Getting Started

SNMPc OnLine 2005

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Computing

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- PHP (*Copyright © 1999 - 2002 The PHP Group*)
- Microsoft Data Engine (*Based on SQL Server Technology, Copyright © 2003 Microsoft Corp.*)

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Using this Document

This document provides an overview description of the most commonly used SNMPc OnLine features. For a complete description of SNMPc OnLine, please use the ***Help*** link at the upper right area of the SNMPc OnLine Web console. The Help system includes a high level ***Table of Contents*** and also provides ***Context Sensitive Help*** relevant to the page you are viewing.

This Getting Started manual is the only printed documentation available with SNMPc OnLine. This document is available in Adobe PDF format at the ***Products*** page of *www.castlerock.com* and in the SNMPc OnLine WEB console ***Help*** link.

NOTE 1: SNMPc OnLine is an Add-On product for the ***SNMPc Enterprise Network Management*** system. You should be familiar with using SNMPc before attempting to install, configure or use SNMPc OnLine.

NOTE 2: The SNMPc OnLine installation can automatically create a set of demonstration reports in SNMPc. This document assumes you have enabled this feature during the install. Much of the descriptions in this document pertain to the automatically created demonstration reports.

Getting Technical Support and Updates

SNMPc OnLine includes unlimited free technical support via email. With technical support, you can get help when installing or using SNMPc OnLine. We do not normally provide telephone support or training.

SNMPc OnLine includes free product updates for a period of 60 days after purchase. You can extend this period for an additional 12 months by purchasing Extended Software Updates. Please go to the ***Sales*** page at www.castlerock.com for more information.

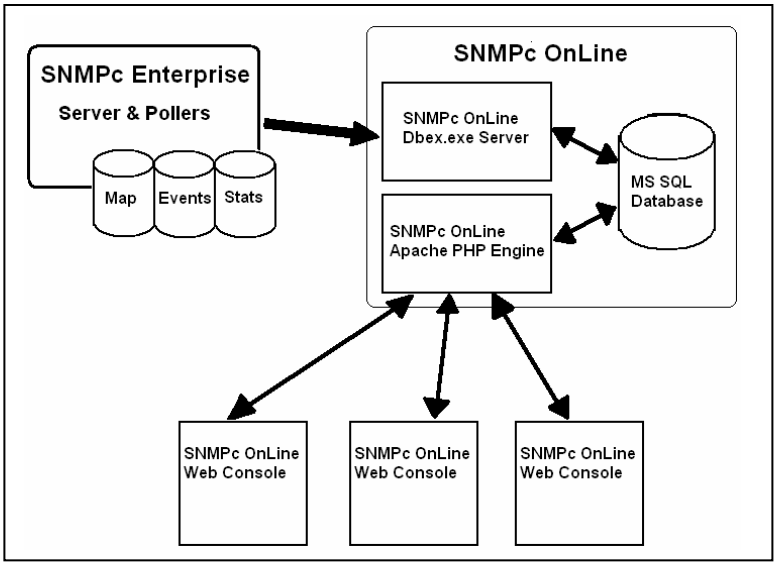
For technical support, please go to the ***Support*** page at *www.castlerock.com*. Press "Click Here to Create a New Account" to register at our HelpDesk system.

After creating your HelpDesk account, log on and click the "Support Tickets" link. Then use the Post link in the upper right of the page to add a new support ticket.

Once you have created a HelpDesk account you can also send email to *support@castlerock.com.*

Architecture Overview

SNMPc OnLine provides ***Automatic SQL Database Storage*** and a ***Dynamic WEB Based User Interface*** for the SNMPc Network Management System (NMS). The following diagram shows the overall architecture of SNMPc OnLine:



SNMPc OnLine exports information from the SNMPc NMS, including map topology, event log entries, and trend reports, into a Microsoft SQL database. Data is exported automatically through a background process (dbex.exe) at different intervals depending on the source. For example, map and event records are stored as they are generated and report data is updated once every several minutes.

SNMPc OnLine also includes an ***Apache Web Server*** and a set of ***PHP Scripts*** for dynamically displaying the stored data through a Web Browser. Any number of users can concurrently access the data from different locations on the Internet.

SNMPc OnLine takes advantage of SNMPc data structuring and user access controls to present only the data required by each user in an organized fashion. The console interface includes powerful tools for viewing data in summary and detail formats as well as selectively combining data into custom dashboard views. Simplified and advanced calendar controls let you easily navigate large amounts of data and quickly zoom in to specific time periods.

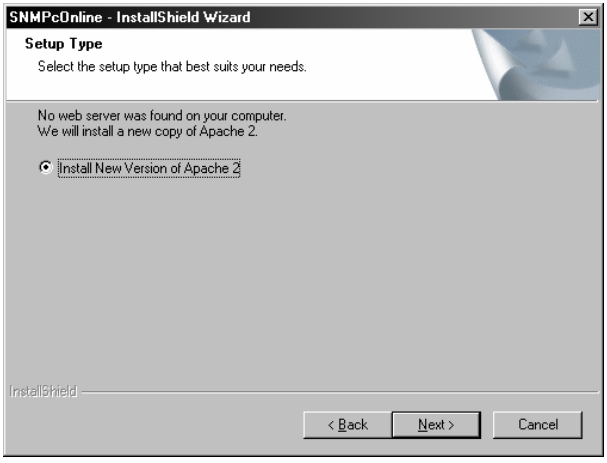
Installing SNMPc OnLine

The following table lists the minimum recommended system requirements.

PARAMETER	REQUIREMENT
CPU	Pentium III 1Ghz
Memory	512 MB
Disk Free	2 GB
Screen	800 X 600
Mouse Required	Yes
Server Operating System	Windows XP/2K/2K3/NT
WEB Console Operating System	Any Windows with Internet Explorer

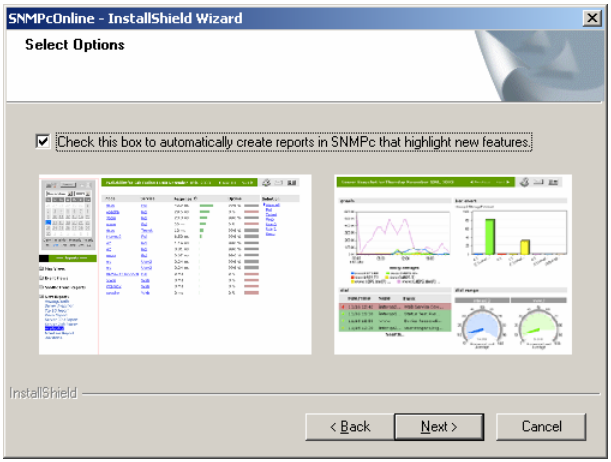
Perform the following steps to install SNMPc OnLine.

- Log on to Windows with Administrator permission.
- Shut down any running SNMPc components including the SNMPc task bar icon.
- Insert the SNMPc OnLine CDROM into the CDROM drive.
- Use the ***Windows Start/Run*** menu and enter d:\setup, where d: is the CDROM drive.
- The install program will show a welcome dialog, a license agreement dialog, and an install directory dialog. We recommend you install SNMPc OnLine in a subdirectory of the SNMPc Network Management System installation.
- The install program will check your system for an installed Web server. SNMPc OnLine can operate with Apache or Microsoft IIS Web servers.
- At the next dialog you can choose which web server you want SNMPc OnLine to use. Note that even if you are already running Apache or Microsoft IIS, you can still install a new Apache server as it uses a different server port (8080).



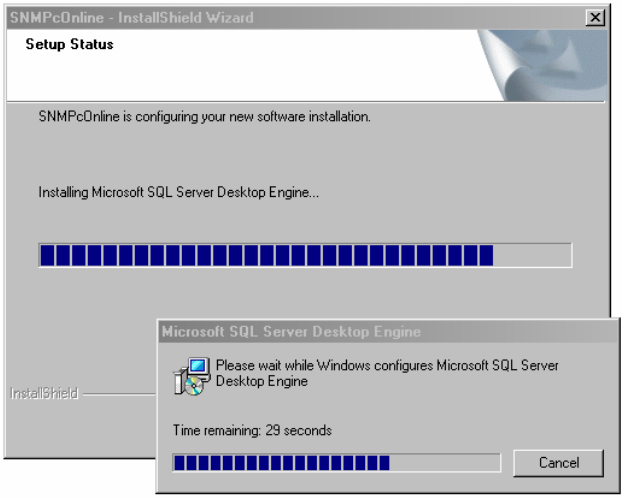
- SNMPc OnLine can automatically configure the SNMPc NMS to create a set of demonstration trend reports using a small number of map devices. These reports highlight the main features and new report styles of SNMPc OnLine and are used as examples throughout this document.

- The next dialog lets you enable or disable automatic demo report setup. ***We strongly recommend that you enable this feature.***



- The setup program will now proceed to install SNMPc OnLine. This will normally install a copy of the Apache Web server and Microsoft SQL Desktop Engine (MSDE) and can take a considerable time to complete. You will see progress dialogs showing what component is being installed and the estimated time to completion.

- The setup program can optionally reboot your system at the end of the install. This is required to start the new services. We recommend you reboot the system after the install has completed.

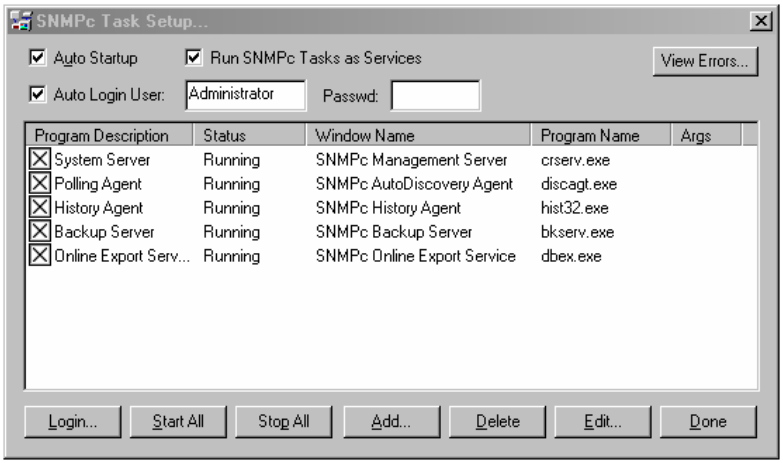


The next two sections describe how to start and control SNMPc OnLine server components and how to access SNMPc OnLine through a WEB Browser.

