of ABORTED WRITE operations.
- **Events**: DISK_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Disk Name
- **Collection Interval**: Lifetime

DISK_NUMBER_WRITE_ABORTED_DAY
- **Description**: Disk - Total number of ABORTED WRITE operations.
- **Events**: DISK_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Disk Name
- **Collection Interval**: Day

DISK_NUMBER_WRITE_ABORTED_MONTH
- **Description**: Disk - Total number of ABORTED WRITE operations.
- **Events**: DISK_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Disk Name
- **Collection Interval**: Month

DISK_NUMBER_WRITE_DAY
- **Description**: Disk - Total number of WRITE operations.
- **Events**: DISK_WRITE, DISK_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_NUMBER_WRITE_MONTH

- **Description**: Disk - Total number of WRITE operations.

- **Events**: DISK_WRITE, DISK_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_READ

- **Description**: Disk - total amount of data READ.

- **Events**: DISK_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_READ_DAY

- **Description**: Disk - total amount of data READ.

- **Events**: DISK_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_READ_MONTH

- **Description**: Disk - total amount of data READ.

- **Events**: DISK_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_TIME_ALL_OPERATION

- **Description**: Disk - total time of all operations.

- **Events**: DISK_READ, DISK_WRITE

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- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_TIME_ALL_OPERATION_DAY
- **Description**: Disk - total time of all operations.

- **Events**: DISK_READ, DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_TIME_ALL_OPERATION_MONTH
- **Description**: Disk - total time of all operations.

- **Events**: DISK_READ, DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_TIME_READ
- **Description**: Disk - total time of READ operations.

- **Events**: DISK_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_TIME_READ_DAY
- **Description**: Disk - total time of READ operations.

- **Events**: DISK_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_TIME_READ_MONTH
- **Description**: Disk - total time of READ operations.

- **Events**: DISK_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_TIME_WRITE
- **Description**: Disk - total time of WRITE operations.

- **Events**: DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_TIME_WRITE_DAY
- **Description**: Disk - total time of WRITE operations.

- **Events**: DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_TIME_WRITE_MONTH
- **Description**: Disk - total time of WRITE operations.

- **Events**: DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DISK_WRITE
- **Description**: Disk - total amount of data WRITE.

- **Events**: DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Disk Name

- **Collection Interval**: Lifetime

DISK_WRITE_DAY
- **Description**: Disk - total amount of data WRITE.

- **Events**: DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Disk Name

- **Collection Interval**: Day

DISK_WRITE_MONTH
- **Description**: Disk - total amount of data WRITE.

- **Events**: DISK_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Disk Name

- **Collection Interval**: Month

DIVA Core_SYSTEM_ACTIVE_ARCHIVE_NUMBER
- **Description**: DIVA Core System - number of active Archive requests.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_ACTIVE_ARCHIVE_NUMBER_DAY
- **Description**: DIVA Core System - number of active Archive requests.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_ACTIVE_ARCHIVE_NUMBER_MONTH
- **Description**: DIVA Core System - number of active Archive requests.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_ACTIVE_COPY_AS_NUMBER

- **Description**: DIVA Core System - number of active Copy As New Object requests.

- **Events**: COPY_AS_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_ACTIVE_COPY_AS_NUMBER_DAY

- **Description**: DIVA Core System - number of active Copy As New Object requests.

- **Events**: COPY_AS_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_ACTIVE_COPY_AS_NUMBER_MONTH

- **Description**: DIVA Core System - number of active Copy As New Object requests.

- **Events**: COPY_AS_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_ACTIVE_COPY_NUMBER

- **Description**: DIVA Core System - number of active Copy requests.

- **Events**: COPY_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_ACTIVE_COPY_NUMBER_DAY

- **Description**: DIVA Core System - number of active Copy requests.

- **Events**: COPY_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_ACTIVE_COPY_NUMBER_MONTH

- **Description**: DIVA Core System - number of active Copy requests.

- **Events**: COPY_REQUEST

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_ACTIVE_RESTORE_NUMBER

- **Description**: DIVA Core System - number of active Restore requests.

- **Events**: RESTORE

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_ACTIVE_RESTORE_NUMBER_DAY

- **Description**: DIVA Core System - number of active Restore requests.

- **Events**: RESTORE

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_ACTIVE_RESTORE_NUMBER_MONTH

- **Description**: DIVA Core System - number of active Restore requests.

