

CA Unified Infrastructure Management

Probe Guide for EMC Celerra Monitoring celerra v1.6 series



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Documentation Changes

This table describes the version history for this document.

Version	Date	What's New?
1.6	October 2014	Updated the Configuration Details topic.
1.6	July 2014	Updated the Configuration Details topic.
1.6	September 2013	Initial web-based GUI version of this probe. (Previous versions of this probe are configured using Infrastructure Manager).

Chapter 1: EMC Celerra Monitoring (celerra) Overview v1.6

The EMC Celerra Monitoring probe is a remote monitoring probe that monitors the EMC Celerra Storage systems, providing extensive availability and performance metrics. The probe monitors the following components of the EMC Celerra Storage systems:

- Data Movers
- Storage Systems and Processors
- File Systems
- Networks

This section contains the following topics:

[About This Guide](#) (see page 7)

[Related Documentation](#) (see page 8)

[Preconfiguration Requirements](#) (see page 8)

About This Guide

This guide is for the CA Unified Infrastructure Management Administrator to help understand the configuration of the EMC Celerra Monitoring probe.

This guide contains the following information:

- An overview of the EMC Celerra Monitoring probe.
- The related documentation for previous probe versions, release notes, and so on.
- The configuration details of the probe including information for the fields that are required to configure the probe.
- The common procedures that can be used in the probe configuration.

Important! The field description for intuitive terms in the GUI has not been included in the document.

Related Documentation

For related information that may be of interest, see the following material:

Related Documentation

Documentation for other versions of the celerra probe

The [Release Notes](#) for the celerra probe

[User documentation for the Admin Console](#)

Monitor Metrics Reference Information for CA Unified Infrastructure Management Probes

(http://docs.nimsoft.com/prodhelp/en_US/Probes/ProbeReference/index.htm)

Preconfiguration Requirements

This section contains the preconfiguration requirements for the EMC Celerra Monitoring probe.

Supported Platforms

Refer to the [CA UIM Compatibility Support Matrix](#) for the latest information on supported platforms. See also the [Support Matrix for CA UIM Probes](#) for specific information on the EMC Celerra Monitoring probe.

Chapter 2: Configuration Details for EMC Celerra Monitoring (celerra) v1.6

The EMC Celerra Monitoring probe can handle all common monitoring and data collection tasks for EMC Celerra Storage Systems.

You can define alarms to be raised and propagated when the specified thresholds are breached.

The following components are monitored:

- Data Movers
- Storage Systems and Processors
- File Systems

Note: The celerra probe generates an alert if the File System is deleted or renamed. You must manually reconfigure the monitor if the File System is renamed.

- Networks

This section contains the following topics:

[celerra Node](#) (see page 9)

[Configure a Node](#) (see page 13)

[How to Configure Alarm Thresholds](#) (see page 13)

[Add New Resource](#) (see page 14)

[Delete Resource](#) (see page 14)

celerra Node

This node contains configuration details specific to the EMC Celerra Monitoring probe. In this node, you can view the probe information and can configure the general setup properties of the EMC Celerra Monitoring probe. You can view a list of all alarm messages that are available in the EMC Celerra Monitoring probe. You can also add a resource in the EMC Celerra Monitoring probe.

Navigation: celerra

Set or modify the following values that are based on your requirement:

celerra > Probe Information

This section provides information about the probe name, probe version, start time of the probe, and the vendor who created the probe.

celerra > General Setup

This section allows you to configure the general setup properties of the EMC Celerra Monitoring probe.

- Log Level: Specifies the level of details that are written to the log file.
Default: 2 - Warn
- Enable GUI Autorefresh (60 sec): Allows you to autorefresh the GUI in 60 seconds. The field reflects the most current measured values from the checkpoints and status of the nodes in the tree structure.
Default: Not selected
- Java Home: Defines a folder containing Java home.

celerra > Message pool

This section displays a list of all alarm messages that are available in the EMC Celerra Monitoring probe.