Starting the Server

The SNMPc OnLine background server is installed and configured to start automatically. Use the ***SNMPc Network Manager/Login Console*** command from the ***Windows Start/Programs*** menu to start the SNMPc Console. After you login to SNMPc the SNMPc OnLine Web Console will be displayed in a Web Browser. The next section describes different ways to start the SNMPc OnLine Web Console.

SNMPc OnLine server functions are implemented by the ***dbex.exe*** program. During the installation this program is added to the list of SNMPc background tasks. Use the SNMPc Console ***Config/System Startup*** dialog (shown below) to configure how the server is started.



The SNMPc OnLine server entry is shown here as the last item, named ***Online Export Service***. The server will start along with other SNMPc tasks.

Check the ***Run SNMPc Tasks as Services*** box to run all tasks as Windows services. Otherwise the tasks will run as regular Windows applications and you must first log on to Windows before starting them.

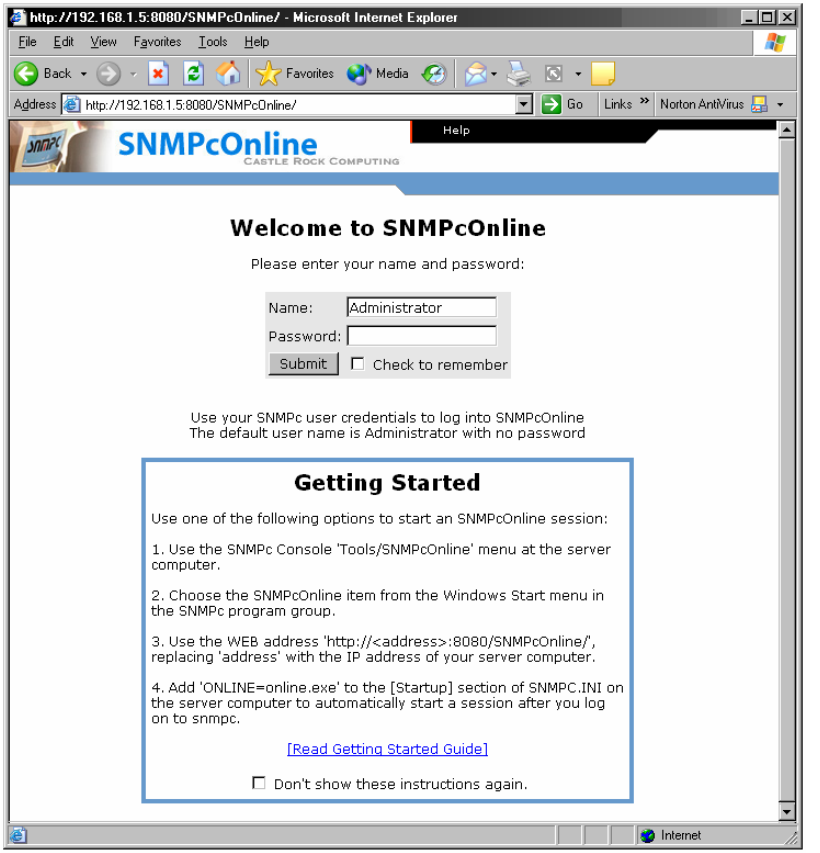
Check the ***Auto Startup*** box to have the tasks start automatically when you reboot Windows (when running as services) or when you log on to Windows (when running as regular apps).

If ***Auto Startup*** is disabled, use the ***Start All*** button to start all tasks. You can also use the SNMPc ***Startup System*** and ***Shutdown System*** commands from the SNMPc program group in the Windows Start menu.

Starting the WEB Console

The SNMPc OnLine user interface is provided through a web browser session.

After installation the SNMPc OnLine web console is configured to start automatically when you log on to the SNMPc Windows console on the server computer. The standard SNMPc OnLine login screen is shown below:



Enter an SNMPc username and password. If you are using a new install of SNMPc the default username is ***Administrator*** with no password (i.e., blank).

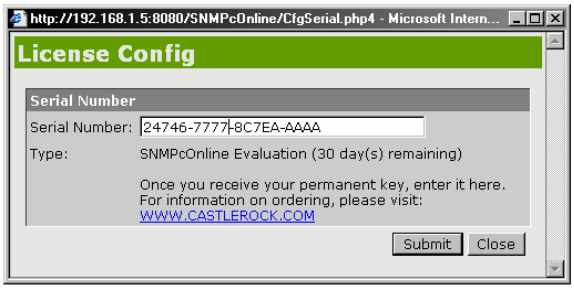
Instructions on starting the SNMPc OnLine web console are displayed below the username/password text boxes. These instructions include a link for displaying the Getting Started Guide (this document). If you don't want to see these instructions again, enable the checkbox at the end of the instructions.

Enable the ***Check to Remember*** checkbox to perform an auto-login with the same username and password next time you open the SNMPc OnLine web console.

Press ***Submit*** to login to the SNMPc OnLine web console.

After the first installation the SNMPc OnLine server will go through a series of configuration steps, including the import of the SNMPc map and settings. This can take several minutes. A warning screen will be displayed if you try to login during this period. In this case you should wait five minutes and then press the web browser refresh button, which will show the login page again.

SNMPc OnLine automatically assigns a temporary 30 day license. After you login a license key dialog will be displayed. If you have purchased a permanent license, enter it here and press the ***Submit*** button. Once a permanent key is set this dialog will not be displayed again. If you don't have a permanent key, press the ***Close*** button to continue to the console screen.



There are several ways to start the SNMPc OnLine web console as described below.

Auto Start from SNMPc Console

This is the default. A program named ***online.exe*** is added by the SNMPc OnLine installation to the ***[Startup]*** section of the ***snmpc.ini*** file at the server computer. The online.exe program will start the SNMPc OnLine web console whenever you login to the SNMPc Windows console. To disable auto start, edit ***snmpc.ini*** and remove the ***ONLINE=online.exe*** setting from the ***[Startup]*** section.

Tools Menu Option in SNMPc Windows Console

A new menu named ***SNMPc OnLine*** is added by the SNMPc OnLine installation to the ***Tools*** menu of the SNMPc Windows console. Use this menu to open an SNMPc OnLine web console at any time while using SNMPc.

Manually Entered Web Browser URL

Launch a web browser and use one of the following URLs to start an SNMPc OnLine web console:

- Apache Server installed by SNMPc OnLine: ***http://<address>:8080/SNMPcOnline***
- Pre-existing Apache Server or Microsoft IIS: ***http://<address>/SNMPcOnline***

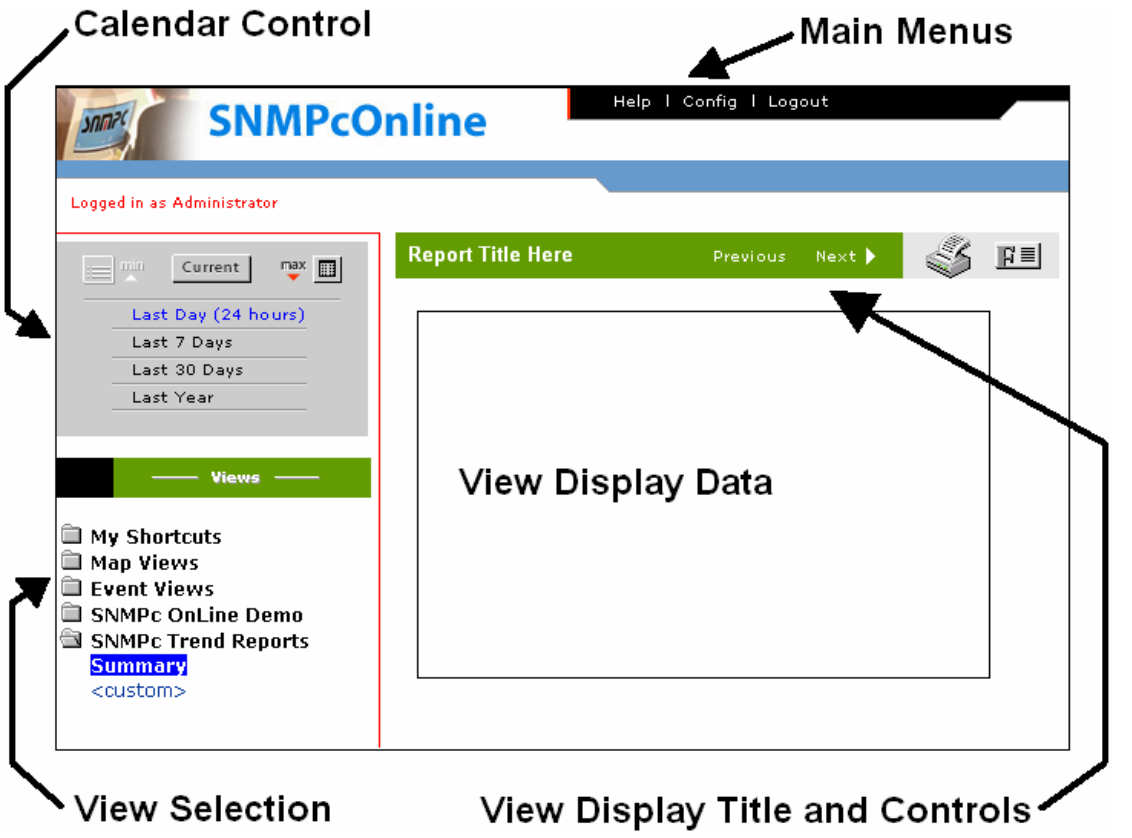
Replace ***<address>*** with the IP address of your SNMPc OnLine server computer, in dot notation. For example, *http://127.0.0.1:8080/SNMPcOnline.* Use this URL format in a Windows shortcut to start the SNMPc OnLine web console directly from your desktop.

Windows Start Menu

From the Windows ***Start*** menu select ***Programs/SNMPc Network Manager*** group. Use the ***SNMPc OnLine*** menu to start an SNMPc OnLine web console.

WEB Console Overview

The following diagram shows the SNMPc OnLine web console.



SNMPc data such as map topology, event log entries, and trend statistics are shown in the ***View Display Data*** frame. This frame can display a variety of data formats including tables, graphs and custom dashboards. The remaining frames contain control tools that maintain a consistent format at all times. Settings in the control tools determine what is displayed in the ***View Display Data*** frame.