- **Events**: RESTORE

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Number of operations

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_AVG_READ_WRITE
- **Description**: DIVA Core System - average amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: WAVG
- **Weight Factor**: Duration
- **Collection Field**: Transfer Size
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_AVG_READ_WRITE_DAY
- **Description**: DIVA Core System - average amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: WAVG
- **Weight Factor**: Duration
- **Collection Field**: Transfer Size
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Day

DIVA Core_SYSTEM_AVG_READ_WRITE_MONTH
- **Description**: DIVA Core System - average amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: WAVG
- **Weight Factor**: Duration
- **Collection Field**: Transfer Size
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Month

DIVA Core_SYSTEM_NUMBER_OBJECT_ARCHIVE
- **Description**: DIVA Core System - number of objects archived.
- **Events**: ARCHIVE_REQUEST
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_ARCHIVE_DAY
- **Description**: DIVA Core System - number of objects archived.
- **Events**: ARCHIVE_REQUEST
- **Operation**: Count
- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_ARCHIVE_MONTH
- **Description**: DIVA Core System - number of objects archived.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_NUMBER_OBJECT_CREATED
- **Description**: DIVA Core System - number of objects created.

- **Events**: ARCHIVE_REQUEST, COPY_AS_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_CREATED_DAY
- **Description**: DIVA Core System - number of objects created.

- **Events**: ARCHIVE_REQUEST, COPY_AS_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_CREATED_MONTH
- **Description**: DIVA Core System - number of objects created.

- **Events**: ARCHIVE_REQUEST, COPY_AS_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_NUMBER_OBJECT_DELETED
- **Description**: DIVA Core System - number of objects deleted.

- **Events**: DELETE_OBJECT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_DELETED_DAY
- **Description**: DIVA Core System - number of objects deleted.

- **Events**: DELETE_OBJECT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_DELETED_MONTH
- **Description**: DIVA Core System - number of objects deleted.

- **Events**: DELETE_OBJECT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_COPY
- **Description**: DIVA Core System - number of objects instance copied.

- **Events**: COPY_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_COPY_DAY
- **Description**: DIVA Core System - number of objects instance copied.

- **Events**: COPY_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_COPY_MONTH

- **Description**: DIVA Core System - number of objects instance copied.

- **Events**: COPY_REQUEST

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_CREATED

- **Description**: DIVA Core System - number of object instances created.

- **Events**: CREATE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_CREATED_DAY

- **Description**: DIVA Core System - number of object instances created.

- **Events**: CREATE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_CREATED_MONTH

- **Description**: DIVA Core System - number of object instances created.

- **Events**: CREATE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_DELETED

- **Description**: DIVA Core System - number of object instances deleted.

- **Events**: DELETE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_DELETED_DAY
- **Description**: DIVA Core System - number of object instances deleted.

- **Events**: DELETE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_INSTANCE_DELETED_MONTH
- **Description**: DIVA Core System - number of object instances deleted.

- **Events**: DELETE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_RESTORE
- **Description**: DIVA Core System - number of objects restored.

- **Events**: RESTORE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_NUMBER_OBJECT_RESTORE_DAY
- **Description**: DIVA Core System - number of objects restored.

- **Events**: RESTORE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_NUMBER_OBJECT_RESTORE_MONTH
- **Description**: DIVA Core System - number of objects restored.

- **Events**: RESTORE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_READ_WRITE

- **Description**: DIVA Core System - amount of data READ and WRITE.

- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_READ_WRITE_ABORTED_NUMBER

- **Description**: DIVA Core System - number of ABORTED READ and ABORTED WRITE operations.

- **Events**: DISK_READ_ERR, DISK_WRITE_ERR, SD_READ_ERR, SD_WRITE_ERR, TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_READ_WRITE_ABORTED_NUMBER_DAY

- **Description**: DIVA Core System - number of ABORTED READ and ABORTED WRITE operations.

- **Events**: DISK_READ_ERR, DISK_WRITE_ERR, SD_READ_ERR, SD_WRITE_ERR, TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Day

DIVA Core_SYSTEM_READ_WRITE_ABORTED_NUMBER_MONTH

- **Description**: DIVA Core System - number of ABORTED READ and ABORTED WRITE operations.

