

CA Unified Infrastructure Management

Probe Guide for Clustered Environment Monitoring

cluster v3.1 series



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Documentation Changes

This table describes the version history for this document.

Version	Date	What's New?
3.1	September 2014	Documentation on the first Admin Console GUI enabled version of the Clustered Environment Monitoring probe. (Previous versions of this probe are configured using Infrastructure Manager).

Chapter 1: Overview

A cluster comprises of one or more resource groups and cluster nodes. A resource group is shared between the cluster nodes. Only one cluster node has the control of a resource group at any given time.

A resource group is a collection of shared resources like disk drives, IP addresses, host names, and applications.

The cluster probe enables failover support for a set of CA UIM probes in clustered environments. The probe configurations that are saved in a resource group remain the same, even when that resource group moves to another cluster node. The cluster probe sends alarms when a resource group or cluster node changes state.

Resource group states:

- 1 indicates **Online** state.
- 2 indicates **Offline** state.
- 3 indicates any state other than **Online**, and **Offline**.

Cluster node states:

- 1 indicates **Up** state.
- 2 indicates **Down** state.
- 3 indicates any state other than **Up**, and **Down**.

A resource group is visible under an active cluster node in the navigation pane that currently controls the resources. When one of the cluster nodes fails, the control of all the resources is transferred to another functioning node. The resource group is then visible under the new functioning node in the navigation pane.

The resource group failover alarm does not get clear till the resource group moves back to the original cluster node.

Important! You can use the cluster probe with other probes only when you have configured the cluster probe on the CA UIM robot in a clustered environment.

Note: The cluster probe supports all Microsoft Cluster configurations.

This section contains the following topics:

[About This Guide](#) (see page 8)

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

About This Guide

This guide is for the CA UIM Administrator to help understand the configuration of the Clustered Environment Monitoring probe and provides the following information:

- Overview of the Clustered Environment Monitoring probe and related documentation.
- Configuration details of the probe.
- Field description and common procedures for configuring the probe.

Important! Description for the intuitive GUI fields is not included in the document.

Related Documentation

Related Documentation

Documentation for other versions of the cluster probe

The [Release Notes](#) for the cluster 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 Clustered Environment Monitoring probe.

- The Cluster software, MSCS (Microsoft Cluster Service (Windows only)).
- You can configure the cluster probe only in a clustered environment.
- NMS 7.6, or CA UIM version 8.0, or later.
- Probe Provisioning Manager (PPM) probe version 2.39, or later.

Supported Platforms

Please 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 additional information on the cluster probe.

Supported Probes

The following probes are supported in the cluster environment:

- Exchange_monitor (Only supported on MSCS) (Active/Active, Active/Passive, and N+I node cluster) (supported in cluster probe version 1.61 and newer)
- CDM (disk profiles only), (Active/Passive and N+I node cluster) (supported in cluster probe version 2.20 and newer)
- Processes (2-node Active/Passive), (N+I node clusters as long as profile names are unique)
- NT Services (2-node Active/Passive), N+I node clusters as long as profile names are unique)
- Logmon (2-node Active/Passive), (N+I node clusters as long as profile names are unique)
- Dirsan (2-node Active/Passive), (N+I node clusters as long as profile names are unique)
- SQL Server
- Oracle
- Ntperf

Note: The cdm probe receives information about the cluster disk resources from the cluster probe. Monitoring profiles are created for these resources that are based on the **fixed_default** settings in the cdm probe. The profile is automatically registered with the cluster probe to ensure continuous monitoring on cluster group failover. In the cdm probe, the cluster IP is used as Alarm and Quality of Service source instead of the cluster node. You can change the source to cluster name or group name through Infrastructure Manager (IM) GUI.

Chapter 2: Configuration Details

The cluster probe enables failover support for the supported probes. The profiles of these probes can be associated with different resource groups. The probe configurations that are saved in a resource group remain the same, even when that resource group moves to another cluster node.

Note: A shared section is a common section between different monitoring profiles. The CA UIM probes get exposed to the shared sections. The cluster probe also sends alarms when a cluster node or resource group changes state.

All cluster nodes must have the same set of CA UIM probes installed. The cluster probe updates the changes that are made to the profile setup. When any probe profile is updated, the changes must be implemented on the probe that runs on the node which is in control of the associated resource group. The cluster probe automatically updates most of the changes of the probe profiles. However, general probe parameters must be updated manually on the different nodes.