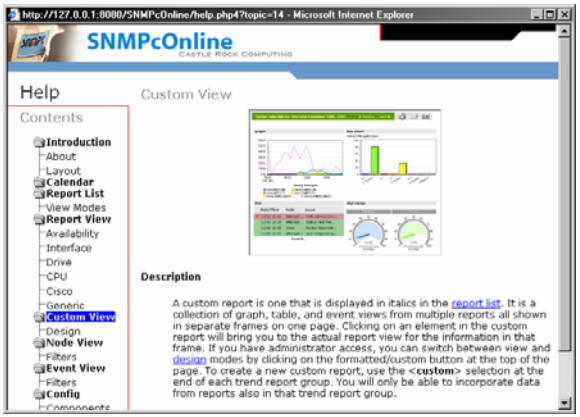
Main Menus

There are three global menus along the top right of the page. These menus are not related to a specific data display but rather affect global settings.

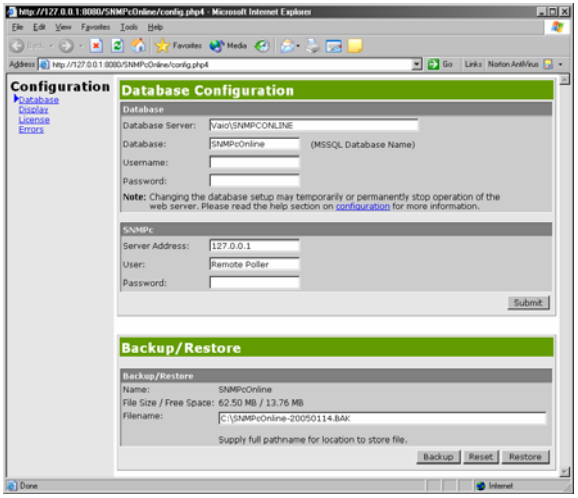
Use the ***Help*** menu to display a context sensitive help screen for the currently selected view.

Use the selection tool at the left side of the Help screen to select another topic or subtopic. Help information for the selected topic is displayed at the right side of the Help screen.

The Help screen provides a more detailed description of web console elements than this Getting Started Guide.



Use the ***Config*** menu to change global settings for the web console. A popup configuration screen is displayed, containing several sub pages:



- Use the ***Database*** page to manage the Microsoft SQL database and the SNMPc Server connection.
- Use the ***Display*** page to change the appearance and startup mode of the web console.
- Use the ***License*** page to set your permanent SNMPc OnLine license key.
- Use the ***Errors*** page to view any global errors related to the operation of SNMPc OnLine.

Use the ***Logout*** menu to close your SNMPc OnLine session. The login page will then be displayed.

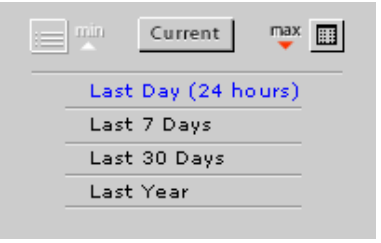
Calendar Control

Use the Calendar Control to select the beginning and ending date and time of displayed data and also the granularity of the data (raw or condensed samples).

The calendar control has two modes, ***Minimized*** and ***Maximized***, each described in the next two sections. Use the ***Max*** button to change to the ***Maximized Calendar*** mode and the ***Min*** button to change back to the ***Minimized Calendar*** mode.

> It is important to understand how the calendar control works and interacts with the data displays. Zooming in to the minimum granularity level in a data graph or using the graph *Previous/Next* controls will automatically change the calendar control to the ***Maximized*** mode.
>
> If you are not seeing the expected data in a display the first thing to check is that the calendar control is set appropriately. When in doubt, use the ***Min*** button and select ***Last Day (24 Hours).***

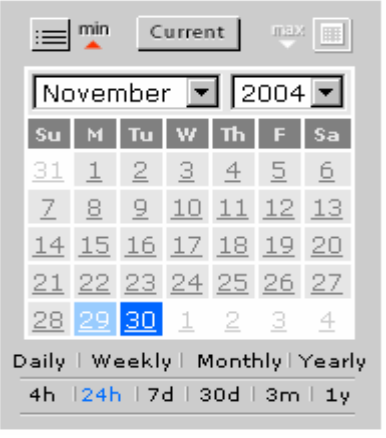
Minimized Calendar



Use the ***Minimized*** Calendar to select common reporting periods of day, week, month and year, based on the current date. This is the default mode displayed when you first use the web console. Use the ***Min*** button to show this mode.

Maximized Calendar

Use the ***Maximized*** Calendar to select a specific date and more detailed time ranges.



Select one of the ***named links*** at the bottom of the frame to display common calendar periods (daily, weekly, monthly, yearly). These settings will always show the full calendar period. For example, the Weekly setting shows Sunday to Saturday. Use the month, year and date controls to select which week to display.

Select one of the ***numbered links*** at the bottom of the frame to display a fixed time period going back from the selected date. For example, select 24h (24 hours) and November 30, to display data for November 29 and 30.

Use the ***Current*** button to force the selected date to stay on the current day and also to show most recent values instead of averages.

View Selection Area

The View Selection Area includes a set of view groups. Each view name within a group is of the same general type. Select the group name to show a list of items in the group. Select one of the items in a group to display the associated view in the View Display Area at right.

Within each View Selection Area group, some view names are fixed, some are added by SNMPc, and some are customized dashboard or search views you can add. Use the command links at the end of the list of view names, delimited by '<' and '>' to access advanced features (e.g., <Search>, <Custom>).

Each of the View Selection Area groups is described further below.

My Shortcuts

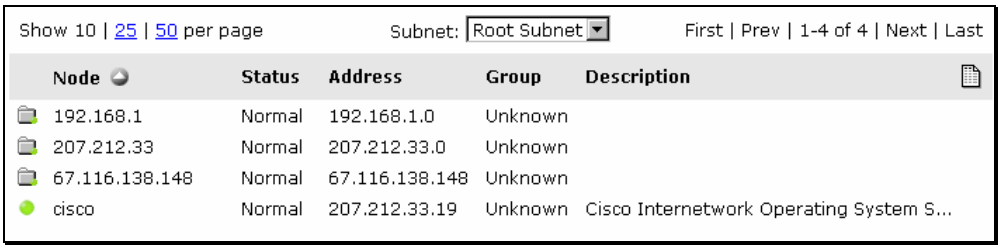
The ***My Shortcuts*** group contains quick links to previously selected views of any type. This is a similar notion to Favorites links in a Web Browser. Shortcuts are particularly useful to show zoomed-in displays which normally would require traversal of several links in a report.

At any point during your SNMPc OnLine session use the ***<Add>*** link under ***My Shortcuts*** to add a shortcut to the currently displayed view. A dialog popup prompts for the shortcut name. Use the ***<Sort>*** link under ***My Shortcuts*** to rearrange the shortcuts list and to remove unwanted shortcuts.

Items in the ***My Shortcuts*** group are only visible to the user who created them. Each user has a different and unique set of ***My Shortcuts*** links.

Map Views

Use the ***Map Views*** group to show a tabular display of nodes in your SNMPc Map. This group contains one fixed view named ***Map Tree***. Select ***Map Tree*** to show the top-level SNMPc map subnet. An example of a map view is shown below.



- The icon at left indicates the entry type of device (circle) or subnet (folder) and shows the current status (i.e., color) of a device or the worst status of all devices under a subnet.

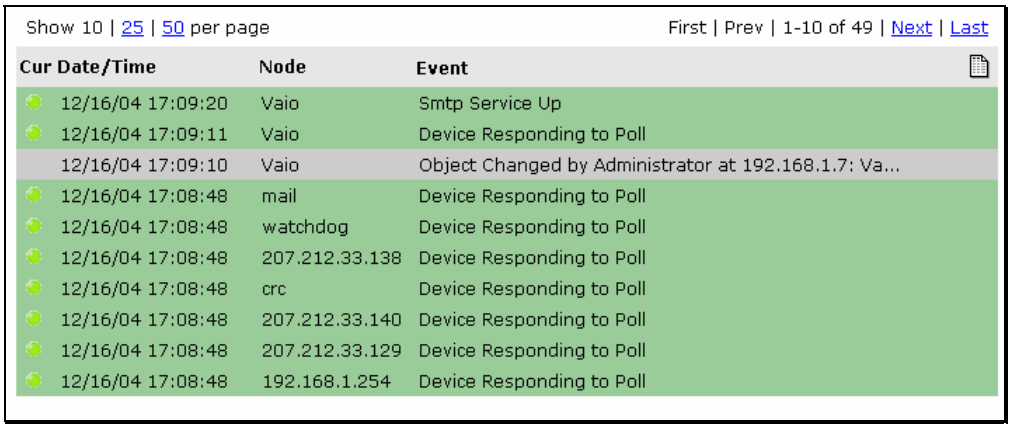
- Select a subnet name to drill down into the subnet. The table will show all subnets and devices residing under the selected subnet. Note that the current subnet name is also displayed in the ***Subnet*** pull-down. Select the relevant subnet name from this pull-down to go back up the topology tree.

- Select a device name to show more detailed information for the device.

Use the **<*Search*>** command in the Map Views group to search for specific nodes or to add custom map view names. This command is described further in the Custom Map Views section later in the document.

Event Views

Use the ***Event Views*** group to show a tabular display of event log entries. This group contains two fixed views named ***Current Log*** and ***History Log***, which are analogous to the Current and History tabs in the SNMPc console event tool. Select ***Current Log*** to show active, unacknowledged, events or select ***History Log*** to show acknowledged and informational events. An example of a current log view is shown below.



When viewing acknowledged (History) events, note that the view only shows events within the selected calendar control time period. This is different than how SNMPc typically shows events.

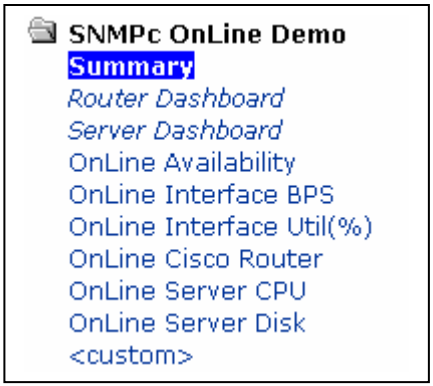
For example, if you have the time period set to a specific day and there were 200 events on that day, you can scroll through these 200 events using the ***First/Prev/Next/Last*** controls at the upper right of the event view. Use the calendar control to select a smaller or larger set of events to view.