- **Events**: DISK_READ_ERR, DISK_WRITE_ERR, SD_READ_ERR, SD_WRITE_ERR, TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

DIVA Core_SYSTEM_READ_WRITE_DAY
- **Description**: DIVA Core System - amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Transfer Size
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Day

DIVA Core_SYSTEM_READ_WRITE_MONTH
- **Description**: DIVA Core System - amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Transfer Size
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Month

DIVA Core_SYSTEM_READ_WRITE_NUMBER
- **Description**: DIVA Core System - number of READ and WRITE operations.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Lifetime

DIVA Core_SYSTEM_READ_WRITE_NUMBER_DAY
- **Description**: DIVA Core System - number of READ and WRITE operations.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Local DIVA Core System
- **Collection Interval**: Day

DIVA Core_SYSTEM_READ_WRITE_NUMBER_MONTH
- **Description**: DIVA Core System - number of READ and WRITE operations.
- **Events**: DISK_READ, DISK_WRITE, SD_READ, SD_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Month

MEDIA_ARCHIVED_OBJECT_DATASIZE_DAY
- **Description**: Media - data size of all objects archived.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Media Name

- **Collection Interval**: Day

MEDIA_ARCHIVED_OBJECT_DATASIZE_MONTH
- **Description**: Media - data size of all objects archived.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

MEDIA_OBJECT_INSTANCE_CREATE
- **Description**: Media - number of object instance CREATE.

- **Events**: CREATE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Lifetime

MEDIA_OBJECT_INSTANCE_CREATE_DAY
- **Description**: Media - number of object instance CREATE.

- **Events**: CREATE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Day

MEDIA_OBJECT_INSTANCE_CREATE_MONTH
- **Description**: Media - number of object instance CREATE and DELETE.

- **Events**: CREATE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

MEDIA_OBJECT_INSTANCE_DELETE
- **Description**: Media - number of object instance DELETE.

- **Events**: DELETE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Lifetime

MEDIA_OBJECT_INSTANCE_DELETE_DAY
- **Description**: Media - number of object instance DELETE.

- **Events**: DELETE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Day

MEDIA_OBJECT_INSTANCE_DELETE_MONTH
- **Description**: Media - number of object instance CREATE and DELETE.

- **Events**: DELETE_INSTANCE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

MEDIA_READ_WRITE
- **Description**: Media - amount of data READ and WRITE.

- **Events**: DISK_READ, DISK_WRITE, TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Media Name

- **Collection Interval**: Lifetime

MEDIA_READ_WRITE_DAY
- **Description**: Media - amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Transfer Size
- **Aggregation Field**: Media Name
- **Collection Interval**: Day

MEDIA_READ_WRITE_MONTH
- **Description**: Media - amount of data READ and WRITE.
- **Events**: DISK_READ, DISK_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Transfer Size
- **Aggregation Field**: Media Name
- **Collection Interval**: Month

MEDIA_READ_WRITE_NUMBER
- **Description**: Media - number of READ and WRITE operations.
- **Events**: DISK_READ, DISK_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Media Name
- **Collection Interval**: Lifetime

MEDIA_READ_WRITE_NUMBER_DAY
- **Description**: Media - number of READ and WRITE operations.
- **Events**: DISK_READ, DISK_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Media Name
- **Collection Interval**: Day

MEDIA_READ_WRITE_NUMBER_MONTH
- **Description**: Media - number of READ and WRITE operations.
- **Events**: DISK_READ, DISK_WRITE, TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

MEDIA_RESTORE_OBJECT_DATASIZE_DAY
- **Description**: Media - data size of all objects restored.

- **Events**: RESTORE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Media Name

- **Collection Interval**: Day

MEDIA_RESTORE_OBJECT_DATASIZE_MONTH
- **Description**: Media - data size of all objects restored.

- **Events**: RESTORE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

MEDIA_TAPE_EXPORT_NUMBER_DAY
- **Description**: Media - Number of tape EXPORT.

- **Events**: TAPE_EXPORT

- **Operation**: count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Day

MEDIA_TAPE_EXPORT_NUMBER_MONTH
- **Description**: Media - Number of tape EXPORT.

- **Events**: TAPE_EXPORT

- **Operation**: count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

MEDIA_TAPE_IMPORT_NUMBER_DAY
- **Description**: Media - Number of tape IMPORT.

- **Events**: TAPE_IMPORT

- **Operation**: count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Day

MEDIA_TAPE_EXPORT_NUMBER_MONTH
- **Description**: Media - Number of tape IMPORT.

