

Statistics Collection Architecture

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Introduction

This document provides information about the different components of the statistic collection process.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco WAN Manager 11.0
- Cisco WAN Manager 10.5

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

New Features in Cisco WAN Manager Version 11.0

- MGX 3.0 software introduces the Statistics Master (cnfstatsmgr, dspstatsmgr). When you use cnfstatsmgr, you must specify the primary, secondary and tertiary statistics collector, as well as the statistics master.
- The collection of statistics is on a card level for AXSM and PXM-45.
- By default, Cisco WAN Manager does not allow two collectors to collect files from the same switch. (The two collectors are part of a set of servers that have interconnection through the Cisco WAN Manager gateway.) To overcome this limitation, you can edit smctrlsvr.conf and change the field MAX_PARALLEL_COLLVRS to 2 on all servers that are part of the collection. (This feature is the

dual collection feature.)

- A unique statistics file reader that is executable replaces the files axsmreadbinary, bxmस्पvcreadbinary, and readbinary. The binary has the name readbinary.
- You can run the Statistics Collection Manager (SCM) GUI client on a PC client (which is available in the 11.0 GA version).
- For more information on the new architecture, refer to the Statistics Collection Manager Configuration chapter of the Installation document.

New Features in Cisco WAN Manager Version 10.5

- In version 10.5.10 patch 1, you can disable statistics collection on the MGX version 2.1.75.
- You can disable the parse of statistics (the save of statistics in the database) on the main Statistics Database Configuration panel.
- You can distribute the statsparser on any standalone server. (You find the statsparser with the Statistics Collection Manager Standalone [SCMSA] package/CD-ROM.) There is one statsparser per scmcollsvr. On a standalone installation, the statsparser feeds the data into a new database with the name statsdb. On the main Cisco WAN Manager server, the statsparser puts data in the Stratacom database, by default. However, statsparser.conf has a flag to force the parser to put data in statsdb. The selection of parameters in the Statistics Database Configuration panel is per statsparser. For example, if you select "save files under purge directory", the action occurs on machines on which that statsparser runs.
- **scmproxy** The **scmproxy** is a new script that allows users to start/stop or enable/disable statistics collection. The **scmproxy** script is faster than the GUI. You can use the script for quick and massive statistics configuration. You can also use the script in scripting/batch files. You must use this command with a file as input. Here is an example of the file:

```
tachfish% scmproxy
Usage: /usr/users/svplus/scripts/scmproxy statshostfile
tachfish% cat statshostfile
<CollParam:<BPX_template><tichfish,tachfish><tichfish><inband>>
wankwak
wanpeach
<CollParam:<BPX_template><tichfish,tachfish><tachfish><inband>>
wanduvel
tachfish%
```

For more information, refer to the document How to Use scmproxy Script.

- For more information on the new architecture, refer to the Statistics Collection Manager Configuration chapter of the Installation document.

Statistics Collection Manager Architecture

A list of the components and a description of the SCM architecture for versions 11.0 and 10.5 follow:

- **SCM GUI** User interface to control and monitor statistics collection.
- **scmctrlsvr** Serves the SCM GUI and controls collection (enable, start, and stop). The scmctrlsvr runs on the Cisco WAN Manager core machine and uses the Stratacom database for the storage of:

- ◆ SCM metadata

- ◇ The list of statistics for various types of connections
- ◇ Lines
- ◇ Trunks
- ◇ Ports
- ◇ Cards

◇ Nodes

- ◆ The enable list for all the nodes
- ◆ The active collections

All the Cisco WAN Manager server domains that use the gateway feature receive the enable information. This forward of enable information allows the standalone SCM to be independent, in the case of a loss of connectivity between the scmcntrlsvr and scmcollsvrs. One scmcntrlsvr acts as the statistics master for all the domains.

- **scmcollsvr** Handles the statistics file collection from nodes. The scmcollsvr uses TFTP to retrieve statistics files from the Autoroute domain and uses FTP to retrieve from the PNNI domain. Since the transfer can take time, the scmcollsvr creates a stat file, .done, under the `~svplus/incoming/server` directory. This file directs the statsparser to parse the stat file. Once the parse is done, the statsparser erases both the stat file and the associated .done file.

Distribution of the scmcollsvr to the remote servers can occur. The scmcollsvr receives requests from scmcntrlsvr to start or stop collection. After a standalone collector starts to collect, the collector is fully independent. The work of the collector is administrated and archived in the scmdb database. For collection redundancy, the collector can act as primary, secondary, or tertiary collector for a given node. (Users define the role through the GUI.) The standalone collector forwards statistics files to the SCM statistics database hosts (under `svplus/incoming/collector host name`). The collector uses FTP to forward these files (or moves files directly to incoming if scmcollsvr and statsparser are on the same machine). Upon startup, scmcollsvr starts to collect automatically if scmcollsvr finds an active collection in the scmdb database.

- **statsparser** Parses the statistics data files that you find under the incoming directory and writes the data into the Stratacom database (`_data` tables). There is one statsparser per scmcollsvr. For example, if there are five distributed scmcollsvrs, there are five statsparsers on the Cisco WAN Manager server. This improves parse performances in comparison to 9.2 architecture. Moreover, each statsparser has five threads to insert data into the database and 12 threads to read files under the incoming directory.
- **statsager** Removes old statistics data from the database and file system. The SCM GUI controls this process behavior.
- **Cisco WAN Manager gateway** Shares the Enable Stats list for all the nodes with all Cisco WAN Manager servers that are part of the same domain. The Cisco WAN Manager gateway also forwards the Enable Stat request from any Cisco WAN Manager server to the statistics master server that belongs to that domain. Also, the Cisco WAN Manager gateway shares the table `scmnodecollhost`. This table defines which collector collects which nodes. Here is the full list of SCM tables that the gateway shares:

- ◆ `scmcardenable`
- ◆ `scmnodeenable`
- ◆ `scmnodecollhost`
- ◆ `scmtemplate`
- ◆ `scmcolpar`
- ◆ `scmcolparsubobj`
- ◆ `scmcolparstat`

Comments

- With regard to TFTP and FTP requests, this process also has multithreads. Because the process has multithreads, scmcntrlsvr and scmcollsvr can issue several file transfer requests at the same time to the switches.
 - Watchdog launches the scmcntrlsvr and scmcollsvr. The file `process.conf`, under `~svplus/config`, lists those processes. This file also has a line for `spwatchdog`, which is another watchdog process that takes care of statsparser and statsager processes.
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Related Information

- **Statistic Collection Configuration Files**
 - ***Samples and Tips* section of Cisco WAN Manager Technical Support**
 - **Cisco WAN Manager Releases**
 - **Software Download – Cisco WAN StrataView Patches (registered customers only)**
 - **Technical Support – Cisco Systems**
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