When viewing Current events the selected time period is ignored. The number of events shown in the scroll controls at upper right of the view represents the entire number of active events.

Use the **<*Search*>** command in the Event Views group to search for specific events or to add custom event view names. This command is described further in the ***Custom Event Views*** section later in the document.

SNMPc OnLine Demo

The ***SNMPc OnLine Demo*** group and all following groups are directly associated with SNMPc ***Trend Report Groups***. Each of these groups contains one report ***Summary*** view, one or more user created ***Dashboard*** views, and one view for each corresponding SNMPc ***Trend Report***.



The ***SNMPc OnLine Demo*** trend report group is created automatically by SNMPc OnLine if you enabled automatic report creation during the installation.

This group contains a fixed report ***Summary*** view, two custom ***Dashboard*** views for one router and one server system, and one ***Report View*** for each of the automatically generated SNMPc trend reports. Each of the automatic reports contains a small number of devices and is for demonstration purposes only.

Each of the demo fixed and automatically generated views is described in detail in the next chapter of this document, ***SNMPc OnLine Demo Report Group***. At this stage just note that you can select each of these view names to see the associated summary, dashboard, or example built-in trend report style.

Use the **<*custom*>** command to add a new Dashboard view. This command is described in the ***Custom Dashboard Views*** section later in this document.

Each report in this group uses a built-in SNMPc OnLine trend report definition. These reports have highly formatted views that best convey the underlying management information.

Other Trend Report Groups

If you installed SNMPc OnLine over an existing SNMPc system you will see an additional group for each named trend report group that exists in SNMPc. Every time you add a trend report group to SNMPc, a new group is automatically added to SNMPc OnLine.

Each of the trend report groups contains one report ***Summary*** view, user created ***Dashboard*** views, and one view for each corresponding SNMPc ***Trend Report***.

Use the **<*custom*>** command to add a new Dashboard view. This command is described further in the ***Custom Dashboard Views*** section later in this document.

Legacy trend reports in SNMPc use unformatted report styles. They will all be displayed in a generic fashion. Variable and instance names are taken from your SNMPc trend report settings.

View Display Area

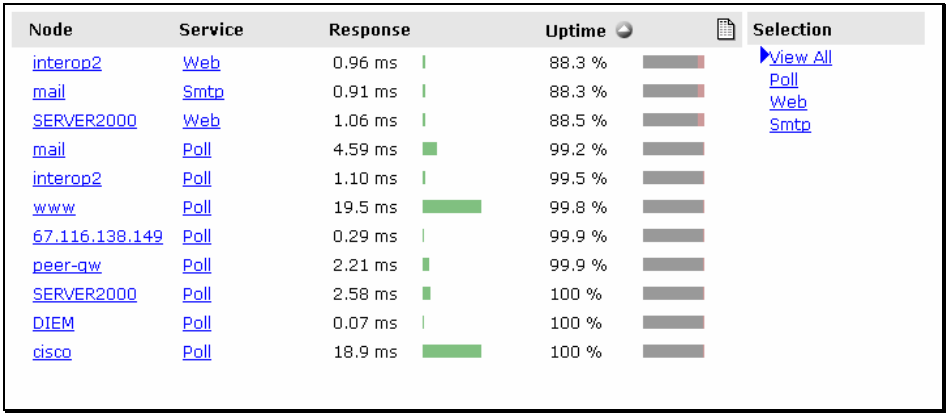
The View Display Area is the main data viewing and configuration section of the SNMPc OnLine web console. This area includes a data frame, title, and various data controls. The different sections that make up the View Display Area are described in the following sections.

Data Frame

The Data Frame shows the selected data, for the selected time period, in one of several styles, including tables, graphs and custom ***dashboard*** views. Types of information displayed include map topology, event log entries, and trend report statistics.

SNMPc OnLine includes several ***built-in trend report styles*** that are specially formatted to highlight the information contained in the report. In some cases you can select from different sub views of the report from a list of names at the right side of the data display.

The following is an example data display for the ***OnLine Availability*** built-in trend report style. Note the list of ***Selection*** sub views at right.



Node	Service	Response	Uptime
interop2	Web	0.96 ms	88.3 %
mail	Smtp	0.91 ms	88.3 %
SERVER2000	Web	1.06 ms	88.5 %
mail	Poll	4.59 ms	99.2 %
interop2	Poll	1.10 ms	99.5 %
www	Poll	19.5 ms	99.8 %
67.116.138.149	Poll	0.29 ms	99.9 %
peer-qw	Poll	2.21 ms	99.9 %
SERVER2000	Poll	2.58 ms	100 %
DIEM	Poll	0.07 ms	100 %
cisco	Poll	18.9 ms	100 %

Selection
View All
Poll
Web
Smtp

Select any link in the data frame to zoom in to a more detailed view. In most cases this will zoom into a formatted graph but in some reports there is an intermediate information display from which you can choose different graph views.

Legacy SNMPc trend report styles do not include special formatting. These reports are displayed in the *Generic* table and graph styles. Please see the section on the ***Formatted/Design*** button below for more information.

In some situations it is possible to configure the included information or the layout of the data frame. Use the ***Formatted/Design*** button to switch between the viewing (Formatted) display and configuration (Design) display. Each of the different configuration mechanisms is described in separate sections of this document.

Title and Time Selection

The title frame above the data frame shows the name of the displayed data or report and the time period included in the display. The described time period corresponds to the selection in the Calendar Control.

Use the ***Previous*** and ***Next*** links to change the displayed time period. The amount of change depends on what you have selected in the calendar control (day, week, etc.).

> Note that the calendar control will always change to the ***Maximized*** mode when you use the ***Previous*** or ***Next*** buttons. This means that the calendar time period is not changed back when you select another report. If the displayed data doesn't look right, always check the calendar control and use the ***Min*** button to get back to the ***Minimized*** mode.

Print Button

Use the Print button to print the view display data. A formatted screen is displayed ready for printing, with any control elements removed.

Formatted/Design Button

Use the ***Formatted/Design*** button to switch between the Formatted and Design display styles for the currently displayed view. This button is context sensitive and behaves differently for each view type, as indicated in the table below.

View Type	Formatted Style	Design Style
Map	Map Table	Map Table with Search Bar
Event	Event Table	Event Table with Search Bar
Built-in Report	Formatted Display	Generic Display
Legacy Report	Generic Display	Generic Display
Custom Dashboard	Dashboard Display	Dashboard Setup
Report Summary	Summary Display	Summary Setup

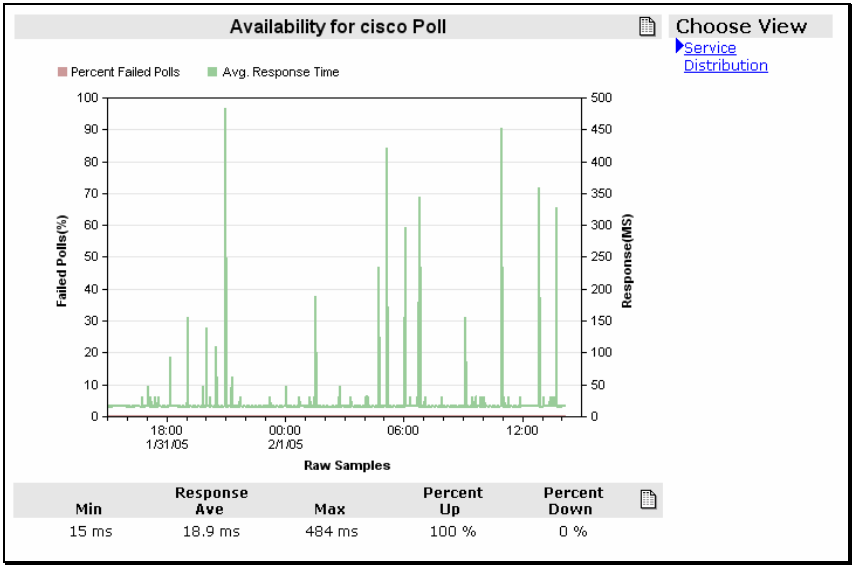
Most of the Design styles include configuration or search mechanisms. Each of these mechanisms is further described in separate sections of this document.

The following is a ***Generic*** view of the built-in ***OnLine Availability*** report shown earlier in the Data Frame section. Use the ***Formatted/Design*** button to switch between these two styles.

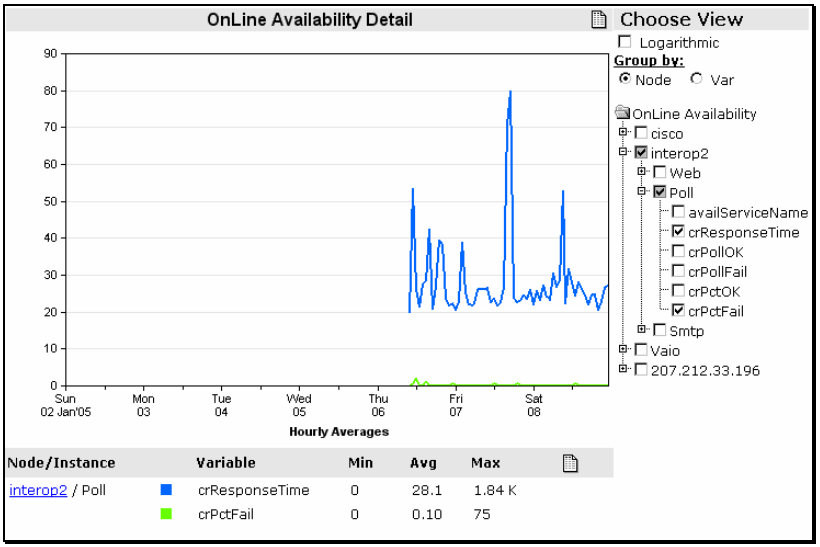
Node	Instance	crResponseTime	crPollOK	crPollFail	crPctOK	crPctFail
207.212.33.196	Poll	20	0.03	0	100	0
cisco	Poll	40	0.03	0	100	0
cisco	Smtp	9.00	0.01	0	100	0
interop2	Poll	21	0.03	0	100	0
interop2	Smtp	11	0.01	0	100	0
interop2	Web	27	0.01	0	100	0
Vaio	Poll	0	0	0.1	0	100
Vaio	Smtp	0	0	0	0	0

Note that all data columns are shown in this generic view versus combined or selected columns. The generic view does not have a list of sub view names or other graphic elements and the column names come straight from the underlying MIB instead of being converted to more meaningful names. Legacy SNMPc trend reports will all have this generic display style.

