



Release Notes

NetQoS Multi-Port Collector

Version 2.0

March 2010

These release notes provide information about version 2.0 of the NetQoS Multi-Port Collector. They include the following information:

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Getting Started

If you are upgrading from a previous version of the NetQoS Multi-Port Collector, be sure to consult carefully with NetQoS Support and technical representatives about your current system and the upgrade requirements. Some required hardware changes might apply to your system.

If you have not already upgraded to version 8.3 of NetQoS SuperAgent, you will need to complete this upgrade before you upgrade the Collector. For more information about upgrading the SuperAgent software, see the *SuperAgent Upgrade Guide*, which is available from the NetQoS Self-Service Portal at this location:

<http://www.netqos.com/support/ssp>

What's New in this Release?

This is the second release of the Multi-Port Collector product. It has been significantly enhanced to provide a troubleshooting interface to enable session-level analysis from captured packets. It includes the following features.

- SuperAgent troubleshooting workflows. You can now drill down from SuperAgent Engineering, Incident, and Operations reports into more granular, session-level data with the same filtering context.
- Flexible interface for viewing performance data and other traffic statistics, with multiple filtering and sorting options and multiple chart formats.
- Pre-defined data views to help you quickly access relevant data for the selected troubleshooting context.
- Tabbed data table with performance metrics and volume data from all network traffic to help you analyze session-level, detailed data. Collection and analysis are not limited to TCP.
- Full support for NetQoS SuperAgent, version 8.3 (and later).
- A one-minute reporting interval for collected data. Provides more detailed views of performance already reported at 5-minute granularity in SuperAgent reports.
- More robust and scalable database for improved performance and greater data storage capacity.
- Support for the NetQoS Single Sign-On feature, which allows secure user accounts to be shared among all NetQoS data source products. User accounts now support standard NetQoS roles and are synchronized with the NetQoS Performance Center.

Like the standard SuperAgent Collector, the NetQoS Multi-Port Collector receives data by means of a SPAN port or a network tap to observe all relevant traffic. But unlike the SuperAgent Collector, the Multi-Port Collector provides support for multiple SPAN sources, or physical ports. You can connect each of the available ports on the Multi-Port Collector to a separate switch SPAN port and greatly reduce the effort associated with maintaining separate collection devices when monitoring a large system with NetQoS SuperAgent.

What's Changed?

Be aware of the following changes to the user interface between version 1 and the present release:

- The user interface has been redesigned. A third tabbed view is now available. The Multi-Port Collector Web interface now consists of three tabs:
 - ♦ Analysis
 - ♦ System Status
 - ♦ Administration
- The new **Analysis** tab provides a full set of filtering, sorting, and navigational features to help you pinpoint the packet-level data you want to analyze. Once selected, data is automatically displayed in chart format and in a data table that provides filtering and sorting options.
- Multiple enhancements allow for views into **non-TCP traffic**—traffic not monitored by NetQoS SuperAgent. To see these volume and performance metrics, you probably need to change SPAN port configuration to include all the protocols of interest.
- The default **hardware filter** in version 1.0 sliced all packets down to the TCP header to conserve disk and processing resources. In new installations of the Multi-Port Collector v2.0, the hardware filter that is applied to all logical ports by default slices all packets (including non-TCP packets) down to the header.

Note: When you upgrade the Multi-Port Collector from version 1.0 to version 2.0, the `All Traffic – headers only` (default) filter is automatically created, but it is disabled. After the upgrade has completed, the filters that were in effect before the upgrade will continue to be used until you change them.

- The **Capture Card Status** and **Capture Card Statistics** tables on the System Status page have been reorganized and renamed. In addition to the tables provided in version 1.0, the System Status page now provides the following tables, which present Collector physical port and logical port statistics separately:
 - ♦ Capture Card Physical Port Status
 - ♦ Capture Card Logical Port Status
 - ♦ Capture Card Physical Port Statistics
- Configuration of **user accounts**. The previous version supported the creation of secure user accounts with either Administrator-level or User-level product privileges. Now user accounts are fully compatible with NetQoS Performance Center and SuperAgent user accounts, and they support the Single Sign-On feature. They can no longer be created or edited in the Collector administrative Web interface. This change allows for synchronization with the NetQoS Performance Center and the sharing of user accounts among all NetQoS data sources.

Note: Any user accounts that were created with the previous version of the Multi-Port Collector software are deleted during an upgrade to version 2.0.

- Microsoft Internet Explorer version 6 is no longer supported.