- **Events**: TAPE_IMPORT

- **Operation**: count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Media Name

- **Collection Interval**: Month

SD_ARCHIVE_OBJECT_DATASIZE_DAY
- **Description**: Source/Destination - data size of all objects archived.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_ARCHIVE_OBJECT_DATASIZE_MONTH
- **Description**: Source/Destination - data size of all objects archived.

- **Events**: ARCHIVE_REQUEST

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

SD_CHECKSUM_FAILURE_COUNT_DAY
- **Description**: Source/Destination - checksum failure operations count.

- **Events**: CHECKSUM_ERROR_SD

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_READ
- **Description**: Source/Destination - amount of data READ.

- **Events**: SD_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Lifetime

SD_READ_DAY
- **Description**: Source/Destination - amount of data READ.

- **Events**: SD_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_READ_MONTH
- **Description**: Source/Destination - amount of data READ.

- **Events**: SD_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

SD_READ_NUMBER
- **Description**: Source/Destination - number of READ operations.

- **Events**: SD_READ

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Lifetime

SD_READ_NUMBER_DAY
- **Description**: Source/Destination - number of READ operations.

- **Events**: SD_READ

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_READ_NUMBER_MONTH
- **Description**: Source/Destination - number of READ operations.

- **Events**: SD_READ

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

SD_RESTORE_OBJECT_DATASIZE_DAY
- **Description**: Source/Destination - data size of all objects restore.

- **Events**: RESTORE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_RESTORE_OBJECT_DATASIZE_MONTH
- **Description**: Source/Destination - data size of all objects restore.

- **Events**: RESTORE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

SD_TIME
- **Description**: Source/Destination - time in operation.

- **Events**: SD_READ, SD_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Lifetime

SD_TIME_DAY
- **Description**: Source/Destination - time in operation.

- **Events**: SD_READ, SD_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_TIME_MONTH

- **Description**: Source/Destination - time in operation.

- **Events**: SD_READ, SD_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

SD_WRITE

- **Description**: Source/Destination - amount of data WRITE.

- **Events**: SD_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Lifetime

SD_WRITE_DAY

- **Description**: Source/Destination - amount of data WRITE.

- **Events**: SD_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_WRITE_MONTH

- **Description**: Source/Destination - amount of data WRITE.

- **Events**: SD_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

SD_WRITE_NUMBER

- **Description**: Source/Destination - number of WRITE operations.

- **Events**: SD_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Lifetime

SD_WRITE_NUMBER_DAY
- **Description**: Source/Destination - number of WRITE operations.

- **Events**: SD_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Day

SD_WRITE_NUMBER_MONTH
- **Description**: Source/Destination - number of WRITE operations.

- **Events**: SD_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Source/Destination Name

- **Collection Interval**: Month

TAPE_CHECKSUM_FAILURE_COUNT_DAY
- **Description**: Tape - checksum failure operations count.

- **Events**: CHECKSUM_ERROR_TAPE, TAPE_DISMOUNT_ERR, TAPE_MOUNT_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Day

TAPE_DRIVE_DATA_RATE
- **Description**: Tape Drive - data rate

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_DATA_RATE_MONTH

- **Description**: Tape Drive - data rate

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_DRIVE_ERROR_RATE

- **Description**: Tape Drive - internal error rate.

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Error Rate

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_ERROR_RATE_MONTH

- **Description**: Tape Drive - internal error rate.

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Error Rate

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_DRIVE_LAST_OPERATION_DATE

- **Description**: Tape Drive - date of last MOUNT, DISMOUNT, READ, or WRITE.

- **Events**: TAPE_DISMOUNT, TAPE_MOUNT, TAPE_READ, TAPE_WRITE

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Event Time

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_NUMBER_MOUNTS

- **Description**: Tape Drive - number of mounts.

- **Events**: TAPE_MOUNT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_NUMBER_MOUNT_DISMOUNT_ABORTED
- **Description**: Tape Drive - number of terminated MOUNT and DISMOUNT operations (together).

- **Events**: TAPE_DISMOUNT_ERR, TAPE_MOUNT_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_NUMBER_READ_WRITE_ABORTED
- **Description**: Tape Drive - number of terminated READ and WRITE operations (together).

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_NUMBER_READ_WRITE_ABORTED_DAY
- **Description**: Tape Drive - number of terminated READ and WRITE operations (together).

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_NUMBER_READ_WRITE_ABORTED_MONTH
- **Description**: Tape Drive - number of terminated READ and WRITE operations (together).