When you zoom in to a graph view in a formatted report style, the graph will show only the most useful information and the various axis and legends will be appropriately labeled. The following is an example zoomed-in graph view for the ***OnLine Availability*** report style.



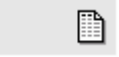
Use the ***Formatted/Design*** button to change the graph to the generic style, which includes a selection tool at right to specify which nodes, variables and instances are included in the graph. The following is an example of a generic graph view.



Legacy SNMPc trend report graphs always use the generic graph style.

Spreadsheet Export Button

All of the graphic elements shown in the Data Frame including tables, graphs and graph legends include a ***Spreadsheet Export*** button. Use this button to export the displayed data into a spreadsheet program such as Microsoft Excel.



The following is an example spreadsheet export.

	A	B	C	D
1	**Node**	**Service**	**Response**	**Uptime**
2	Vaio	Poll	0 ms	0%
3	Vaio	Smtp	0 ms	0%
4	207.212.33.196	Poll	20 ms	100%
5	interop2	Smtp	11 ms	100%
6	interop2	Poll	21 ms	100%
7	cisco	Smtp	9.00 ms	100%
8	interop2	Web	27 ms	100%
9	cisco	Poll	40 ms	100%

SNMPc OnLine Demo Report Group

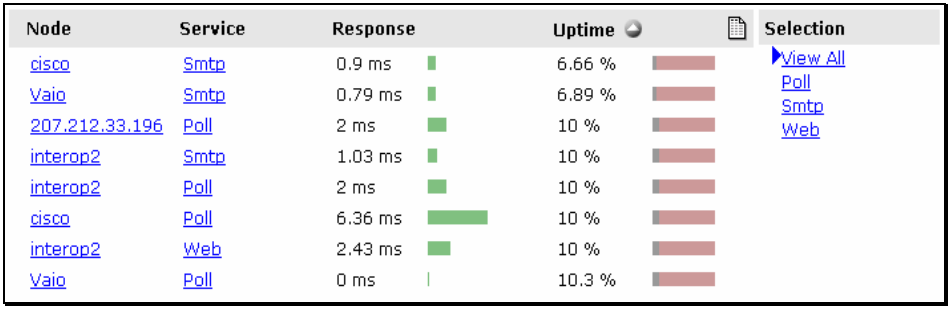
Introduction

The ***SNMPc OnLine Demo*** trend report group is created automatically by SNMPc OnLine if you enabled automatic report creation during the installation. The rest of this chapter briefly describes the automatically created reports.

This group contains a fixed report ***Summary*** view, two custom ***Dashboard*** views for one router and one server system, and one ***Report View*** for each of the automatically generated SNMPc trend reports. Each of the automatic reports contains a small number of devices and is for demonstration purposes only.

Availability Report

The Availability Report shows response time and percent uptime for regular SNMPc polling (ICMP or SNMP) and configured TCP poll services. Use the Selection list at right to display all information or just for a specific service. The following is an example top level Availability Report view.



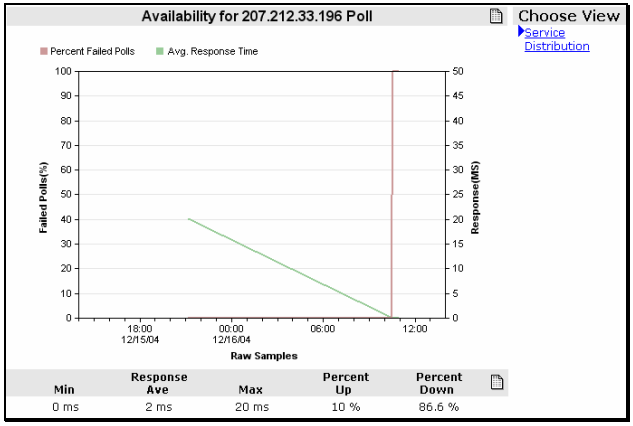
Node	Service	Response	Uptime
cisco	Smtp	0.9 ms	6.66 %
Vaio	Smtp	0.79 ms	6.89 %
207.212.33.196	Poll	2 ms	10 %
interop2	Smtp	1.03 ms	10 %
interop2	Poll	2 ms	10 %
cisco	Poll	6.36 ms	10 %
interop2	Web	2.43 ms	10 %
Vaio	Poll	0 ms	10.3 %

Selection
View All
Poll
Smtp
Web

Select a link from the ***Service*** column to show a zoomed-in graph view.

Choose one of two views from the selection at right of the graph display. The ***Service*** view shows a line graph of ***Failed Polls %*** and ***Response Time (ms)***.

The ***Distribution*** view shows a bar graph of response time distribution.



Interface Reports

There are two interface reports based on Percent Utilization and Bandwidth Usage (BPS). In some cases it may not be possible to calculate Percent Utilization because the line speed is not available or because it varies (e.g., in virtual circuits). In these cases the BPS report is more useful.

The following is an example of the BPS Usage report.

Node	Interface	Input Usage	Output Usage	Dropped
cisco	Serial0	6.63 K bps	7.11 K bps	<0.001 %
cisco	Ethernet0	7.96 K bps	7.27 K bps	<0.001 %
207.212.33.196	3Com 3C90x Ethernet ...	660 bps	334 bps	0 %
207.212.33.196	MS TCP Loopback inte...	0 bps	0 bps	0 %
Vaio	NETGEAR WAG511 802.1...	1.36 K bps	1.17 K bps	0 %
Vaio	Intel(R) PRO/100 VE ...	0 bps	0 bps	0 %
Vaio	MS TCP Loopback inte...	33 K bps	33 K bps	0 %
interop2	Intel(R) PRO/100 VE ...	2.19 K bps	2.44 K bps	0 %
cisco	Serial1	0 bps	0 bps	0 %
cisco	Null0	0 bps	0 bps	0 %
interop2	MS TCP Loopback inte...	19.8 K bps	19.8 K bps	0 %

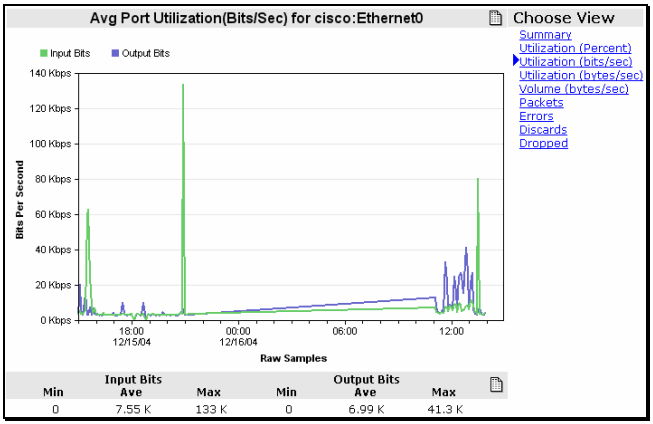
Select a name from the Interface column to view detailed port information, as shown below.

Device cisco
IP Address 207.212.33.19
Interface Name Ethernet0
Current Admin Status Up
Current Oper Status Up
Percent Uptime 100 %
Link Speed 10 M bps

Choose View
- Summary
- Utilization (Percent)
- Utilization (bits/sec)
- Utilization (bytes/sec)
- Volume (bytes/sec)
- Packets
- Errors
- Discards
- Dropped

	Input	Output
Average Utilization	0.07 %	0.07 %
Peak Utilization	1.33 %	0.58 %
Packets per Second	2.36 Kpps	1.78 Kpps
Average Packet Size	126 bytes	152 bytes
Errors	59	0
Discards	0	0
Total Dropped Packets	0.02 %	0 %

Select one of the views from the list at right of the port detail page. These views show various port metrics as line or bar graphs. The following is an example graph for Usage BPS.



Move the mouse over the graph and click on any interesting area. The graph will zoom in to the next more detailed time period. Note that when you do this the calendar control will change from the ***Minimized*** to ***Maximized*** mode.

Use the ***Previous*** and ***Next*** links in the ***Display Area Title Bar*** to move the time period backwards or forwards. Again, note that the calendar control changes to match the new selected time period.

You can always use the browser ***Back*** and ***Forward*** buttons to get back to your starting point. Or use the Calendar ***Min*** button and the ***Last Day (24 Hours)*** link to get back to the current time.

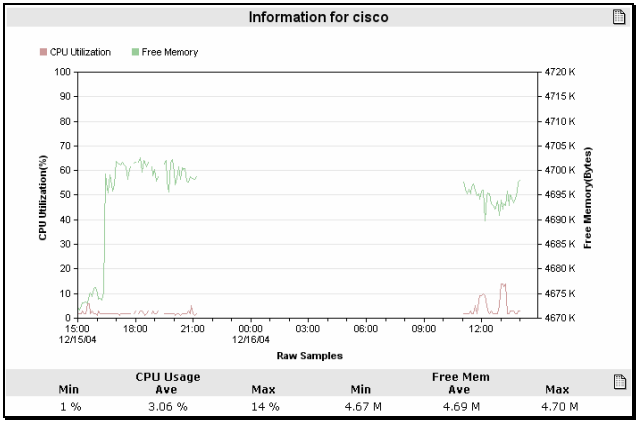
Cisco Router Report

The Cisco Router Report shows CPU and Memory usage statistics and some other basic system information. The following is an example Cisco Router Report.

Node	CPU	Free Mem	IOS	Image	Time Since Last Boot
cisco	3.06 %	4.69 M	12.2(16a)	flash:/c2500-i-l.122-16a.bin	258 days 00:30:20

Select one of the links under the ***CPU*** or ***Free Mem*** columns to show a zoomed-in graph of both variables.

Click on the graph to zoom in further and use the calendar and title bar ***Previous/Next*** links to change the time period.



Server CPU Report

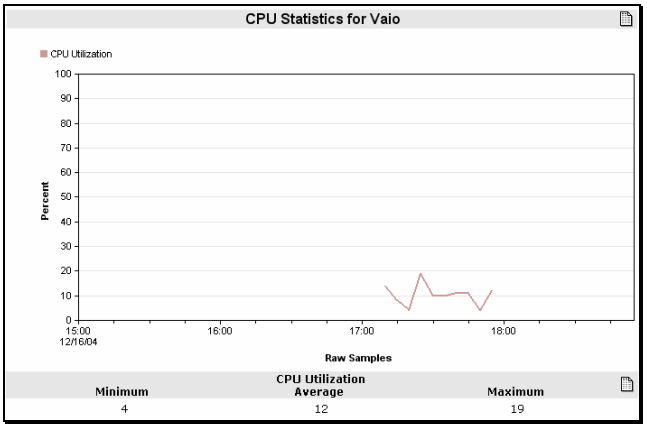
The Server CPU Report contains information gathered from Microsoft servers which have the Microsoft SNMP agent installed and running. The Server report shows the CPU usage for each processor on the system. The following is an example Server CPU Report.

