

CA Nimsoft Monitor

Probe Guide for iSeries Disk Monitoring

diskstat v1.0 series



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Documentation Changes

This table describes the version history for this document.

Version	Date	What's New?
1.0	March 2014	Documentation on the initial web-based GUI version of the iSeries Disk Monitoring probe. (Previous versions of this probe are configured using Infrastructure Manager).

Chapter 1: Overview

The diskstat probe monitors disks in the iSeries (AS/400) system. The probe recognizes disks by disk properties such as the disk size, type, ADP number, and disk name. The probe monitors disk performance and tracks disk activities such as disk usage, disk capacity, and the number of read and writes completed per second. The probe also lets you configure alarms and QoS for various disk operations and generates alarms at the first instance of any threshold being breached.

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 help understand the configuration of the iSeries Disk Monitoring probe and provides the following information:

- Overview of the iSeries Disk Monitoring probe and related documentation for previous probe versions.
- Configuration details of the probe.
- Field information 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 diskstat probe

The [Release Notes](#) for the diskstat 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 Nimsoft iSeries Disk Monitoring probe.

Supported Platforms

Refer to the [Nimsoft Compatibility Support Matrix](#) for the latest information about supported platforms. See also the [Support Matrix for Nimsoft Probes](#) for more information about the diskstat probe.

Chapter 2: Configuration Details

The iSeries Disk Monitoring probe is configured by creating monitoring profiles. You can configure the properties of performance object with its threshold values. You can also set the properties and conditions for generating alarms and the QoS messages.

This section contains the following topics:

[diskstat Node](#) (see page 10)

[Configure a Node](#) (see page 15)

[Manage Profiles](#) (see page 16)

[Delete Profile](#) (see page 16)

diskstat Node

The diskstat node lets you view the probe information and configure basic log properties of the probe. You can also view the information about the configured alarm messages.

Navigation: diskstat

Set or modify the following values as required:

diskstat > Probe Information

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

diskstat > Setup Configuration

This section lets you configure the log properties and the log file size of the diskstat probe.

- Log Level: specifies the detail level of the log.
Default: 0 - Fatal
- Log Size(KB): specifies a maximum size of the probe log file.
Default: 100 KB
- Check Interval in seconds: defines the time interval in seconds for fetching the disk data.
Default: 60

diskstat > Alarm Messages

This section lets you view the alarm message details.

- Name: identifies the name of the disk monitor.
- Text: identifies the alarm message text.
- Level: identifies the alarm severity.
- Subsystem: identifies the subsystem_id.
- Default: identifies the default message for each alarm situation (such as busy, disk, io_kb, and io_requests).

Disks Node

The *Disks* node contains a list of all disks which are available on the host system. Select any disk from the list to view the disk properties. Use the **Actions** drop-down list for creating a monitoring profile for the selected disk.

This node lets you view the following disk information.

- Resource Name: identifies the unique resource name of the disk.
- ASP Number: indicates the number of Auxiliary Storage Pool (ASP) to which the disk is assigned.
Note: The probe monitors only the disks assigned to an ASP.
- Disk Model: indicates the disk model specification.
- Disk Type: indicates the disk specification type.
- Disk Unit Number: indicates the disk unit number within the ASP.
Note: Mirrored disks have the same unit number. (Disk Mirroring stores the same data to two separate disks at once.)
- Size (MB): indicates the disk size in MB.
- Usage (%): indicates the disk usage in percentage.
- Busy(%): indicates the percentage of elapsed time that disk has been working.
- Unit Control: indicates the disk status as follows:
 - "": identifies the disk status with no unit control value.
 - "active": identifies the disk status as active.
 - "failed": identifies the disk status as failed.
 - "other unit failed": identifies that some other disk unit in the disk subsystem has failed.
 - "hardware performance degrade": identifies a hardware failure within the disk subsystem that affects performance, but does not affect the function of the disk unit.
 - "hardware problem": identifies a hardware failure within the disk subsystem that does not affect the function or performance of the disk unit.
 - "rebuilding parity protection": identifies that the parity protection of the disk unit is being rebuilt.
 - "not ready": identifies the disk unit as not ready.
 - "write protected": identifies the disk unit as write protected.
 - "busy": identifies the disk unit as busy.
 - "not ready": identifies the disk unit as not operational.