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_DRIVE_OPERATION_TOTAL_TIME
- **Description**: Tape Drive - total time of drive operation.

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_OPERATION_TOTAL_TIME_DAY
- **Description**: Tape Drive - total time of drive operation.

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_READ_WRITE
- **Description**: Tape Drive - amount of data READ and WRITE (together).

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_READ_WRITE_DAY
- **Description**: Tape Drive - amount of data READ and WRITE (together).

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_READ_WRITE_MONTH
- **Description**: Tape Drive - amount of data READ and WRITE (together).

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_DRIVE_READ_WRITE_NUMBER
- **Description**: Tape Drive - number of READ and WRITE operations (together).
- **Events**: TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Drive Serial Number
- **Collection Interval**: Lifetime

TAPE_DRIVE_READ_WRITE_NUMBER_DAY
- **Description**: Tape Drive - number of READ and WRITE operations (together).
- **Events**: TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Drive Serial Number
- **Collection Interval**: Day

TAPE_DRIVE_READ_WRITE_NUMBER_MONTH
- **Description**: Tape Drive - number of READ and WRITE operations (together).
- **Events**: TAPE_READ, TAPE_WRITE
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Drive Serial Number
- **Collection Interval**: Month

TAPE_DRIVE_TIME_ALL_OPERATION
- **Description**: Tape Drive - time in all operations.
- **Events**: TAPE_DISMOUNT, TAPE_EJECT, TAPE_INSERT, TAPE_MOUNT, TAPE_POSITION, TAPE_READ, TAPE_UNLOAD, TAPE_WRITE
- **Operation**: Sum
- **Weight Factor**: Null
- **Collection Field**: Duration
- **Aggregation Field**: Drive Serial Number
- **Collection Interval**: Lifetime

TAPE_DRIVE_TIME_ALL_OPERATION_DAY
- **Description**: Tape Drive - time in all operations.
- **Events**: TAPE_DISMOUNT, TAPE_EJECT, TAPE_INSERT, TAPE_MOUNT, TAPE_POSITION, TAPE_READ, TAPE_UNLOAD, TAPE_WRITE
- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_TIME_ALL_OPERATION_MONTH
- **Description**: Tape Drive - time in all operations.

- **Events**: TAPE_DISMOUNT, TAPE_EJECT, TAPE_INSERT, TAPE_MOUNT, TAPE_POSITION, TAPE_READ, TAPE_UNLOAD, TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_DRIVE_TIME_READ
- **Description**: Tape Drive - time in READ operation.

- **Events**: TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_TIME_READ_DAY
- **Description**: Tape Drive - time in READ operation.

- **Events**: TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_TIME_READ_MONTH
- **Description**: Tape Drive - time in READ operation.

- **Events**: TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_DRIVE_TIME_WRITE

- **Description**: Tape Drive - time in WRITE operation.

- **Events**: TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Lifetime

TAPE_DRIVE_TIME_WRITE_DAY

- **Description**: Tape Drive - time in WRITE operation.

- **Events**: TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Day

TAPE_DRIVE_TIME_WRITE_MONTH

- **Description**: Tape Drive - time in WRITE operation.

- **Events**: TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Drive Serial Number

- **Collection Interval**: Month

TAPE_EXTERNALIZATION_NUMBER

- **Description**: Tape - number of externalizations.

- **Events**: TAPE_EJECT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Lifetime

TAPE_LAST_DISMOUNT

- **Description**: Tape - date of last DISMOUNT.

- **Events**: TAPE_DISMOUNT

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Event Time

- **Aggregation Field**: Tape Barcode
- **Collection Interval**: Lifetime

TAPE_LAST_EVENT_ID
- **Description**: Tape - DIVAprotect Event ID of the last Tape or Drive operation.
- **Events**: TAPE_DISMOUNT, TAPE_DISMOUNT_ERR, TAPE_MOUNT, TAPE_MOUNT_ERR, TAPE_POSITION, TAPE_POSITION_ERR, TAPE_READ, TAPE_READ_ERR, TAPE_UNLOAD, TAPE_UNLOAD_ERR, TAPE_WRITE, TAPE_WRITE_ERR
- **Operation**: Maximum
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Tape Barcode
- **Collection Interval**: Lifetime

TAPE_LAST_MOUNT_DATE
- **Description**: Tape - date of last MOUNT.
- **Events**: TAPE_MOUNT
- **Operation**: Maximum
- **Weight Factor**: Null
- **Collection Field**: Event Time
- **Aggregation Field**: Tape Barcode
- **Collection Interval**: Lifetime

