

Alteon EMS 3.1.1.0

User's Guide

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Overview

The Alteon Element Management System (EMS) provides a graphical user interface for managing networking devices with Simple Network Management Protocol (SNMP). This document provides an overview of how to use Alteon EMS.

Alteon EMS allows you to remotely manage an Alteon switch, just as though you were in the wiring closet. It makes retrieval of configuration information from a device a point-and-click operation.

Select a Topic

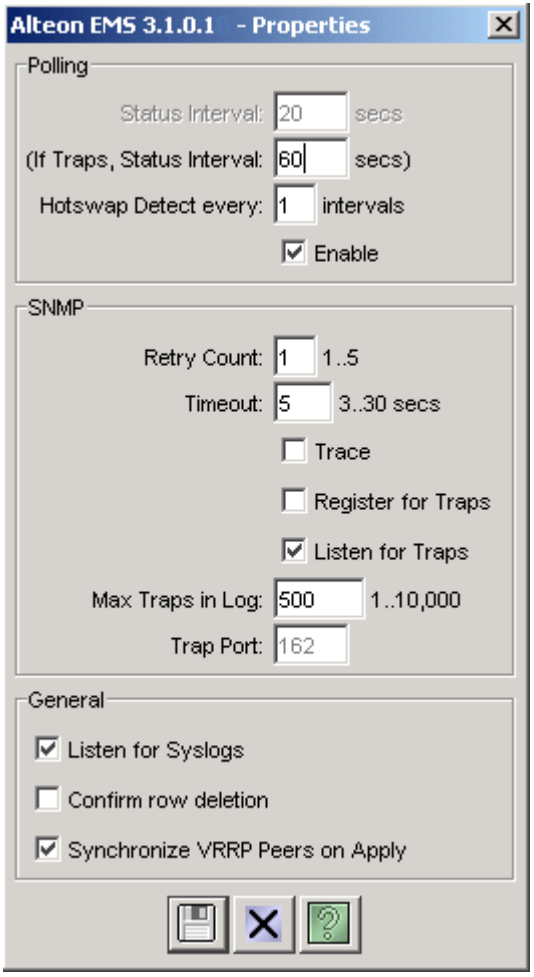
- "Setting the Alteon EMS properties" on page 6
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Setting the Alteon EMS properties

Alteon EMS uses the Simple Network Management Protocol (SNMP) to configure and manage Alteon switches. You can use the Alteon Properties dialog box to configure important communication parameters such as the polling interval, time-out, and retry count. You can set these parameters at any time before or after you open a device.

To set the Alteon EMS properties:

1 From the Alteon EMS window menu bar, choose **Alteon> Properties**



2 Select properties you want to change and set their values.

3 Click the Save button.

Note: Each switch can have its own Polling/Retry Count, Time-out and Trace values. The root properties are from default settings.

Properties dialog box fields

Polling

Field	Description
Status Interval	Interval at which statistics and status information are gathered.
(If Traps, Status Interval)	If the Register for Traps box is checked, interval, in seconds, at which statistics and status information are gathered.
Hotswap Detect	The multiples of polling intervals between the hotswaps.
Enable	If checked, Alteon EMS will poll the switch according to the settings listed above the Enable box.

SNMP Information

Field	Description
Retry Count	The number of times Alteon EMS will retransmit any SNMP message before reporting a `timeout` message.
Timeout	Length of time between each retry of each SNMP waiting period, from 3 to 30 seconds. If you set the retry count to 2 and the time-out value to 5 seconds, Alteon EMS will report a `timeout` (no response from the switch) after 10 seconds.
Trace	If checked, Alteon EMS sends detailed SNMP information to the log.
Register for Traps	If checked, Alteon EMS will attempt to register the client's IP address to one of the trap hosts' IP fields. You only need to `apply` if the changes are new.
Listen for Traps	If checked, Alteon EMS will listen for traps and will attempt to hook to the trap port 162.
Max Traps in Log	The specified number of traps that may exist in the trap log. The default is 500.
Trap Port	The number of the port on which trap messages will be captured. The default is 162.

