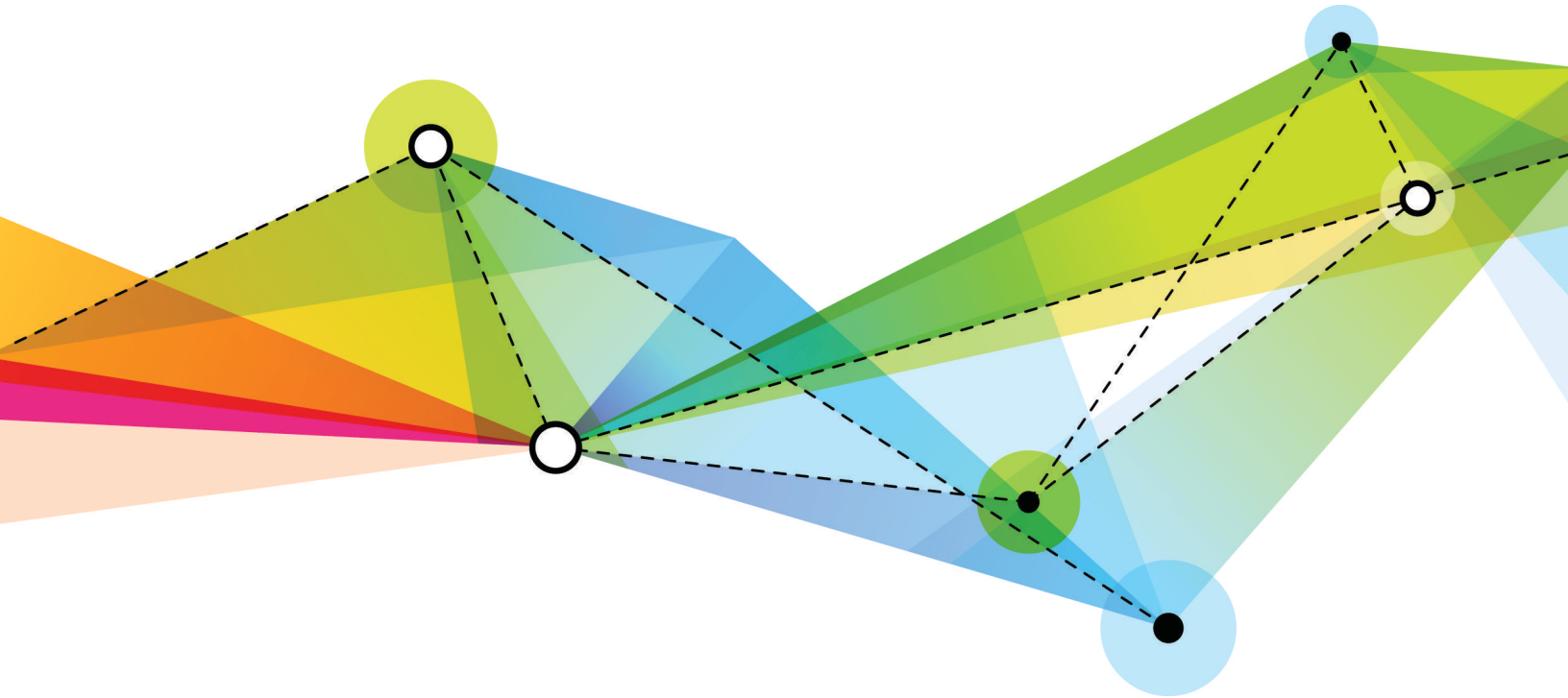
FlowControl SNMP MIB

Quick Reference Guide



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Published by Inomial Pty Ltd
Level 4, 313 La Trobe St, Melbourne, Vic 3000, Australia
www.inomial.com • +61 3 9663 3554 • sales@inomial.com • support@inomial.com

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Introducing the Flow Control SNMP MIB

Introduction to Flow Control SNMP MIB

This document describes how to use the Flow Control SNMP MIB. It is assumed that the reader is familiar with the SNMP protocol.

SNMP/MIBs allows network management operators to use standard Simple Network Management Protocol (SNMP) tools to monitor the status of Flow Control. The Flow Control Management Information Base (MIB) enables the monitoring and management of a Flow Control instance.

This document applies to **FLOWCONTROL-MIB Version 1.0, Revision 201611210930Z**.

Who this guide is for

This guide is to assist network management operators to use standard SNMP tools to monitor the status of Flow Control. The Flow Control MIB enables monitoring of software-related issues that may need administrative attention.

Requirements

The Flow Control MIB can be downloaded from the Inomial Document Library. This MIB is then imported into an agent application.

The following MIBs are required to use Flow Control MIB:

- SNMPv2-SMI
- SNMPv2-TC
- SNMPv2-CONF

These MIBs can be sourced from the SimpleWeb website

Optional

The JVM-MANAGEMENT-MIB can be used to access Java™ Virtual Machine monitoring and management data. For example, information about free heap space, time spent garbage collecting and uptime.

The use of this MIB can provide additional useful information to a system monitoring Flow Control.