- "state not recognized": identifies that the disk unit has returned a status that is not recognizable by the system.
- "not accessible": identifies the disk unit as not accessible.
- "read+write protected": identifies the disk unit as read/write protected.
- Read Requests: indicates the read requests as requests per second.
- Read KB/s: indicates the data read in KB per second.
- Write Requests: indicates the write requests as requests per second.
- Write KB/s: indicates the data written in KB per second.

Note: This node is referred to as *Disks* throughout this document and is user-configurable.

The **Create Profile** option under the **Actions** drop-down enables you to create a disk recognition profile with information from the currently selected disk. This section also lets you view a brief description of the profile.

Profiles Node

This node is used to create a monitoring profile. You can create multiple monitoring profiles with different criteria to monitor the disks. All monitoring profiles are displayed under the **Profiles** node.

Note: This node does not contain any sections or fields.

<Profile Name> Node

The *Profile Name* node, lets you define the monitoring parameters of the disks to determine which disks are found by the monitoring profile. You can also set the conditions to calculate the threshold values. This node represents the actual monitoring profile name.

Note: This node is referred to as the *Profile Name* and is user-configurable.

Navigation: diskstat > Profiles > *Profile Name*

Set or modify the following values as required:

Profile Name > Edit Profile

This section enables you to edit the disk monitoring profile.

- Active: enables you to configure the profile as active.
- Profile Name: indicates the profile name.

Profile Name > Disk Properties

This section lets you monitor disks by adding one or more disk matching parameters such as ASP Number, Disk Type, Disk Model, and Resource Name. The probe evaluates the matching criteria and selects all disks matching the specified criteria.

Note: Several options are selected when a profile is created from the **Actions** drop-down list. If you create a profile using the **Add Profile** option, only the **ASP Number** field is selected.

Profile Name > Disk Busy Monitor

This section lets you configure the Disk Busy Monitor for generating QoS and alarms.

- Busy(>=): specifies the maximum threshold value for disk busy.
- Message: specifies the alarm message when the disk busy reach the specified limit.

Default: Busy

Profile Name > Disk Usage Monitor

This section lets you configure the Disk Usage Monitor for generating QoS and alarms.

- Usage(>=): specifies the maximum threshold value for disk usage.
- Message: specifies the alarm message when the disk usage reach the specified limit.

Default: Usage

Profile Name > Disk Read Requests Monitor

This section lets you configure the Disk Read Requests Monitor for generating QoS and alarms.

- Read Requests(>=): specifies the maximum threshold value for disk read requests.
- Message: specifies the alarm message when the disk read requests reach the specified limit.

Profile Name > Disk Read KB Monitor

This section lets you configure the Disk Read KB Monitor for generating QoS and alarms.

- Read KB(>=): specifies the maximum threshold value for disk read KB.
- Message: specifies the alarm message when the disk read KB reach the specified limit.

Default: ReadKb

Profile Name > Disk Write Requests Monitor

This section lets you configure the Disk Write Requests Monitor for generating QoS and alarms.

- Write Requests(>=): specifies the maximum threshold value for disk write requests.
- Message: specifies the alarm message when the disk write requests reach the specified limit.

Profile Name > Disk Write KB Monitor

This section lets you configure the Disk Write KB Monitor for generating QoS and alarms.

- Write KB(>=): specifies the maximum threshold value for disk write KB.
- Message: specifies the alarm message when the disk write KB reach the specified limit.

Default: WriteKb

Profile Name > Disk IO Requests Monitor

This section lets you configure the Disk IO Requests Monitor for generating QoS and alarms.