General Information

Field	Description
Listen for Syslogs	If checked, Alteon EMS will listen for syslogs and will attempt to hook to the syslog port 514.
Confirm row deletion	If checked, Alteon EMS will request that you confirm that you wish to delete a row.
Synchronize VRRP Peers on Apply	If checked, the switch will synchronize the SLB, filter, and VRRP configuration on a peer switch on `Apply`. To take effect, peers must be configured on the switches and the administrator password on the switches must be identical.

See Also

- "Opening a Device" on page 10
- "Understanding the Alteon EMS Display" on page 13

Opening a Device

4 Identify the device by typing the DNS name or IP address of the device in the Device Name field.

5 Type the proper community strings in the Read Community and Write Community fields. The default strings are `public` and `private`, respectively.

6 Click the Open button at the bottom of the Open Device dialog.

7 Optionally, you may click the Ping button to check if the switch is reachable on the network.

8 If you want to connect to the switch by Telnet, click on the Telnet button.

If the switch is not available an error message will appear.

Enabling SNMPv3

Configure your switch with SNMP version 3 (SNMPv3) to use this feature.

Note: Please refer to *Alteon OS Command Reference* to configure your switch with SNMPv3.

To enable SNMPv3:



1. Check the box in front of **v3 Enabled**.
2. Enter the user name and password according to the security protocol you use.
3. Select authentication protocol. The options are `None`, `MD5`, and `SHA-96`.
4. Enter authentication password.
5. Enter authentication protocol. The options are: `None` and `DES`.
6. Enter the privacy password.

Opening a previously opened switch

Any switch that you have successfully opened before will appear as a folder icon in the left-hand tree control navigation pane. Simply click on the device folder icon that appears in the left-hand tree control pane.

To continue, go to:

- "Troubleshooting the Opening of a Device" on page 12

Troubleshooting the Opening of a Device

If a device does not open, Alteon EMS displays a time-out message.



To troubleshoot opening a device:

- In slower networks, increase the retransmission retries and time-out interval.
- In the Open Device dialog box, make sure you entered the correct read and write community strings.
- If you cannot reach the switch through an IP address, check the following:
  - Is the switch connected to the network?
  - Is the switch turned on?
  - Does the switch have an incorrect IP address?
  - Is the correct IP address specified in the Open Device field in Alteon EMS?
  - Is the network misconfigured?
  - Is SNMP enabled on the switch? Telnet to the switch through CLI (if Telnet is enabled on the switch) and use the command, `/cfg/sys/snmp w` (or `/cfg/sys/access/snmp`, depending upon the version of Alteon OS) to enable SNMP.
  - Is the switch blocking access from this IP address?
  - Is the SNMPv3 login information correct?

See also

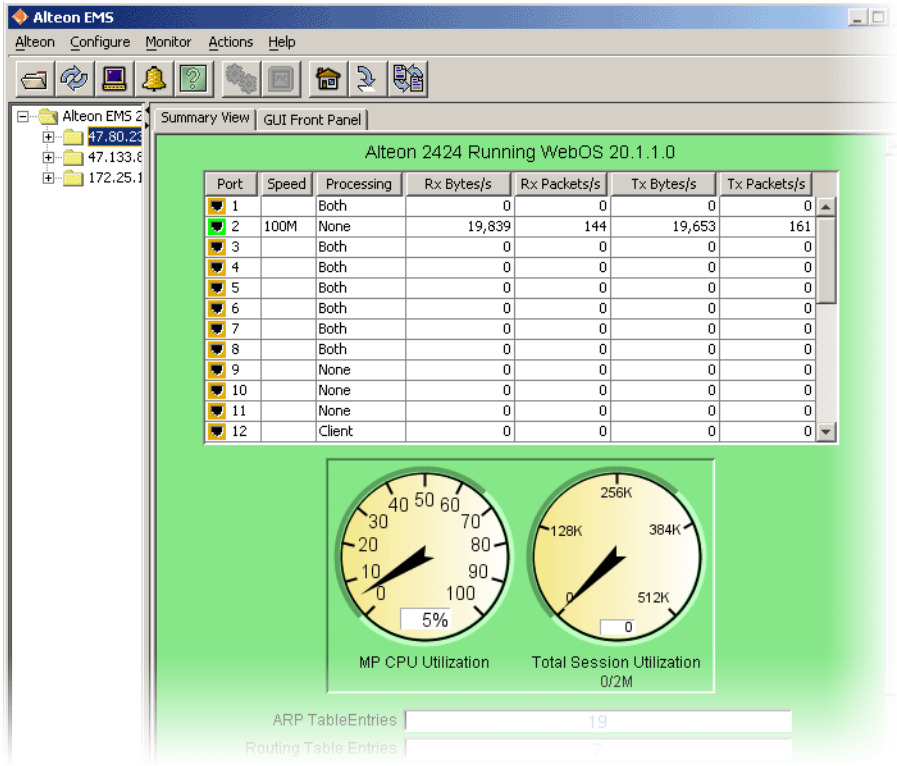
- "Setting the Alteon EMS properties" on page 6
- "Opening a Device" on page 10

