

CA Nimsoft Monitor

Probe Guide for DHCP Server Response Monitoring dhcp_response v3.2 series



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Contents

Chapter 1: Overview	7
About This Guide	7
Related Documentation	7
Preconfiguration Requirements	8
Supported Platforms	8
Chapter 2: Configuration Details	9
dhcp_response Node	9
Profile-<Profile Number> Node	10
Configure a Node	12
Configure Dynamic Alarm Thresholds	13
Manage Profiles	14
Delete Profile.....	14
Chapter 3: QoS Threshold Metrics	15
dhcp_response QoS Metrics	15
dhcp_response Alert Metrics Default Settings.....	15

Documentation Changes

This table describes the version history for this document.

Version	Date	What's New?
3.2	September 2013	Initial web-based GUI version of this probe. (Previous versions of this probe are configured using Infrastructure Manager).

Chapter 1: Overview

The Monitor DHCP Server Response probe monitors the DHCPDISCOVER response for one or more Dynamic Host Configuration Protocol (DHCP) servers. The probe can send the quality of service (QoS) messages on response time. You can also generate alarms when the server is unavailable or when the response time exceeds the threshold value.

This section contains the following topics:

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

[Related Documentation](#) (see page 7)

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

About This Guide

This guide is for the CA Nimsoft Monitor Administrator to understand the configuration of the DHCP Server Response Monitoring probe.

This guide contains the following information:

- An overview of the DHCP Server Response 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 dhcp_response probe

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

[User documentation for the Admin Console](#)

Monitor Metrics Reference Information for CA Nimsoft Probes

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

Preconfiguration Requirements

This section contains the preconfiguration requirements for the DHCP Server Response Monitoring probe.

Supported Platforms

Refer to the [Nimsoft Compatibility Support Matrix](#) for the latest information on supported platforms. See also the [Support Matrix for Nimsoft Probes](#) for specific information on the DHCP Server Response Monitoring probe.

Chapter 2: Configuration Details

The DHCP Server Response Monitoring probe monitors the DHCPDISCOVER response for one or more DHCP servers. When activated, the probe sends a broadcast and all DHCP servers that are found respond. The probe can be configured to send Quality of Service messages on response time. You can also generate alarms when the service is unavailable or when the threshold is breached.

This section contains the following topics:

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

[Configure a Node](#) (see page 12)

[Configure Dynamic Alarm Thresholds](#) (see page 13)

[Manage Profiles](#) (see page 14)

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

dhcp_response Node

This section contains configuration details specific to the DHCP Server Response Monitoring probe. In this node, you can view the probe information and can configure the log properties of the DHCP Server Response Monitoring probe. You can set the time interval for checking the DHCP server. You can also view the IP address of the client computer and MAC address of the network adapter.

Navigation: dhcp_response

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

dhcp_response > Probe Information

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

dhcp_response > General Configuration

This section allows you to configure the log properties of the probe. You can also specify the time after which the probe checks the DHCP servers that are defined in the activated profiles.

- **Log Level:** Specifies the level of details that are written to the log file.
Default: 0 - Fatal
- **Client Properties Check Interval (Seconds):** Specifies the time after which the probe checks the DHCP servers that are defined in the activated profiles.
Default: 300

dhcp_response > DHCP Client Information

This section indicates the information of the client computer and the MAC address of the network adapter.

- IP: Identifies the IP address of the client computer on which the probe is installed.

Default: Auto Detect

- MAC: Identifies the MAC address of the network adapter, which is a unique identification for the adapter.

Default: Auto Detect

dhcp_response > Options icon > Add New Profile

This section allows you to create a profile for the specified DHCP server. You can add the details of the DHCP server, which you want to monitor using this profile.

Profile-<Profile Number> Node

The Profile-*profile number* node is used to view the details of the DHCP server, which you can monitor using this profile.

Note: All the profiles, appearing as child nodes, under the **dhcp_response** node are user-configurable. Hence, these profiles are referred as the Profile-*profile number* throughout this document.

Navigation: dhcp_response > Profile-*profile number*

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

Profile-*profile number*

This section allows you to view the name of the DHCP server, which you can monitor using this profile.

Profile-*profile number* > Options icon > Delete Profile

This option allows you to delete the profile when you no longer want the probe to monitor it.

<Server Name> Node

This node represents the DHCP server name that is used for creating the profile.