Node	CPU	Usage
Vaio	3	12 %
interop2	2	0 %

Note that this report style and the ***Server Disk Report*** will also work with any device that supports the standard ***SNMP Host MIB.***

Select one of the labels under the CPU column to show a zoomed-in graph of CPU usage.

Click on the graph to zoom in further and use the calendar and title bar *Previous/Next* links to change the time period.



Server Disk Report

The Server Disk Report contains information gathered from Microsoft servers which have the Microsoft SNMP agent installed and running. The Server Disk report shows the information about mounted drives including the name, type, size and amount of free space. The following is an example Server Disk Report. Select one of the drive names to show a graph of free space for that drive.

Node	Drive	Disk Type	Size	Free
interop2	A:\	Removable	0	0
interop2	C:\ Label: Serial N...	Fixed	36.6 G	7.39 G
interop2	D:\	Removable	0	0
interop2	E:\	CD-ROM	0	0
interop2	F:\ Label:Backup Se...	Fixed	81.9 G	38.8 G
interop2	G:\	CD-ROM	0	0
interop2	H:\	Removable	0	0
interop2	I:\	Removable	0	0
interop2	J:\	Removable	0	0
Vaio	C:\ Label: Serial N...	Fixed	15 G	4.80 G
Vaio	D:\ Label: Serial N...	Fixed	25 G	12.5 G
Vaio	E:\ Label:HotBurn De...	CD-ROM	599 M	0
Vaio	F:\	Removable	0	0
Vaio	Virtual Memory	Virtual	1.31 G	1.31 G

Report Summaries

SNMPc OnLine provides two types of Summaries views, ***Report*** and ***Node***. Use the ***Summary*** view name under a report group to show a ***Report Group Summary*** for all reports in that group. From any displayed view, select a ***Node Name Link*** to show a ***Node Summary*** for that node.

Report Group Summary

The ***Report Group Summary*** view shows a top-N display of all built-in reports in the SNMPc OnLine Demo report group. This is a fixed report that exists under all trend report groups. The following is a partial display of an example Summary report.

Top 5 Availability Response

Node	Instance	Resp. Time
cisco	Poll	6.36 ms
interop2	Web	2.43 ms
207.212.33.196	Poll	2 ms
interop2	Poll	2 ms
interop2	Smtp	1.03 ms

Top 5 Interface Input Percent

Node	Instance	Input Util
cisco	Serial0	0.40 %
Vaio	MS TCP Loopb...	0.34 %
interop2	MS TCP Loopb...	0.19 %
cisco	Ethernet0	0.07 %
Vaio	NETGEAR WAG5...	0 %

Top 5 Availability

Node	Instance	Downtime
207.212.33.196	Poll	86.6 %
cisco	Poll	86.6 %
interop2	Poll	86.6 %
Vaio	Poll	86.2 %
Vaio	Smtp	0 %

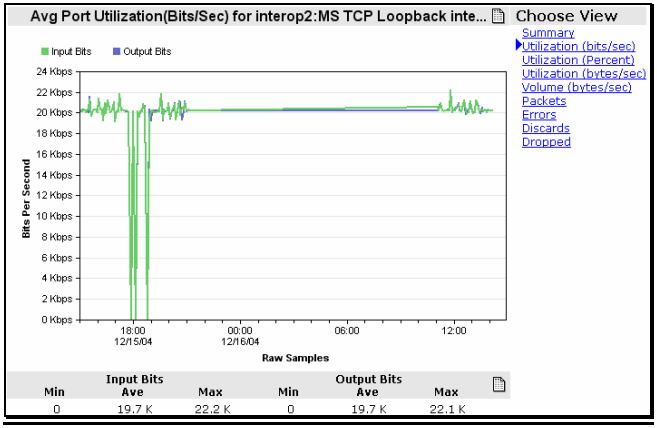
Top 5 Interface Output Percent

Node	Instance	Output Util
cisco	Serial0	0.43 %
Vaio	MS TCP Loopb...	0.34 %
interop2	MS TCP Loopb...	0.19 %
cisco	Ethernet0	0.06 %
Vaio	NETGEAR WAG5...	0.01 %

Each report is represented by a ***mini report view*** that includes the device name, table instance name, one statistic column and a bar graphic representing the statistic value. There are several mini views available for each of the related trend reports, representing the different statistic variables in each report.

Select any instance or statistic value to show a zoomed-in graph view. A formatted graph will be shown for the associated built-in report.

The example at right shows an Interface Report graph, which would be shown if you select any of the Top-N Interface mini-view links.

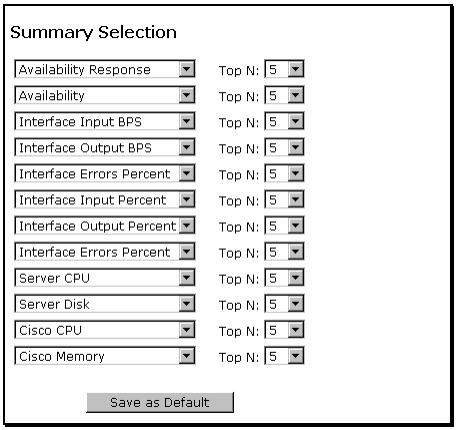


Use the ***Formatted/Design*** button to show the configuration screen for the Summary view.

Use the ***Mini View*** pull-down lists to select which report mini-views you want included in the summary.

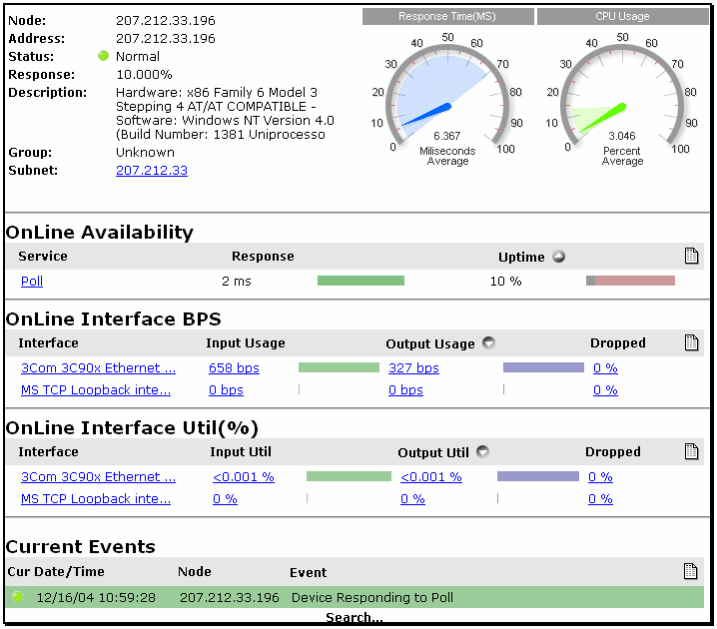
Use the ***Top N*** pull-down lists to select how many entries to show in each mini-view.

Press the ***Save as Default*** button to save your changes. Press the ***Formatted/Design*** button to view the summary selection without saving.



Node Summary

Select any ***Node Name Link*** in any view (map, event, trend report) to show a report summary for that node. The ***Node Summary*** view includes some basic information about the node, two dials showing poll response and CPU usage (for Server and Cisco systems), a summary of each trend report for the node, and a display of active events for the node. The following is an example Node Summary view.



Select any active link in this view to display the associated full view. The node summary is a particularly useful view to use as a shortcut, whereby you can create a list of quick links for your most important nodes.

Router and Server Dashboards

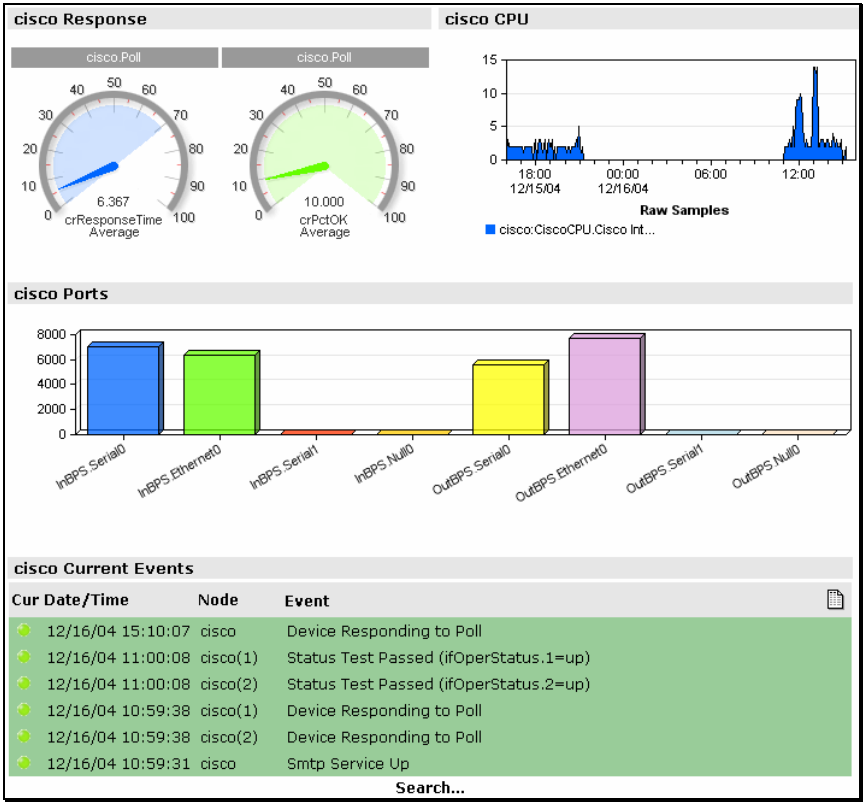
Introduction

Dashboard Views include a customizable collection of ***Mini-Views*** of map, event, and trend report views. Dashboard views can be added to any trend report group (SNMPc OnLine Demo and below) and are shown in ***italics*** immediately beneath the report group ***Summary*** link.