TAPE_LAST_READ
- **Description**: Tape - date of last READ.
- **Events**: TAPE_READ
- **Operation**: Maximum
- **Weight Factor**: Null
- **Collection Field**: Event Time
- **Aggregation Field**: Tape Barcode
- **Collection Interval**: Lifetime

TAPE_LAST_WRITE
- **Description**: Tape - date of last WRITE.
- **Events**: TAPE_WRITE
- **Operation**: Maximum
- **Weight Factor**: Null
- **Collection Field**: Event Time
- **Aggregation Field**: Tape Barcode
- **Collection Interval**: Lifetime

TAPE_LIBRARY_NUMBER_DISMOUNT_ABORTED
- **Description**: Tape Library - total number of ABORTED DISMOUNT operations.

- **Events**: TAPE_DISMOUNT_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Lifetime

TAPE_LIBRARY_NUMBER_DISMOUNT_ABORTED_DAY

- **Description**: Tape Library - total number of ABORTED DISMOUNT operations.

- **Events**: TAPE_DISMOUNT_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Day

TAPE_LIBRARY_NUMBER_DISMOUNT_ABORTED_MONTH

- **Description**: Tape Library - total number of ABORTED DISMOUNT operations.

- **Events**: TAPE_DISMOUNT_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Month

TAPE_LIBRARY_NUMBER_MOUNT

- **Description**: Tape Library - total number of MOUNT operations.

- **Events**: TAPE_MOUNT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Lifetime

TAPE_LIBRARY_NUMBER_MOUNT_ABORTED

- **Description**: Tape Library - total number of ABORTED MOUNT operations.

- **Events**: TAPE_MOUNT_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Lifetime

TAPE_LIBRARY_NUMBER_MOUNT_ABORTED_DAY
- **Description**: Tape Library - total number of ABORTED MOUNT operations.
- **Events**: TAPE_MOUNT_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Day

TAPE_LIBRARY_NUMBER_MOUNT_ABORTED_MONTH
- **Description**: Tape Library - total number of ABORTED MOUNT operations.
- **Events**: TAPE_MOUNT_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Month

TAPE_LIBRARY_NUMBER_MOUNT_DAY
- **Description**: Tape Library - total number of MOUNT operations.
- **Events**: TAPE_MOUNT
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Day

TAPE_LIBRARY_NUMBER_MOUNT_MONTH
- **Description**: Tape Library - total number of MOUNT operations.
- **Events**: TAPE_MOUNT
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Month

TAPE_LIBRARY_NUMBER_READ
- **Description**: Tape Library - total number of READ operations.
- **Events**: TAPE_READ, TAPE_READ_ERR
- **Operation**: Count
- **Weight Factor**: Null

- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Lifetime

TAPE_LIBRARY_NUMBER_READ_DAY
- **Description**: Tape Library - total number of READ operations.
- **Events**: TAPE_READ, TAPE_READ_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Day

TAPE_LIBRARY_NUMBER_READ_MONTH
- **Description**: Tape Library - total number of READ operations.
- **Events**: TAPE_READ, TAPE_READ_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Month

TAPE_LIBRARY_NUMBER_WRITE
- **Description**: Tape Library - total number of WRITE operations.
- **Events**: TAPE_WRITE, TAPE_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Lifetime

TAPE_LIBRARY_NUMBER_WRITE_DAY
- **Description**: Tape Library - total number of WRITE operations.
- **Events**: TAPE_WRITE, TAPE_WRITE_ERR
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Library Serial Number
- **Collection Interval**: Day

TAPE_LIBRARY_NUMBER_WRITE_MONTH
- **Description**: Tape Library - total number of WRITE operations.
- **Events**: TAPE_WRITE, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Month

TAPE_LIBRARY_READ
- **Description**: Tape Library - total amount of data READ operations.

- **Events**: TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Lifetime

TAPE_LIBRARY_READ_DAY
- **Description**: Tape Library - total amount of data READ operations.

- **Events**: TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Day

TAPE_LIBRARY_READ_MONTH
- **Description**: Tape Library - total amount of data READ operations.

- **Events**: TAPE_READ

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Month

TAPE_LIBRARY_WRITE
- **Description**: Tape Library - total amount of data WRITE operations.

- **Events**: TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Lifetime

TAPE_LIBRARY_WRITE_DAY

- **Description**: Tape Library - total amount of data WRITE operations.