- Identification Name: Identifies the name of the message.
- Token: Identifies the token which is used for internalization.
- Error Severity: Indicates the severity level that is assigned to the alarm messages.
- Error Alarm Text: Identifies the alarm message text that is issued on the error alarm.
- Clear Alarm Text (OK): Identifies the alarm message text that is issued on the clear alarm.
- Subsystem String/Id: Identifies the subsystem ID of the alarm that the watcher generates.

celerra > Options Icon > Add New Resource

This section allows you to add a resource in the EMC Celerra Monitoring probe.

- Control Station IP: Defines the IP address of the Celerra Network Control Station.
- Port: Specifies the ssh port that is used to connect to the Celerra Network Control Station.
Default: 0
- Source: Overrides the default QoS source with the provided value. The default value for the QoS source is the robotname where the probe is deployed.

Important! Recommendation is to not change the **Source** field after the initial configuration. In case you change the QoS source later, multiple graphs display on the Unified Service management (USM) Metrics view (one for every QoS source value). Further, it is also recommended to keep identical source for both alarm and QoS.

- Reserved: Defines a character in this field.
- Alarm Message: Specifies the alarm message to be sent in case the resource does not respond.
Default: Resource Critical
- Check Interval: Specifies how often the probe checks the values of the monitors.
Default: 5
- Units: Specifies the unit of the check interval.
Default: Minutes
- Scope: Specifies the login scope for the celerra system user.

Default: 0

Profile-<Resource Name> Node

The Profile-*resource name* node allows you to configure the host information of EMC Celerra Monitoring probe.

Navigation: celerra > profile-*resource name*

Set or modify the following values that are based on your requirement:

profile-*resource name* > Celerra Host Information

This section allows you to configure the host information of the EMC Celerra Monitoring probe.

<Resource Name> Node

The *resource name* node represents the resource name of the profile that is used to monitor the EMC Celerra Monitoring probe.

Note: This node is user-configurable and depends on the resource name of the profile. Hence, this node is referred as the *resource name* throughout this document.

Storage Node

The **Storage** node allows you to configure the resource that has been added. This node also lets you add and delete the monitors to be measured.

The **Storage** node is of two types of monitors:

- Control Station
- Storage

Navigation: celerra > Profile-*resource name* > *resource name* > Storage

Set or modify the following values that are based on your requirement:

Storage > Resource Configuration

This section allows you to set up the resource configuration of the EMC Celerra Monitoring probe.

<Monitor Name> Node

The *monitor name* node allows you to select one or more monitors from a list of all available monitors.

Navigation: celerra > Profile-*resource name* > *resource name* > Storage > *monitor name*

Set or modify the following values that are based on your requirement:

monitor name > Monitors List

This section allows you to select one or more monitors from a list of available monitors.

Configure a Node

This procedure provides the information to configure a particular section within a node in the EMC Celerra Monitoring probe.

Follow these steps:

1. Select the appropriate navigation path.
2. Update the field information and click **Save**.

The specified section of the EMC Celerra Monitoring probe is configured.

How to Configure Alarm Thresholds

Some Quality of Service measurement probes allow you to set different types of alarm thresholds. These threshold options allow you to more broadly control when alarm messages are sent for each QoS probe.

For more information about the different alarm thresholds and their configuration requirements, refer to the *General Probe Configuration* section of the Admin Console Help.

Add New Resource

You can add a resource in the EMC Celerra Monitoring probe. This resource can be used as a connection to the probe through which the probe collects, and stores data and information from the monitored components.

Follow these steps:

1. Click the **Options** icon next to the **celerra** node in the navigation pane.
2. Click the **Add New Resource** option.
3. Update the field information and click **Submit**.

The resource is saved and you can configure the resource properties that can be used as a connection to the Celerra system.

Delete Resource

You can delete an existing resource when you no longer need it.

Follow these steps:

1. Click the **Options** icon beside the *Profile-resource name* node that you want to delete.
2. Click the **Delete Resource** option.

The resource is deleted.