Chapter

2

Flow Control SNMP Tree

```
--flowControl(1.3.6.1.4.1.20640.2.5)
  |
  +--usage(1)
  |  |
  |  +-- r-n Integer32 collectionNumber(1)
  |  |
  |  +--collectionTable(2)
  |     |
  |     +--collectionEntry(1) [collectionId]
  |        |
  |        +-- r-n Integer32     collectionId(1)
  |        +-- r-n DisplayString collectionName(2)
  |        +-- r-n Counter64     bytesReceived(3)
  |        +-- r-n Counter64     bytesSent(4)
  |        +-- r-n Counter64     netflowPackets(5)
  |
  +--statistics(2)
     |
     +-- r-n Counter32 secondsSinceStart(1)
     |
     +--aggregate(2)
     |  |
     |  +--insertTime(1)
     |  |  |
     |  |  +-- r-n TimeTicks lastInsertTime(1)
     |  |  +-- r-n TimeTicks avgInsertTime(2)
     |  |  +-- r-n TimeTicks maxInsertTime24(3)
     |  |  +-- r-n TimeTicks maxInsertTime(4)
     |  |
     |  +--sampleCount(2)
     |  |  |
     |  |  +-- r-n Gauge32   lastSampleCount(1)
     |  |  +-- r-n Gauge32   avgSampleCount(2)
     |  |  +-- r-n Gauge32   maxSampleCount24(3)
     |  |  +-- r-n Gauge32   maxSampleCount(4)
     |  |
     |  +-- r-n Counter32 aggregateCount(3)
     |  +-- r-n TimeTicks aggregationPeriod(4)
     |
     +--queues(3)
     |  |
     |  +--flowProcessingQ(1)
     |  |  |
     |  |  +-- r-n Gauge32   flowProcQLength(1)
```

```
|   |  +-- r-n Gauge32   flowProcMaxQLength(2)
|   |  +-- r-n Gauge32   flowProcMaxQLength24(3)
|   |  +-- r-n Gauge32   flowProcQLengthLimit(4)
|   |  +-- r-n Counter64 flowProcQOverflowCount(5)
|   |  +-- r-n Counter64 flowProcQTotal24(6)
|   |  +-- r-n Counter64 flowProcQTotal(7)
|   |
|   +--radiusSendQ(2)
|      |
|      +-- r-n Gauge32   radiusQLength(1)
|      +-- r-n Gauge32   radiusQMaxLength24(2)
|      +-- r-n Gauge32   radiusQMaxLength(3)
|      +-- r-n Gauge32   radiusQErrorCount(4)
|      +-- r-n Counter64 radiusQTotal24(5)
|      +-- r-n Counter64 radiusQTotal(6)
|
+--samples(4)
   |
   +-- r-n Counter64 sampleTableCount(1)
```

Chapter 3

Flow Control MIB Table

OID	Type	Name	Description
1.3.6.1.4.1.20640.2.5	**Object Identifier**	**flowControl**	**Information about Flow Control**
1.3.6.1.4.1.20640.2.5.1	**Object Identifier**	**usage**	**Information about Flow Control's usage**
1.3.6.1.4.1.20640.2.5.1.1	Integer32	collectionNumber	The number of collections[1] present in the system (and in the collectionTable)
1.3.6.1.4.1.20640.2.5.1.2	**Sequence of CollectionEntry**	**collectionTable**	**A list of collection usage entries. The number of entries is given by collectionNumber.**
1.3.6.1.4.1.20640.2.5.1.2.1	CollectionEntry	collectionEntry	An entry containing usage information for a particular collection. The collection with collectionId equal to 0 represents all data through the system.
1.3.6.1.4.1.20640.2.5.1.2.1.1	Integer32	collectionId	Uniquely (in the context of the system) identifies the collection. Corresponds to the collectionId in the smile database.

[1] A collection represents a unit of addressable space. For example, a range of IP addresses, a switch port, or a customer.

1.3.6.1.4.1.20640.2.5.1.2.1.2	DisplayString	colelctionName	An optional textual description of the collection. This may contain a customer identifier, an IP pool identifier, an empty string or some other value.
1.3.6.1.4.1.20640.2.5.1.2.1.3	Counter64	bytesReceived	The total number of octets received on the collection
1.3.6.1.4.1.20640.2.5.1.2.1.4	Counter64	bytesSent	The total number of octets sent on the collection
1.3.6.1.4.1.20640.2.5.1.2.1.5	Counter64	netflowPackets	The total number of flow packets received concerning the collection

1.3.6.1.4.1.20640.2.5.2	**Object Identifier**	**statistics**	Information about Flow Control statistics useful for monitoring the health of the system
1.3.6.1.4.1.20640.2.5.2.1	Counter32	secondsSinceStart	The number of seconds elapsed since Flow Control was started

1.3.6.1.4.1.20640.2.5.2.2	**Object Identifier**	**aggregate**	Statistics concerning the aggregated data[2]

1.3.6.1.4.1.20640.2.5.2.2.1	**Object Identifier**	**insertTime**	Statistics about how long it takes to insert the aggregates into the database
1.3.6.1.4.1.20640.2.5.2.2.1.1	TimeTicks	lastInsertTime	The length of time taken to insert the previous set of netflow aggregate samples into the database. This is an issue if greater than aggregationPeriod.
1.3.6.1.4.1.20640.2.5.2.2.1.2	TimeTicks	avgInsertTime	The average length of time taken to insert the set of netflow aggregate samples into the database. This is an issue if greater than aggregationPeriod.