The collected data must contain the name, and state of the cluster nodes, the name, and state of each resource group, and on what node they run. This information is used to identify the recommended cluster node where you can run the probe configurations.

You can view the cluster node status metrics when you select any one of the available cluster nodes. However, you can view the related group metrics only under that particular cluster node to which the group belongs.

This section contains the following topics:

[cluster Node](#) (see page 12)

[Configure a Node](#) (see page 16)

[Add Monitoring Profiles](#) (see page 16)

[Delete Monitoring Profiles](#) (see page 16)

[Add Shared Section](#) (see page 17)

[Delete Shared Section](#) (see page 17)

cluster Node

This node lets you view the probe information and set the initial probe configurations.

Navigation: cluster

Set or modify the following values as required:

cluster > Probe Information

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

cluster > Set Up Configuration

This section lets you select the cluster type and the cluster name for the node to which you want to add the resource group. The cluster software, MSCS (Microsoft Cluster Service (Windows only)) is required for this probe to work.

- Select the Cluster Type: specifies the type of cluster software.
Note: The cluster probe supports all Microsoft Cluster configurations on Windows operating systems only.
- Cluster Name: specifies the type of cluster node.

cluster > General Configuration

This section lets you set the log file detail level.

- Log Level: specifies the detail level of the log file.
Default: 0-Fatal
- Use Cluster Name as Alarm Source: uses the cluster name as the source of alarm that the probe generates. If this check box is not selected, then the cluster node name is used as the source of the alarms.
Default: Not Selected

cluster > Node Alarm Configuration

This section lets you configure the probe for generating QoS data and alarms for various performance counters. The alarms are generated when the node changes its state.

- Publish Data: generates the QoS data.
- Publish Alarm: activates the alarms from the cluster node.
- Message: indicates the alarm message text that comes from the cluster node.
- Clear: indicates the clear message text that comes from the cluster node.
- Subsystem ID: indicates the subsystem ID that comes from the Alarm Server.
- Severity Up: indicates the severity level of the alarms when the node is up.

- Severity Down: indicates the severity level of the alarms when the node is down.
- Severity Other: indicates the alarm severity level other than high or low.

Similarly you can configure the **Resource Group Alarm Configuration** and **Resource Group Failover Alarm Configuration** sections.

<Node Name (selected)> Node

This node represents one of the machines of the cluster on which the CA UIM robot is installed. You can configure the resource group properties and the alarm properties on the active node. All cluster nodes must have the same set of CA UIM probes installed.

Note: This node is referred to as *node name (selected)* node in the document and it represents an active node of the cluster. The Admin Console GUI is initiated from the active cluster node.

Navigation: cluster > *node name*

Set or modify the following values as required:

***node name* > Resource Configuration**

This section lets you configure the resource group properties.

- Name: indicates the node name.
- IP: defines the IP address of the node computer.
- Description: defines the node description.
- Check Group Interval (seconds): specifies the time interval after which the probe checks the resource group status.
- Check Node Interval (seconds): specifies the time interval after which the probe checks the node status.

Note: QoS data and alarms are not generated after every check interval. They are generated on events like, probe restart, resource group state change, or node state change.

- Status: indicates the node state. 1 indicates **up**, 2 indicates **down**, and 3 indicates **any other state**.

<Resource Group Name> Node

This node lets you configure the properties of a resource group. A resource group comprises of shared sections and profile sections.

Note: This node is referred to as *resource group name* node in the document and it represents a resource group on an active cluster node.

Navigation: cluster > *node name* > *resource group name*

Set or modify the following values as required:

resource group name > Resource Group Configuration

This section lets you configure the resource group properties:

- Name: indicates the resource group name.
- Description: defines a description for the resource group.
- Allow Partially Online: interprets the partially online resource groups as online for the cluster probe.
- Status: indicates the resource group state. 1 indicates online, 2 indicates offline, 3 indicates partially online.

Profiles Node

This node lets you add a profile to the resource group. The profiles of various CA UIM probes are associated with different resource groups and the configurations of these profiles are transferred along with the resource group in a failover scenario.

Navigation: cluster > *node name* > *resource group name* > Profiles

Set or modify the following values as required:

Profiles > Add New Profile

This section lets you add a profile to the resource group and configure its properties.

- Profile Name: defines a unique profile name.
- Probe: specifies the probe name that you want to associate with the resource group.

Note: Make sure that the specified probe is deployed on the cluster node.

- Description: defines the description of the specified probe.
- Profile: specify any one of the monitoring profiles of the probe.