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

Network Server Node

This node allows you to configure the settings of a profile to monitor the DHCP server. In this node, you can configure the profile properties for sending alarms and QoS data for the response time or the server does not respond.

Navigation: dhcp_response > Profile-*profile number* > *server name* > Network Server

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

Network Server > General Settings

This section allows you to activate the profile and specify DHCP server details for the profile.

Network Server > Alarm and QoS

This section allows you to configure the QoS and alarm settings and set the alarm threshold value.

- QoS Name: Identifies the name of the QoS.
- Description: Provides a short description of the Alarm and QoS properties of the profile.
- Units: Identifies the unit for the QoS.
- Metric Type Id: Identifies the unique Id of the QoS.
- Publish Data: Sends QoS data on response time for the DHCP server that is specified in the profile.
Default: Not selected
- Publish Alarms: Sends alarm if the DHCP server specified in the profile does not respond.
Default: Not selected
- Alarm Threshold (Milliseconds): Specifies the time in milliseconds for which the probe waits for a response from the DHCP server. If this threshold is breached, an alarm is generated.
Default: 20

Network Server > Discovery Timeout

This section allows you to generate alarm.

- Description: Provides a short description of the alarm.
- Units: Identifies the unit for the time after which the alarm would be generated.

- Metric Type Id: Identifies the unique Id of the alarm.
- Publishing Alarms: Triggers the generation of alarm.
Default: Disabled

Configure a Node

This procedure provides the information to configure a particular section within a node.

Each section within the node allows you to configure the properties of the probe for monitoring the DHCP servers.

Follow these steps:

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

The specified section of the probe is configured. The probe is now ready to monitor your DHCP server.

Configure Dynamic Alarm Thresholds

Dynamic thresholds are configured at the QoS metric level in each probe that publishes an alarm for a QoS metric.

Important! In order to create dynamic alarm thresholds, you must have the `baseline_engine` probe version 2.0 installed on the robot and configured.

Follow these steps for each QoS metric where you want to configure dynamic thresholds:

1. Select a node in the tree to view any associated monitors and QoS metrics.
2. Select the monitor you want to modify in the table.
3. Select the Publish Data and Compute Baseline options to enable the Dynamic Alarm Thresholds section of the configuration.
4. Choose a threshold algorithm. There are three algorithms allowed for dynamic alarm thresholds:

Note: You must indicate the direction for each algorithm, either increasing or decreasing.

- **Scalar:** Each threshold is a specific value from the computed baseline.
- **Percent:** Each threshold is a specific percentage of the computed baseline.
- **Standard Deviation:** Each threshold is a measure of the variation from the computed baseline. A large standard deviation indicates that the data points are far from the computed baseline and a small standard deviation indicates that they are clustered closely around the computed baseline.

Important! To change the subsystem ID, you must have the `baseline_engine` probe version 2.1 installed on the robot and configured.

5. (Optional) If the Subsystem ID listed in the Subsystem (default) field is not correct for your configuration, enter the correct ID in the Subsystem (override) field.
6. Save your settings.

Manage Profiles

You can configure the probe to create a profile for monitoring a DHCP server connection. You can then configure the DHCP server profile to send QoS messages on response time. You can also configure the profile to generate alarms when the server is unavailable or when the response time exceeds the threshold value.

Follow these steps:

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

The profile is saved and you can configure the profile properties for monitoring the DHCP server.

Delete Profile

You can delete an existing DHCP server profile when you no longer want the probe to monitor it.

Follow these steps:

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

The profile is deleted.

Chapter 3: QoS Threshold Metrics

Many CA Nimsoft Monitor probes ships with the default QoS threshold values set. These 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:

[dhcp_response QoS Metrics](#) (see page 15)

[dhcp_response Alert Metrics Default Settings](#) (see page 15)

dhcp_response QoS Metrics

The following table describes the QoS metrics that can be configured using the DHCP Server Response Monitoring probe.

Monitor Name	Units	Description
QOS_DHCP_RESPONSE	Milliseconds	DHCP Response

dhcp_response Alert Metrics Default Settings

The following table describes the default settings for the DHCP Server Response Monitoring metrics.

Alert Metric	Error Threshold	Error Severity	Description
Send Alarm on Failure	20 ms	-	Alarms to be issued when DHCP server response time exceeds the threshold value.