[2] An aggregate or sample is a summary of usage data for a single collection over a short interval, for example, 2 minutes.

1.3.6.1.4.1.20640.2.5.2.2.1.3	TimeTicks	maxInsertTime24	The maximum length of time taken to insert the set of netflow aggregate samples into the database since midnight
1.3.6.1.4.1.20640.2.5.2.2.1.4	TimeTicks	maxInsertTime	The maximum length of time taken to insert the set of netflow aggregate samples into the database since the system started

1.3.6.1.4.1.20640.2.5.2.2.2	**Object Identifier**	**sampleCount**	Statistics about how many aggregates are being inserted into the database
1.3.6.1.4.1.20640.2.5.2.2.2.1	Gauge32	lastSampleCount	The number of samples in the last aggregate that was written to the database. This figure gives context to the value of lastInsertTime.
1.3.6.1.4.1.20640.2.5.2.2.2.2	Gauge32	avgSampleCount	The average number of samples in the aggregates that were written to the database. This figure gives context to the value of avgInsertTime.
1.3.6.1.4.1.20640.2.5.2.2.2.3	Gauge32	maxSampleCount24	The maximum number of samples in a single aggregate that was written to the database since midnight
1.3.6.1.4.1.20640.2.5.2.2.2.4	Gauge32	maxSamIpleCount	The maximum number of samples in a single aggregate that was written to the database since the system started
1.3.6.1.4.1.20640.2.5.2.2.3	Counter32	aggregateCount	The number of aggregates that have been written to the database
1.3.6.1.4.1.20640.2.5.2.2.4	TimeTicks	aggregationPeriod	The number of time ticks in an aggregation period

1.3.6.1.4.1.20640.2.5.2.3	**Object Identifier**	**queues**	Statistics about the queues in Flow Control

1.3.6.1.4.1.20640.2.5.2.3.1	**Object Identifier**	**flowProcessingQ**	Information about the queue of netflow data waiting to be aggregated
1.3.6.1.4.1.20640.2.5.2.3.1.1	Gauge32	flowProcQLength	The number of flows awaiting processing by flow control. A high value might indicate insufficient CPU allocation.
1.3.6.1.4.1.20640.2.5.2.3.1.2	Gauge32	flowProcMaxQLength	The historical maximum number of flows awaiting processing by flow control
1.3.6.1.4.1.20640.2.5.2.3.1.3	Gauge32	flowProcMaxQLength24	The historical maximum number of flows awaiting processing by flow control, since midnight
1.3.6.1.4.1.20640.2.5.2.3.1.4	Gauge32	flowProcQLengthLimit	The limit imposed on the flow processing queue, after which flow packets will be dropped, rather than added to the queue (for memory reasons)
1.3.6.1.4.1.20640.2.5.2.3.1.5	Counter64	flowProcQOverflowCount	The number of flow packets dropped because of the flow processing queue limit (see flowProcQLengthLimit)
1.3.6.1.4.1.20640.2.5.2.3.1.6	Counter64	flowProcQTotal24	The total number of flow packets that have been added to the flow processing queue since midnight
1.3.6.1.4.1.20640.2.5.2.3.1.7	Counter64	flowProcQTotal	The total number of flow packets that have been added to the flow processing queue

1.3.6.1.4.1.20640.2.5.2.3.2	**Object Identifier**	**radiusSendQ**	Information about the queue of RADIUS packets waiting to be sent to the accounting system, for example, Smile
1.3.6.1.4.1.20640.2.5.2.3.2.1	Gauge32	radiusQLength	The number of items currently in the RADIUS send queue

1.3.6.1.4.1.20640.2.5.2.3.2.2	Gauge32	radiusQMaxLength24	The maximum size of the RADIUS send queue since midnight
1.3.6.1.4.1.20640.2.5.2.3.2.3	Gauge32	radiusQMaxLength	The maximum size of the RADIUS send queue
1.3.6.1.4.1.20640.2.5.2.3.2.4	Gauge32	radiusQErrorCount	The number of RADIUS entries in the error state. This means Flow Control has given up trying to process these entries.
1.3.6.1.4.1.20640.2.5.2.3.2.5	Counter64	radiusQTotal24	The number of RADIUS entries successfully sent since midnight
1.3.6.1.4.1.20640.2.5.2.3.2.6	Counter64	radiusQTotal	The number of RADIUS entries successfully sent in total

1.3.6.1.4.1.20640.2.5.2.4	**Object Identifier**	**samples**	Information about the aggregated sample tables[3]
1.3.6.1.4.1.20640.2.5.2.4.1	Counter64	sampleTableCount	The total number of samples recorded in the database

[3] An aggregate or sample is a summary of usage data for a single collection over a short interval, for example, 2 minutes.