- **Events**: TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Day

TAPE_LIBRARY_WRITE_MONTH

- **Description**: Tape Library - total amount of data WRITE operations.

- **Events**: TAPE_WRITE

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Library Serial Number

- **Collection Interval**: Month

TAPE_MOUNT_DISMOUNT_NUMBER

- **Description**: Tape - number of MOUNT and DISMOUNT operations (together).

- **Events**: TAPE_DISMOUNT, TAPE_MOUNT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Lifetime

TAPE_MOUNT_NUMBER

- **Description**: Tape - number of MOUNT operations.

- **Events**: TAPE_MOUNT

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Lifetime

TAPE_READ_WRITE_ABORTED_NUMBER

- **Description**: Tape - number of aborted READ and WRITE operations (together).

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Lifetime

TAPE_READ_WRITE_ABORTED_NUMBER_DAY
- **Description**: Tape - number of aborted READ and WRITE operations (together).

- **Events**: TAPE_READ_ERR, TAPE_WRITE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Day

TAPE_READ_WRITE_NUMBER
- **Description**: Tape - number of READ and WRITE operations.

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Lifetime

TAPE_READ_WRITE_NUMBER_DAY
- **Description**: Tape - number of READ and WRITE operations.

- **Events**: TAPE_READ, TAPE_WRITE

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Tape Barcode

- **Collection Interval**: Day

TAPE_REPACK_NUMBER
- **Description**: Tape - number of REPACK, REUSE and REFORMAT operations (together).

- **Events**: TAPE_REPACK

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Local DIVA Core System

- **Collection Interval**: Lifetime

TRANSCODE_ABORTED_NUMBER
- **Description**: Transcoder - number ABORTED TRANSCODE operations.

- **Events**: TRANSCODE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Lifetime

TRANSCODE_ABORTED_NUMBER_DAY
- **Description**: Transcoder - number ABORTED TRANSCODE operations.

- **Events**: TRANSCODE_ERR

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Day

TRANSCODE_AVG_DATA
- **Description**: Transcoder - average amount of data transcoded.

- **Events**: TRANSCODE_END

- **Operation**: Weighted Average

- **Weight Factor**: Duration

- **Collection Field**: Transfer Size

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Lifetime

TRANSCODE_AVG_DATA_DAY
- **Description**: Transcoder - average amount of data transcoded.

- **Events**: TRANSCODE_END

- **Operation**: Weighted Average

- **Weight Factor**: Duration

- **Collection Field**: Transfer Size

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Day

TRANSCODE_AVG_THROUGHPUT
- **Description**: Transcoder - average transcoding throughput.

- **Events**: TRANSCODE_END

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Lifetime

TRANSCODE_AVG_THROUGHPUT_DAY
- **Description**: Transcoder - average transcoding throughput.

- **Events**: TRANSCODE_END

- **Operation**: Average

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Day

TRANSCODE_DATA
- **Description**: Transcoder - amount of data transcoded.

- **Events**: TRANSCODE_END

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Lifetime

TRANSCODE_DATA_DAY
- **Description**: Transcoder - amount of data transcoded.

- **Events**: TRANSCODE_END

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Day

TRANSCODE_DATA_MONTH
- **Description**: Transcoder - amount of data transcoded.

- **Events**: TRANSCODE_END

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Transfer Size

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Month

TRANSCODE_MAX_THROUGHPUT
- **Description**: Transcoder - maximum transcoding throughput.

- **Events**: TRANSCODE_END

- **Operation**: Maximum

- **Weight Factor**: Null

- **Collection Field**: Transfer Rate

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Lifetime

TRANSCODE_MAX_THROUGHPUT_DAY
- **Description**: Transcoder - maximum transcoding throughput.
- **Events**: TRANSCODE_END
- **Operation**: Maximum
- **Weight Factor**: Null
- **Collection Field**: Transfer Rate
- **Aggregation Field**: Transcoder Name or Analyzer Name
- **Collection Interval**: Day

TRANSCODE_MIN_THROUGHPUT
- **Description**: Transcoder - minimum transcoding throughput.
- **Events**: TRANSCODE_END
- **Operation**: Minimum
- **Weight Factor**: Null
- **Collection Field**: Transfer Rate
- **Aggregation Field**: Transcoder Name or Analyzer Name
- **Collection Interval**: Lifetime