Understanding the Alteon EMS Display

After opening a switch, a two-framed window appears. The window contains a menu bar and a tool bar on the top, a left tree control and a right dialog display panel.

The left tree control pane displays a switch icon as a folder followed by its name or IP address. The tree control displays a history of all switches you have opened with Alteon EMS.

The right panel will display dialogs associated with the tree nodes in the tree control pane.



To continue, go to:

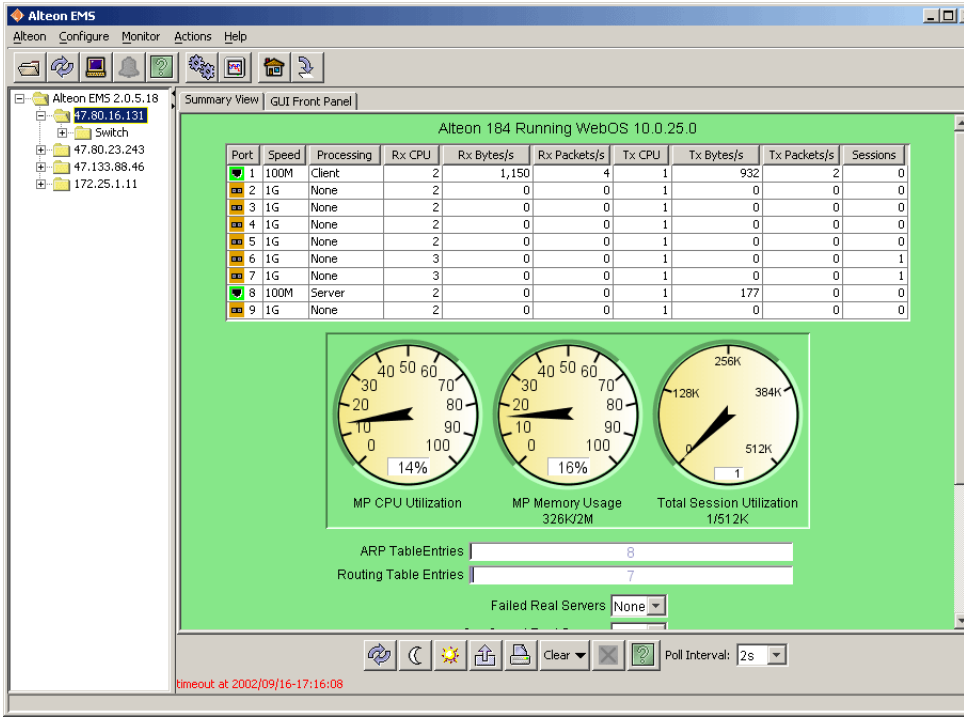
- "Summary View" on page 15
- "GUI Front Panel View" on page 16
- "Tool bar buttons" on page 17
- "Menu Bar" on page 22
- "Tree Preferences" on page 36
- "Tearing off a dialog panel" on page 38
- "Docking a dialog panel" on page 41
- "Polling Data" on page 52
- "Graphing Data" on page 54
- "Exporting Data" on page 57

Summary View

The switch initially displays the summary view in the right panel, for the switch you have selected. The window and the panes can be adjusted to any size.

For a detailed description of the items in the Summary View, click on the Help button at the bottom of the Summary View window.

The following is a display of an Alteon 184 web switch.



Note: The features shown on the Summary View screen will differ depending on model of Alteon switch you are viewing. There are hardware architecture differences between the Alteon 2000 series application switches and the Alteon AD or 180 series Web switches.