<Profile Name> Node

This node lets you configure the properties of the profile that you add to a resource group.

Note: This node is referred to as *profile name* node in the document and it represents a profile on the resource group.

Navigation: cluster > *node name* > *resource group name* > Profiles > *profile name*

Refer to the **Add New Profile** section of the **Profiles** node for field descriptions.

Shared Section Node

A shared section is a common section between different monitoring profiles. The cluster probe is configured for various shared sections that are synchronized between the probes that run on different clustered nodes. Any change in the shared section is also applied to the probe that runs on an active node.

A shared section is linked to only **/connections** and **/messages** section of the probe configuration file.

Navigation: cluster > *node name* > *resource group name* > Shared Section

Set or modify the following values as required:

Shared Section > Add New Shared Section

This section lets you implement one or more shared sections on the probe configuration.

- Shared Section Name: defines the name of the shared section.
- Probe: specifies the probe name for which you want to configure the shared section.
- Description: defines a short description of the specified probe.
- Section: specifies one of the shared section of the probe.

<Shared Section Name> Node

This node lets you configure the properties of the shared section that you implement on the probe configuration.

Note: This node is referred to as *shared section name* node in the document and it represents a shared section on the resource group.

Navigation: cluster > *node name* > *resource group name* > Shared Section > *shared section name*

Refer the **Add New Shared Section** of the **Shared Section** node for field descriptions.

Configure a Node

The following procedure provides information to configure a section within a node.

Each section within the node lets you configure the properties of the probe for adding resource groups to the cluster.

Follow these steps:

1. Navigate to the section within a node that you want to configure.
2. Update the field information and click **Save**.

The specified section of the probe is configured.

Add Monitoring Profiles

The following procedure enables you to add a profile to a resource group on the cluster probe.

Follow these steps:

1. Click **Options** next to the **Profiles** node in the navigation pane.
2. Select **Add New Profile**.
3. Update the field information in the **Profile Configuration** dialog and click **Submit**.

The monitoring profile is visible under the **Profiles** node in the navigation pane.

Delete Monitoring Profiles

If you want to disassociate a probe from the cluster probe, you can delete a profile from the resource group.

Follow these steps:

1. Click the **Options** icon next to the *profile name* node that you want to delete.
2. Select **Delete Profile**.
3. Click **Save**.

The profile is deleted from the resource group.

Add Shared Section

The following procedure enables you to add a shared section to a resource group on the cluster probe.

Follow these steps:

1. Click **Options** next to the **Shared Section** node in the navigation pane.
2. Select **Add New Shared Section**.
3. Update the field information in the **Shared Section Configuration** dialog and click **Submit**.

The shared section is visible under the **Shared Section** node in the navigation pane.

Delete Shared Section

If you want to disassociate a probe from the cluster probe, you can delete a shared section from the resource group.

Follow these steps:

1. Click the **Options** icon next to the *shared section name* node that you want to delete.
2. Select **Delete Shared Section**.
3. Click **Save**.

The shared section is deleted from the resource group.

Chapter 3: cluster QoS Threshold Metrics

CA UIM probes ship with default QoS threshold values set. The default threshold values provide an idea of the type of values to be entered in the fields and are not necessarily recommended best practice values. To aid in tuning thresholds and reducing false-positive alarms, this section describes the QoS metrics and provides the default QoS thresholds.

This section contains the following topics:

[cluster QoS Metrics](#) (see page 21)

[cluster Alert Metrics Default Settings](#) (see page 21)

Chapter 4: cluster QoS Metrics

The following table describes the checkpoint metrics that can be configured using the cluster probe.

QoS Name	Units	Description
QOS_CLUSTER_GROUP_STATE	State	Monitors the change in the resource group state.
QOS_CLUSTER_NODE_STATE	State	Monitors the change in the node state.

cluster Alert Metrics Default Settings

This section contains the alert metric default settings for the cluster probe.

Alert Metric	Warning Threshold	Warning Severity	Error Threshold	Error Severity	Description
Node Alarm	none	minor	none	none	Node state change.
Resource Group Alarm	none	minor	none	none	Resource group state change.
Resource Group Failover Alarm	none	minor	none	none	Resource group moved to another node due to failover. This alarm does not get clear till the resource group moves back to the original cluster node.

Chapter 5: Known Issues

This section contains a list of known issues in this release.

- On linux platform, you cannot configure the cluster probe through Admin Console GUI.