TRANSCODE_MIN_THROUGHPUT_DAY
- **Description**: Transcoder - minimum transcoding throughput.
- **Events**: TRANSCODE_END
- **Operation**: Minimum
- **Weight Factor**: Null
- **Collection Field**: Transfer Rate
- **Aggregation Field**: Transcoder Name or Analyzer Name
- **Collection Interval**: Day

TRANSCODE_NUMBER
- **Description**: Transcoder - number of TRANSCODE operations.
- **Events**: TRANSCODE_END
- **Operation**: Count
- **Weight Factor**: Null
- **Collection Field**: Event ID
- **Aggregation Field**: Transcoder Name or Analyzer Name
- **Collection Interval**: Lifetime

TRANSCODE_NUMBER_DAY
- **Description**: Transcoder - number of TRANSCODE operations.
- **Events**: TRANSCODE_END
- **Operation**: Count
- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Day

TRANSCODE_NUMBER_MONTH

- **Description**: Transcoder - number of TRANSCODE operations.

- **Events**: TRANSCODE_END

- **Operation**: Count

- **Weight Factor**: Null

- **Collection Field**: Event ID

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Month

TRANSCODE_TIME

- **Description**: Transcoder - time in TRANSCODE operation.

- **Events**: TRANSCODE_END

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Lifetime

TRANSCODE_TIME_DAY

- **Description**: Transcoder - time in TRANSCODE operation.

- **Events**: TRANSCODE_END

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Day

TRANSCODE_TIME_MONTH

- **Description**: Transcoder - time in TRANSCODE operation.

- **Events**: TRANSCODE_END

- **Operation**: Sum

- **Weight Factor**: Null

- **Collection Field**: Duration

- **Aggregation Field**: Transcoder Name or Analyzer Name

- **Collection Interval**: Month

B

Default Configuration

You configure the DIVAprotect parameters on the DIVA Core Configuration Utility **DIVAprotect** tab. The default DIVAprotect configuration parameters are as follows:

Table B–1   Default DIVAprotect Configuration Parameters

Parameter	Default	Values
Manager: Enable/Disable DIVAprotect Data Collection	Enabled	Enabled or Disabled
Manager: Size Triggering Event Queue DB Flush (number of events)	100	Integer
Manager: Time Delay Triggering Event Queue DB Flush (seconds)	15	Integer
Conf Utility GUI: Enable/Disable DIVAprotect Configuration	Enabled	Enabled or Disabled
DB: Maximum possible history of Events in Months	12	Integer
DB: Maximum possible number of Metrics	1,000,000	Integer

Glossary

Action

A predetermined reaction of a metric surpassing a threshold value by one of the variables from its internal state.

Events

A data element containing all facts (*names, IDs, parameters, numbers, and so on*) related to one occurrence of an operation inside the DIVA Core system. For example, *Tape Read Complete*, or *Tape Eject Complete*.

Journal

A self-maintained, automated, and configurable storage for **Events**.

Measurement

A reading of specific information from an Event or a **Resource**. For example, the duration of a disk write operation, or the occurrence of a read error on a tape drive.

Metrics

An instance of one **Metric Definition** for a specific **Resource**. Each metric is associated with a specific resource and can receive a flow of measurements from that attached resource.

A metric has an internal state that consists of several numeric values that it updates on its own when given new measurements. It provides read access to this logically consistent state. Each metric can be used as a measurement value for the state of another metric. You can reset the internal state at any time. You can also enable or disable metrics.

Metric Definition

Defines how a Metric is calculated by specifying which Events are examined, which Measurements are extracted, how they are aggregated (*Collection Type*), and which Resource the aggregation is based on. *See Appendix A for predefined metrics in the system*.

Metric Type

The metric types are as follows:

- **Hourly** metric types are calculated every hour for the associated resource.

- **Daily** metric types are calculated every day for the associated resource.

- **Monthly** metric types are calculated every month for the associated resource.

- **Yearly** metric types are calculated every year for the associated resource.

- **Lifetime** metric types are calculated throughout the lifetime of the associated resource.

Resource

A uniquely identified element of the DIVA Core system made available to DIVAprotect. **Events** and **Metrics** identify the resources. The following are examples of resources in DIVA Core:

- Tape with Barcode ABE6785

- DIVA Core Actor Actor01

- Tape Drive Serial Number 134001021

Resource Type

These are generic types of resources. For example, tapes, tape drives, DIVA Core Manager requests, or DIVA Core objects.