SNMPc OnLine creates two example dashboards, one for a Cisco Router and one for a Microsoft Server. If you do not have devices of one or both of these types then these dashboards will not be created. Note that these dashboards are for demonstration purposes only. You must manually create any other dashboards, as described in the ***Custom Dashboard Views*** section later in this document.

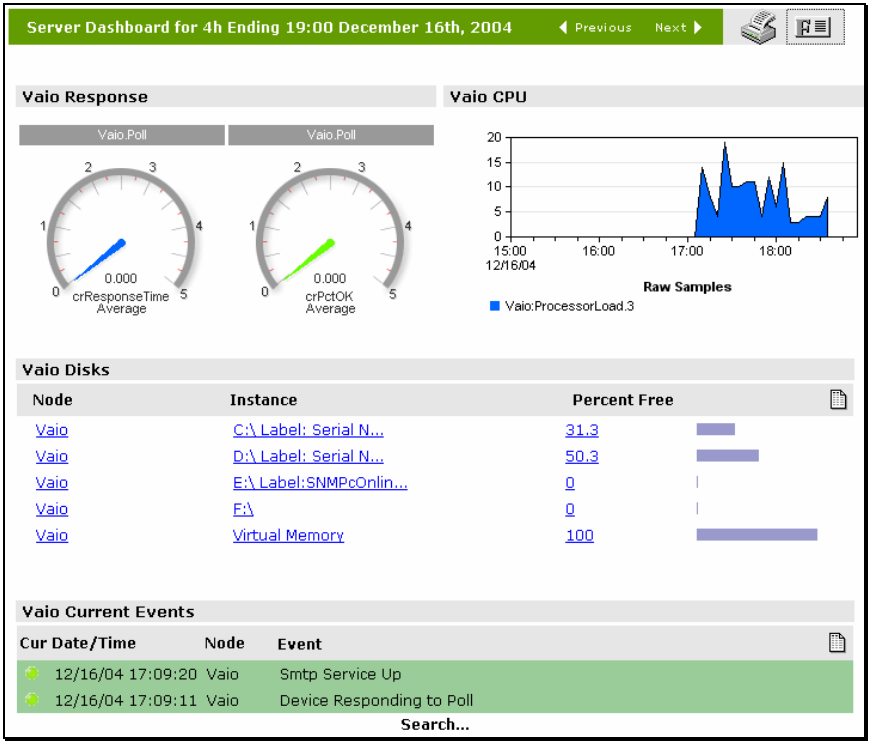
Router Dashboard

The ***Router Dashboard*** includes a selection of useful views for a Cisco router. At the top are two dials showing ***Response Time*** and ***Percent Uptime***, followed by an area graph of ***CPU usage***. In the center is a bar graph for ***Interface BPS Usage*** and at the end is a ***Current Event View*** for the router. The following shows an example of the Router Dashboard.



Server Dashboard

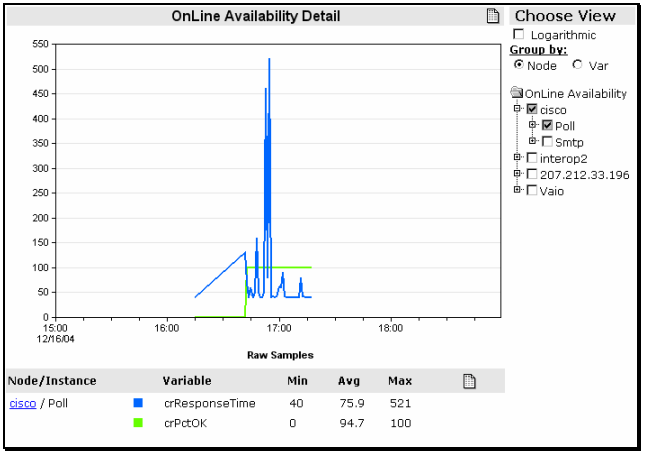
The ***Server Dashboard*** includes a selection of useful views for a Microsoft server. At the top are two dials showing ***Response Time*** and ***Percent Uptime***, followed by an area graph of ***CPU usage***. In the center is a table of disk drive ***Percent Free Space*** and at the end is a ***Current Event View*** for the server. The following shows an example of the Server Dashboard.



Click on any link or graphic in a dashboard mini-view to show an expanded view.

Dashboard mini-views only work with specific variables and instances so there is no direct connection to a formatted built-in report. Therefore the expanded graph view is always shown in the generic style.

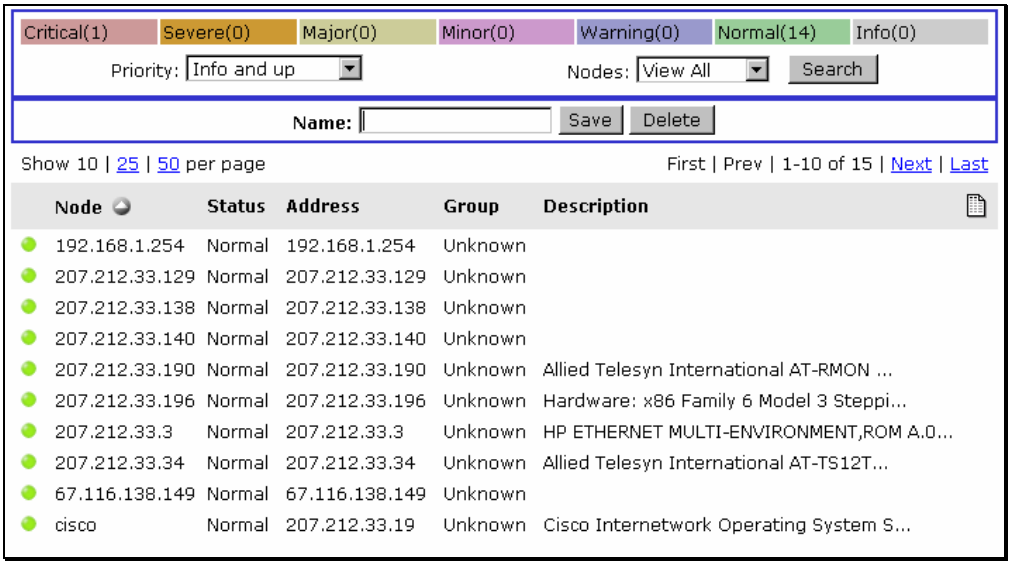
The image at right shows an example expanded view for the ***Response Time*** dial.



Custom Map Views

Use the <***Search***> link in the ***Map Views*** group to show an advanced map search dialog. From this dialog you can specify various search criteria to show a map view that matches your requirements. For example, you can display nodes that have active critical events, nodes that match a name pattern string, or nodes contained in a particular submap or node group.

The following shows the Map Search selection dialog.



The row of colored rectangles at the top shows the different event priorities and how many active events of each type exist. Beneath are two pull-down lists for event priority and node match criteria.

Depending on which node match style you select another pull-down or text box will be displayed to let you enter additional matching information. For names you can use the asterisk (*) character as a wildcard.

Selecting from a pull-down list will perform the search automatically. If you are entering text in an edit box, press the ***Search*** button to start the search. You can use the browser ***Back*** button to return to the search dialog and make further changes. Alternatively, use the ***Formatted/Design*** button to switch between the search results and search dialog.

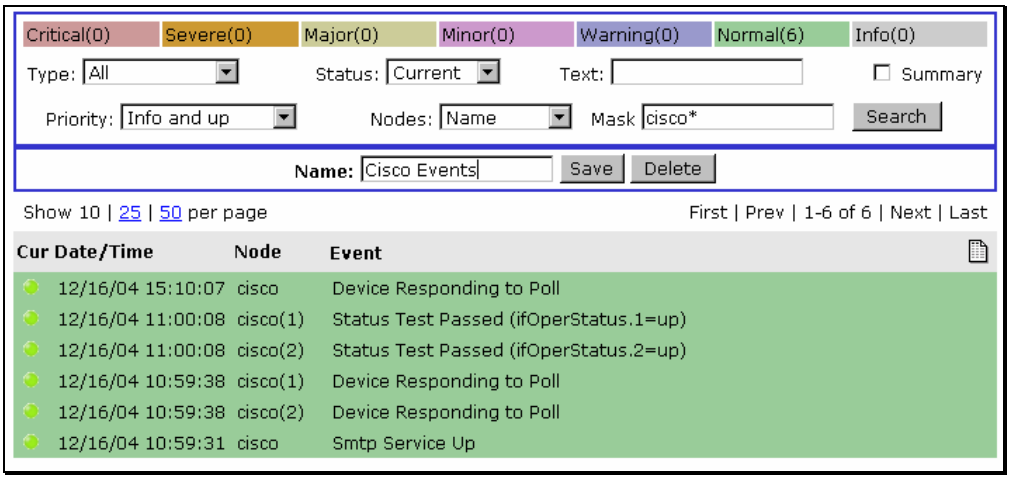
Enter a name in the ***Name*** edit box and press the ***Save*** button to save your search for future use. The custom view names are shown in ***italics*** in the Map Views group.

To edit a custom map view, first display the view and then use the ***Formatted/Design*** button to show the search dialog for that view. Make your changes and press ***Save***. Or press the ***Delete*** button to remove the custom view.

Custom Event Views

Use the <***Search***> link in the ***Event Views*** group to show an advanced event log search dialog. From this dialog you can specify various search criteria to show an event view that matches your requirements. For example, you can display events for nodes that have active critical events, for nodes that match a name pattern string, or for nodes contained in a particular trend report or node group.

The following shows the Event Search selection dialog.



The row of colored rectangles at the top shows the different event priorities and how many active events of each type exist. Use the pull-down lists and edit boxes below to specify your event matching criteria.

Use the ***Summary*** checkbox to display an event summary instead of a list of events. The event summary shows each event type once with a count of duplicate events in a new column at left.

Press the ***Search*** button to display the results of your match criteria. You can use the browser ***Back*** button to return to the search dialog and make further changes. Alternatively, use the ***Formatted/Design*** button to switch between the search results and search dialog.

Enter a name in the ***Name*** edit box and press the ***Save*** button to save your search for future use. The custom view names are shown in ***italics*** in the Map Views group.

To edit a custom event view, first display the view and then use the ***Formatted/Design*** button to show the search dialog for that view. Make your changes and press ***Save***. Or press the ***Delete*** button to remove the custom view.