- Total IO Requests(>=): specifies the maximum threshold value for total disk IO requests.
- Message: specifies the alarm message when the disk IO requests reach the specified limit.

Profile Name > Disk Total IO KB Monitor

This section lets you configure the Disk Total IO KB Monitor for generating QoS and alarms.

- Total IO KB(>=): specifies the maximum threshold value for total disk IO KB.
- Message: specifies the alarm message when the sum of disk data read and disk data write reach the specified limit.

Default: IOKb

***Profile Name* > Disk Unit Control Monitor**

This section lets you configure the Disk Unit Control Monitor for generating QoS and alarms.

- Unit Control Not Matching: specifies that an alarm is generated when the disk unit control (disk status) is not as specified.
- Message: specifies the alarm message when the disk unit control does not match the specified status.

Default: UnitControl

***Profile Name* > No Disk Found**

This section lets you configure the No Disk Monitor for generating QoS and alarms.

- No Disk Found: specifies that an alarm is generated when no disk is found which matches the criteria specified in the **Disk Properties** section.

Configure a Node

This procedure explains the process of configuring a section of a node. Each section within a node lets you configure the properties of the probe for monitoring disk properties.

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 iSeries Disk Monitoring probe is configured.

Manage Profiles

You can add a performance profile, which is displayed under the *Profiles* node. You can then configure the profile to monitor the disks.

Follow these steps:

1. Click the **Options** icon beside the *Profiles* node.
2. Click **Add Profile**.
3. Update the field information and click **Submit**.

The profile is saved and you can configure the disk properties to monitor the disk performance.

Delete Profile

You can delete a monitoring profile when it no longer requires monitoring.

Follow these steps:

1. Click the **Options** icon beside the *Profile Name* node.
2. Click **Delete**.
3. Click **Save**.

The profile is deleted.

Chapter 3: QoS Threshold Metrics

Many CA Nimsoft Monitor 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:

[diskstat QoS Metrics](#) (see page 17)

[diskstat Alert Metrics Default Settings](#) (see page 18)

diskstat QoS Metrics

This section contains the QoS metrics for the iSeries Disk Monitoring probe.

Monitor Name	Units	Description
QOS_AS400_DISK_USAGE	Percent	AS400 disk usage
QOS_AS400_DISK_BUSY	Percent	AS400 disk busy
QOS_AS400_DISK_UNIT_CONTROL	State	AS400 disk unit control state
QOS_AS400_DISK_READ_REQUESTS	Request/sec	AS400 disk read requests per second
QOS_AS400_DISK_READ_KB	KB/sec	AS400 disk read KB per second
QOS_AS400_DISK_WRITE_REQUESTS	Request/sec	AS400 disk write requests per second
QOS_AS400_DISK_WRITE_KB	KB/sec	AS400 disk write KB per second
QOS_AS400_DISK_TOTAL_REQUESTS	Request/sec	AS400 disk IO requests per second
QOS_AS400_DISK_TOTAL_KB	KB/sec	AS400 Disk IO KB per second

diskstat Alert Metrics Default Settings

This section contains the alert metric default settings for the iSeries Disk Monitoring probe.

QoS Metric	Warning Threshold	Warning Severity	Error Threshold	Error Severity	Description
Busy	None	None	None	Minor	Busy
Disk	None	None	None	Clear	Matching disk found
IOKb	None	None	None	Minor	Total IO requests in KB
IORequests	None	None	None	Minor	Incoming IO requests
NoDisk	None	None	None	Major	No disk found
ReadKb	None	None	None	Minor	Data to be read from the disk
ReadRequests	None	None	None	Minor	Read requests for the disk
Unit Control	None	None	None	Major	Unit control not matching
Usage	None	None	None	Minor	Usage greater than a specific amount
WriteKb	None	None	None	Minor	Data to be written on the disk
WriteRequests	None	None	None	Minor	Write requests for the disk