Chapter 3: celerra Metrics

This section contains the QoS metrics for the *celerra* probe.

QoS Monitor	Units	Name
Data Movers		
QOS_DMBM_TOTAL_PAGED_IN	Count	The total memory paged in
QOS_DMBM_TOTAL_PAGED_OUT	Count	The total memory paged out
QOS_DMBM_PAGE_IN_RATE	Count	The rate of memory paged in
QOS_DMBM_PAGE_OUT_RATE	Count	The rate of memory paged out
QOS_DMBM_BLOCK_MAP_QUOTA	Kbytes	Block map quota
QOS_DMBM_BLOCK_MAP_CONSUMED	Kbytes	Block map consumed
QOS_DMFS_TOTAL_CAPACITY	Kbytes	Total Capacity

QoS Monitor	Units	Name
QOS_DMFS_USED_CAPACITY	Kbytes	Used Capacity
QOS_DMSF_AVAILABLE_CAPACITY	Kbytes	Available Capacity
QOS_DMSF_CAPACITY_USED_PERCENT	Percent	Capacity Used Percent
QOS_DMFS_CAPACITY_FREE_PERCENT	Percent	Capacity Free Percent
QOS_DMSS_THREADS_RUNABLE	Count	Threads Runnable
QOS_DMSS_THREADS_BLOCKED	Count	Threads Blocked
QOS_DMSS_THREADS_UZ	Count	Threads UZ
QOS_DMSS_MEMORY_FREE	Kbytes	Memory Free
QOS_DMSS_IDLE_CPU_PERCENT	Percent	Idle CPU Percent
Storage Systems		
QOS_SS_CACHE_PAGE_SIZE	Count	Cache Page Size
QOS_SS_HIGH_WATER_MARK	Count	High Water Mark
QOS_SS_LOW_WATER_MARK	Count	Low Water Mark
QOS_SS_NUMBER_OF_DEVICES	Count	Number of Devices
QOS_SS_NUMBER_OF_DISKS	Count	Number of Disks
QOS_SS_NUMBER_OF_PHYSICAL_DEVICES	Count	Number of Physical Devices
QOS_SS_NUMBER_OF_RAID_GROUPS	Count	Number of Raid Groups
QOS_SS_NUMBER_OF_STORAGE_GROUPS	Count	Number of Storage Groups
QOS_SS_UNASSIGNED_CACHE	Count	Unassigned Cache
Storage Systems Disk Groups		
QOS_SSDG_USED_PERCENT	Percent	Used Percent
QOS_SSDG_FREE_PERCENT	Percent	Free Percent
QOS_SSDG_LOGICAL_CAPACITY	Bytes	Logical Capacity
QOS_SSDG_RAW_CAPACITY	Bytes	Raw Capacity
QOS_SSDG_USED_CAPACITY	Bytes	Used Capacity
QOS_SSDG_FREE_CAPACITY	Bytes	Free Capacity
Storage Systems Spindles		
QOS_SSPIN_CAPACITY	Bytes	Capacity
QOS_SSPIN_USED_CAPACITY	Bytes	Used Capacity
Storage Systems Storage Processors		