Hardware Specifications

The Multi-Port Collector hardware platform consists of:

- 3U rack-mount SuperMicro
- 48 GB of memory
- dual quad-core processor with a total of 8 CPUs
- Four 500-GB disk drives, and twelve 1-TB disk drives
- multi-port network card with full-packet capture capability
- a separate 1-GB Ethernet NIC for management data and communications with the SuperAgent Management Console

Each appliance contains two RAID controllers, configured as RAID 5. The total disk capacity of 14 TB is distributed as described in the following table:

RAID Controller	Description
System array	Used for the system, database, and packet capture investigation files. Four 500-GB disks.
Data array	Used for the raw data capture files. Twelve 1-TB disks.

For its packet-capture functionality, the Multi-Port Collector uses a high-performance network adapter with packet-capture and filtering capabilities. Depending on the specific Collector you have purchased, the adapter configuration is one of the following:

Collector Configuration	Hardware Description
4 x 1 Gb Collector	Network adapter with four 1-Gbps monitoring ports (either copper or fiber connections).
8 x 1 Gb Collector	Network adapter with four 1-Gbps monitoring ports (copper connections). A four-port expansion card (also 1-Gbps rate, copper connections).

Collector Configuration	Hardware Description
2 x 10 Gb Collector	Network adapter with two 10-Gbps monitoring ports (fiber connections).

The system runs on CentOS 5.2 64-bit Linux.

NetQoS SuperAgent version 8.3 and later versions are supported.

Web Browser Support

Microsoft Internet Explorer versions 7 and 8 are supported for viewing the Multi-Port Collector Web interface.

Although we have also tested the product with Mozilla Firefox version 3.0, we found a few minor limitations and recommend that you use Internet Explorer 7 instead.

Product Scalability and Performance

For all Multi-Port Collector configurations, performance and scalability are largely dependent on the amount of data being spanned to each monitored port and the number of sessions represented by the data traffic.

The main hardware constraint on the volume of traffic that can be captured to disk is the write rate, the rate at which the RAID controller can write data to the hard disk drives. This rate is improved by the packet-slicing option that is used by default. The default Multi-Port Collector hardware filter slices packets so that only packet headers are captured and written to disk because the resulting smaller file sizes reduce disk contention.

For packet capture, on average, the Collector supports write-to-disk rates ranging from 300 to 400 MBytes per second across all active logical ports. The **2 x 10 Gbps** configuration tends to achieve the higher end of the range, as it writes fewer but larger files, while the **8 x 1 Gbps** configuration writes multiple, smaller files, creating opportunities for more disk contention.

In addition to the write rate, another factor to consider is the capacity of the SuperAgent metric engine to process the data and send it to the SuperAgent Management Console.

For the **8 x 1 Gbps** configuration, the metric engine performs well:

- with all 8 ports active, receiving at 70% of total capacity, or approximately 5.6 Gbps.
- with 2.5 million active sessions.

For the **2 x 10 Gbps** configuration, the metric engine performs well:

- with both ports receiving a data rate of approximately 2.5 Gbps (for a combined total of 5 Gbps).
- with 4 million active sessions (2 million per port).

Throughput can be increased slightly by decreasing the number of simultaneous sessions; the metric engine on the **2 x 10 Gbps** configuration was still performing well:

- with both ports receiving a data rate of approximately 3.2 Gbps (for a combined total of 6.4 Gbps).
- with 2 million active sessions (1 million per port).

Individual results vary based on throughput, file sizes, the number of active ports, and the number of sessions.

Note: Multi-Port Collector Analysis query response times increase as the hourly throughput increases. In addition, the overall size of the metric database starts to degrade query times as the number of total entries approaches 7 billion.

Open Issues and Workarounds

This section describes known issues in Multi-Port Collector and suggested workarounds.

Issue	Workaround
Defect 20814 - Color legend missing in Stacked Trend PDF export for TCP Bytes views.	None is available at this time., except to select a different chart format for export to PDF. The PDF is less useful without the legend that helps the reader identify the source of each set of data points. This defect will be addressed in a future version of the Multi-Port Collector software.