Custom Dashboard Views

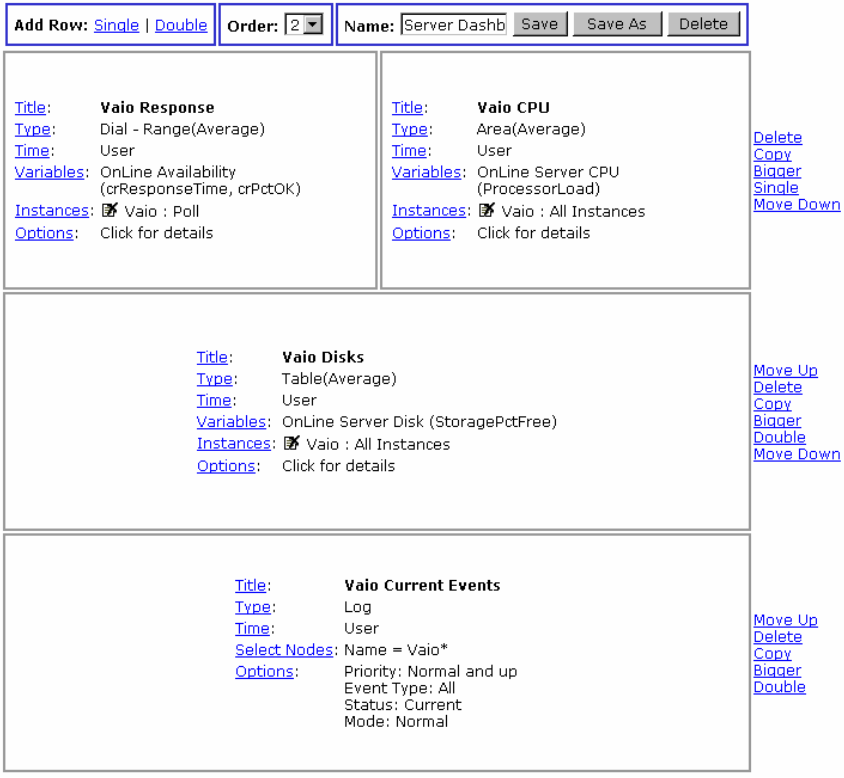
Introduction

Dashboard Views include a customizable collection of ***Mini-Views*** of map, event, and trend report views. Dashboard views can be added to any trend report group (i.e., SNMPc OnLine Demo and below) and are shown in ***italics*** immediately beneath the report group ***Summary*** link.

- To ***Create*** a new dashboard, use the <***custom***> link at the end of any trend report group.

- To ***Edit*** an existing dashboard, first select a dashboard view name such as the ***Router*** or ***Server*** dashboards in the ***SNMPc OnLine Demo*** group. Then use the ***Formatted/Design*** button to show the dashboard configuration screen.

Use the controls in the configuration screen to add and delete components of the dashboard, to rearrange the layout, or to modify individual cells. The following is an example of a dashboard configuration screen for the demonstration Server dashboard.



Adding and Arranging Cells

A dashboard is divided into multiple independent cells arranged in a symmetrical grid. Each row in a dashboard can have one or two cells. Each row can be small or large height. All cells in the same row must be the same height.

The topmost frame is always displayed and contains controls that make global changes to the dashboard as follows:

- Use the ***Single*** link to add a small row with one cell.
- Use the ***Double*** link to add a small row with two cells.
- Use the ***Order*** pull-down list to set the order of the dashboard name in the report group.
- Set a name for the dashboard in the ***Name*** edit box.
- Use the ***Save*** button to save your changes to the current dashboard.
- Use the ***Save As*** button to save the dashboard to a new name (i.e., make a copy)
- Use the ***Delete*** button to delete the dashboard.

After adding some cells to the configuration screen, use the links at right to resize and rearrange them as follows:

- Use the ***Move Up*** and ***Move Down*** links to move the row up or down one level.
- Use the ***Delete*** link to remove the entire row.
- Use the ***Copy*** link to make a new row with the same attributes.
- Use the ***Bigger*** link to change all cells in the row to the large height size.
- Use the ***Smaller*** link to change all cells in the row to the smaller height size.
- Use the ***Double*** link to split a single cell row into two cells. The second cell will have the same attributes as the original.
- Use the ***Single*** link to convert a row of two cells into two rows of full width cells.

Use the ***Formatted/Design*** button to switch between the view and configuration modes. This lets you view your changes before committing to save them permanently. Note that if you select a different view to display (e.g., map, event, trend report) without pressing the ***Save*** or ***Save As*** button, your changes will be lost.

Changing Individual Cells

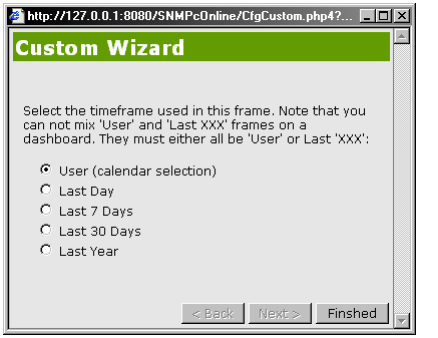
Each cell in a dashboard is completely independent of all others and can display data in a variety of formats for one or more nodes and one or more variable instances. Use the controls inside the cell to specify what the cell displays and the format of the display. Each control shows a wizard screen to help you make your selections.

- Use the ***Title*** link to change the name of the cell.
- Use the ***Time*** link to set the time period used by the cell (fixed or calendar based).
- Use the ***Type*** link to set the display type (map, log, table, pie, dial, etc.)
- Use the ***Variables*** link to set the SNMP variables used in the cell.
- Use the ***Instances*** link to add node and variable instances to the cell
- Use the ***Select Nodes*** link to set the nodes used in a Map or Log cell.
- Use the ***Options*** link to set display options for different cell Types.

Setting the Time Period for a Cell

Use the ***Time*** link to set the cell time period. The time period can either be fixed for all cells or calendar based (User selection) for all cells. However, in the fixed case, each cell can use a different fixed period.

In general you would use different fixed periods for different cells that otherwise have the same attributes. For example, you could have two graphs of an interface usage report that shows the last day and last month to provide a current and historical view for the same port.

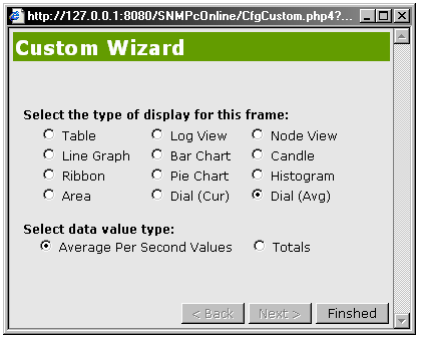


Setting the Display Type

Use the ***Type*** link to set the cell display type. The basic types are ***Table***, ***Log View***, ***Node (Map) View***, and ***Graph***.

For Graph types there are further subtypes of line graph, bar chart, dial and so on.

Select the data value type as ***Average Per Second*** for graphs such as line and ribbon, or ***Totals*** for styles such as pie and bar charts.

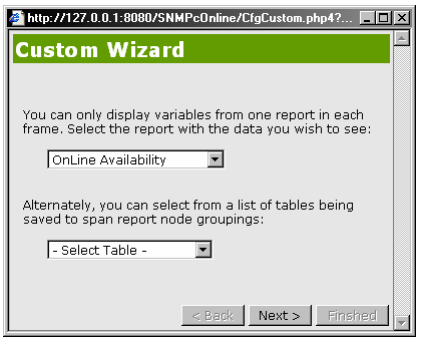


Setting the Variables

Use the ***Variables*** link to set the SNMP variables used in the cell.

Select a trend report from the first pull-down list to only show nodes and variables from that report. This list only includes reports in the group where you are adding the dashboard.

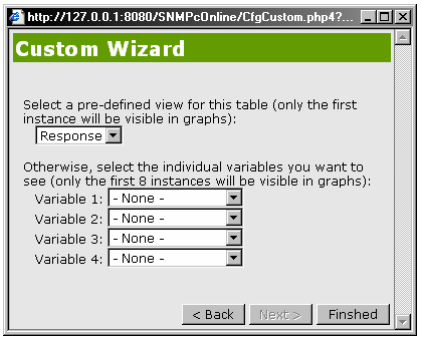
Select an SNMP table from the second pull-down list if you want to include nodes from different reports in the cell.



After selecting the base report or table press the ***Next*** button to move to select specific variables to display in the cell.

The next screen in this wizard lets you select from a list of built-in ***Mini-Views*** for the report or individual variables contained in the report.

The mini-views are only available for SNMPc OnLine built-in reports. If you are using a legacy SNMPc trend report or a report that uses a manually selected SNMP table, you will need to select specific variables from the four ***Variable*** pull-down lists.



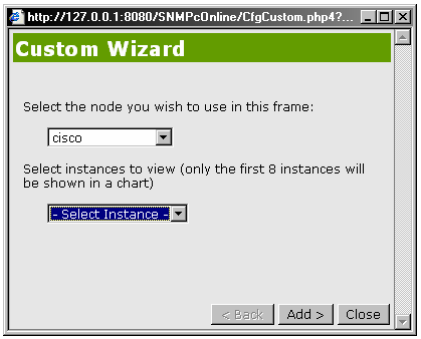
Setting the Device and Variable Instances

Use the ***Instances*** link to specify the nodes and variable instances to show in the cell.

Select a node name from the first pull-down list. Only nodes that have data saved for the selected report or variables will be available.

Select an instance name from the second pull-down list.

Press the ***Add*** button to add the selected node/instance pair. This will close the wizard.

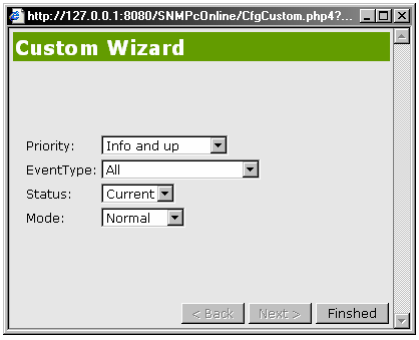


For graph displays you can have up to eight instances per cell. Use the ***Instances*** link to add more instances. Each node/instance pair is listed in the cell configuration screen. Use the ***Delete Graphic*** to the left of the node/instance name to remove an instance from the cell.

Setting Display Options

Depending on what attributes you have selected for the cell, there may be optional styles you can set. Use the Options link to view the available options.

- Event log options include the event priority, event type, active status and table/summary style.
- Graph options include line colors for different variable instances.
- Table options include sorting variable and direction.



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