QoS Monitor	Units	Name
QOS_SSSP_FREE_MEMORY	Count	Storage Processor Free Memory
QOS_SSSP_RAID_3_MEMORY_SIZE	Count	Storage Processor Raid 3 Memory Size
QOS_SSSP_READ_CACHE	Count	Storage Processor Read Cache
QOS_SSSP_SYSTEM_BUFFER	Count	Storage Processor System Buffer
QOS_SSSP_WRITE_CACHE	Count	Storage Processor Write Cache
Storage Volumes Disks		
QOS_SVD_PERCENT_USED	Percent	Percent Used
QOS_SVD_SIZE_TOTAL	Mbytes	Size Total
QOS_SVD_SIZE_AVAILABLE	Mbytes	Size Available
QOS_SVD_SIZE_USED	Mbytes	Size Used
Storage Volumes Groups		
QOS_SVG_PERCENT_USED	Percent	Percent Used
QOS_SVG_SIZE_TOTAL	Mbytes	Size Total
QOS_SVG_SIZE_AVAILABLE	Mbytes	Size Available
QOS_SVG_SIZE_USED	Mbytes	Size Used
Storage Volumes Metas		
QOS_SVM_PERCENT_USED	Percent	Percent Used
QOS_SVM_SIZE_TOTAL	Mbytes	Size Total
QOS_SVM_SIZE_AVAILABLE	Mbytes	Size Available
QOS_SVM_SIZE_USED	Mbytes	Size Used
Storage Volumes Slices		
QOS_SVSL_PERCENT_USED	Percent	Percent Used
QOS_SVSL_SIZE_TOTAL	Mbytes	Size Total
QOS_SVSL_SIZE_AVAILABLE	Mbytes	Size Available
QOS_SVSL_SIZE_USED	Mbytes	Size Used
QOS_SVSL_SIZE	Count	Slice Size
QOS_SVSL_OFFSET	Count	Slice Offset
Storage Volumes Stripes		
QOS_SVST_PERCENT_USED	Percent	Percent Used

QoS Monitor	Units	Name
QOS_SVST_SIZE_TOTAL	Mbytes	Size Total
QOS_SVST_SIZE_AVAILABLE	Mbytes	Size Available
QOS_SVST_SIZE_USED	Mbytes	Size Used
QOS_SVST_SIZE	Count	Stripe Size
Network IP		
QOS_IP_TOTAL_PACKETS_RECEIVED	Count	Total Packets Received
QOS_IP_BAD_HEADER_CHECKSUMS	Count	Bad Header Checksums
QOS_IP_WITH_UNKNOWN_PROTOCOL	Count	With Unknown Protocol
QOS_IP_FRAGMENTS_RECEIVED	Count	Fragments Received
QOS_IP_FRAGMENTS_DROPPED	Count	Fragments Dropped
QOS_IP_FRAGMENTS_DROPPED_AFTER_TIMEOUT	Count	Fragments Dropped After Timeout
QOS_IP_PACKETS_REASSEMBLED	Count	Packets Reassembled
QOS_IP_PACKETS_FORWARDED	Count	Packets Forwarded
QOS_IP_PACKETS_NOT_FORWARDABLE	Count	Packets Not Forwardable
QOS_IP_NO_ROUTES	Count	No Routes
QOS_IP_PACKETS_DELIVERED	Count	Packets Delivered
QOS_IP_TOTAL_PACKETS_SENT	Count	Total Packets Sent
QOS_IP_PACKETS_FRAGMENTED	Count	Packets Fragmented
QOS_IP_PACKETS_NOT_FRAGMENTABLE	Count	Packets Not Fragmentable
QOS_IP_FRAGMENTS_CREATED	Count	Fragments Created
Network ICMP		
QOS_ICMP_CALLS_TO_ERROR	Count	Calls to Error
QOS_ICMP_MESSAGES_RECEIVED	Count	Messages Received
QOS_ICMP_MESSAGES_SENT	Count	Messages Sent
Network TCP		
QOS_TCP_PACKETS_SENT	Count	Packets Sent
QOS_TCP_DATA_PACKETS_RETRANSMITTED	Count	Data Packets Retransmitted
QOS_TCP_RESETS	Count	Resets
QOS_TCP_PACKETS_RECEIVED	Count	Packets Received

QoS Monitor	Units	Name
QOS_TCP_CONNECTION_REQUESTS	Count	Connection Requests
QOS_TCP_CONNECTIONS_LINGERED	Count	Connections Lingered
Network UDP		
QOS_UDP_INCOMPLETE_HEADERS	Count	Incomplete Headers
QOS_UDP_BAD_PORTS	Count	Bad Ports
QOS_UDP_INPUT_PACKETS_DELIVERED	Count	Input Packets Delivered
QOS_UDP_PACKETS_SENT	Count	Packets Sent