Issue	Workaround
Defect 18174 - Restarting capture daemon may intermittently give CC_NO_MORE error starting logical port.	After you restart the nqcapd process, an SNMP trap is sent, indicating that a logical port could not be started. The nqnapacpd log indicates an error similar to the following: <pre data-bbox="727 499 1271 630">20090122-07:35:20 [Error] Could not start packet feed(6): 5 20090122-07:35:20 High Level Error: NTCI_ERRCODE_DRIVER_ERROR Low Level Error: NT_CC_NO_MORE</pre> This error indicates that the capture card driver needs to allocate memory for transfer of captured buffers, but the memory is fragmented, preventing the necessary blocks from being allocated. As a workaround, try restarting the nqcapd process. If the problem still occurs, log into the Multi-Port Collector appliance using the Linux account provided by NetQoS (see the Installation chapter of the <i>Multi-Port Collector User Guide</i>) and restart the server.
Defect 22403 - Global Filters broken when two browser windows/tabs from same client 22432 - Export to PDF broken when another browser window/tab is open for same session	We are aware of an issue with Global filters and the Export to PDF feature if you simultaneously access the Multi-Port Collector Web interface from two different browser instances, or from two separate tabs within the same instance, on the same computer. This might occur during drilldown from SuperAgent if another browser instance is already logged into the Web interface, or if you initiate Session Analysis from multiple reporting contexts. The main symptoms would be: • User actions, such as filter selection, performed in one window or tab affect the behavior of the other tab, or • The exported PDF shows a view that was selected in another window or tab. We have only seen these problems with Internet Explorer 8 or Mozilla Firefox 3.0; these browsers assign the same session to both windows/tabs. To avoid these problems, do not perform Export to PDF or edit Global Filters in multiple browser instances or from multiple browser tabs on the same computer at the same time. Or re-select a chart format for the PDF so that the Collector re-issues the database query for the desired view.

Issue	Workaround
Defect 18173 - The Multi-Port Collector does not support the Collector Device Thresholds for Discarded Packets nor Fragmented Packets that trigger Collector Device Incidents.	You can set collection device thresholds for the Collector in SuperAgent Administration. However, the Multi-Port Collector does not support the thresholds for Discarded Packets or Fragmented Packets. As a workaround, check the System Status page in the Multi-Port Collector Web interface. The Capture Card Statistics table provides the bit rate being received on each physical interface, as well as the number of packets dropped by the capture card.

Product Support

NetQoS provides customer support and product documentation for the Multi-Port Collector product. For Multi-Port Collector sales information, send email to sales@netqos.com or contact NetQoS by phone at 877-835-9575 Option 1.

Viewing Product and Contact Information

The latest product information is available on the NetQoS Self-Service Portal. You can access the Self-Service Portal and also see current contact information for the NetQoS Support team at:

<http://portal.netqos.com/>

You are instructed how to create a Self-Service Portal account the first time you access it. If necessary, the NetQoS Account Management team will help you with your Self-Service Portal account, which you can use to access the Knowledge Base, product advisories, and updates.

Accessing Product Documents

The Multi-Port Collector Web interface includes a complete online Help system to help you administer the product and interpret status and performance data. Most Help is context-sensitive.

In addition to the online Help and these release notes, you can find useful information in the following documents:

- Multi-Port Collector Setup Guide
- *Multi-Port Collector User Guide*
- *SuperAgent Administrator Guide*

Reading the Setup Guide, a brief document that is included in the box along with the appliance itself, is required. It provides a list of items included in the box, diagrams showing where cables must be plugged in, and step-by-step instructions for cabling and starting up the appliance, installing the software, enabling network access, and creating a connection to NetQoS SuperAgent.

We strongly recommend reading the *Multi-Port Collector User Guide*, which contains all the information compiled in the online Help, plus a comprehensive installation chapter that provides tips for setting up a SPAN port to capture the data you are most interested in monitoring.

You can access the product documentation in the following ways:

- In the Multi-Port Collector Web interface, click the **Help** link to see the online Help.
- Click the **About** link to see the *User Guide* PDF format.
- Log into the NetQoS Self-Service Portal at <http://portal.netqos.com/>. Under the **Main Menu** heading, click the **Product Info & Downloads** link. In the menu, click the **SuperAgent** link.

The **Documentation** section provides links to the most recent versions of the SuperAgent and Multi-Port Collector documentation in Adobe Acrobat PDF format.

Knowledge Base articles, white papers, and other documentation are also available here.

Customer Support

If you have problems with or questions about a NetQoS product, go to the Customer Support page at <http://www.netqos.com/support/>. Or access the Self-Service Portal to see upgrade documentation, receive product advisories, and download hotfixes.

If you do not have access to the Web and you are in the United States or Canada, contact NetQoS at (877) 524-8030.

Outside the United States or Canada, contact NetQoS at (512) 407-9443.