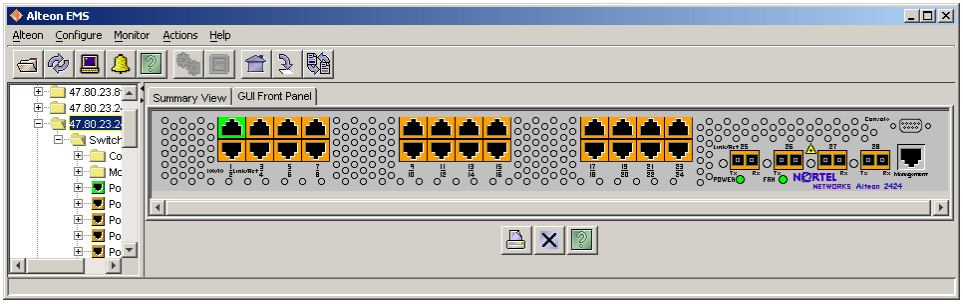
GUI Front Panel View

The GUI Front Panel tab allows you to view a physical representation of the selected switch.

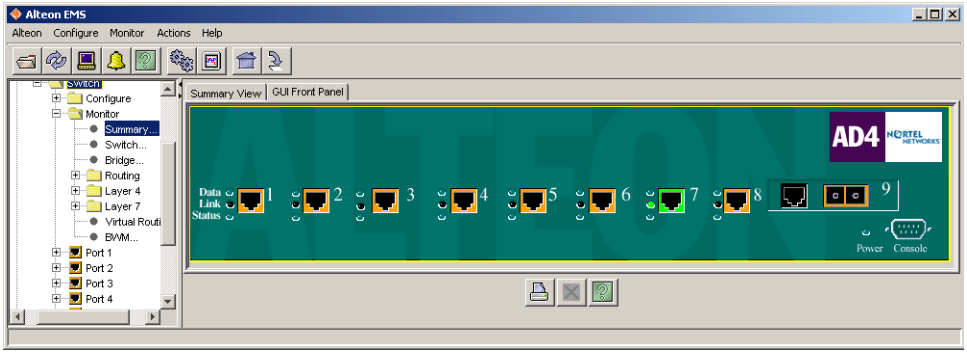
Features

- You can click on any port to open the General port configuration tab for the selected port.
- You can Ctrl-click to select specific ports, or drag across a group of ports to open the port configuration tabs for the selected ports.

Front Panel of an Alteon Application Switch 2424



Front Panel of an Alteon AD4 Web Switch



Tool bar buttons

This section describes the features of the tool bar buttons.

Table 1 Toolbar buttons

Button	Name	Description	Menu equivalent
	Open	Opens a switch. This requires the address or the domain name of the switch and the community strings.	Alteon > Open
	Refresh Status	Refreshes the status of the switch as displayed in Alteon EMS.	Alteon > Refresh Status
	Telnet	Opens a Telnet session to the switch.	Alteon > Telnet
	Trap Log	Opens the trap log.	Alteon > Trap Log
	Help	Opens Using EMS online Help in a Web browser window. This button is also available in each EMS window for context-sensitive Help.	Help > Contents

Table 1 Toolbar buttons (Continued)

Button	Name	Description	Menu equivalent
	Configure	Provides access to configuration commands for either the port or the switch. **Switch:** To configure the switch, click the Configure button. **Port:** To configure single or multiple ports, select the desired port(s) and click the Configure button. • To select multiple nonadjacent ports, hold the **Ctrl** key while selecting the desired ports, then click the Configure button. • To configure adjacent ports from the GUI front panel view, click and drag the mouse over the desired elements to select them. Then click the Configure button. You could also use the shift key+mouse click to select multiple ports in the tree panel.	Configure > Switch Configure > Port
	Monitor	Monitors the performance of either the port or the switch. **Switch:** To monitor the switch, click the Monitor button. **Port:** To monitor single or multiple ports, select the desired port(s) and click the Monitor button. • To select multiple nonadjacent ports, hold the **Ctrl** key while selecting the desired ports, then click the Monitor button. • To monitor adjacent ports from the GUI front panel view, click and drag the mouse over the desired elements. The ports that are inside the rectangle will be selected. Then click the Monitor button.	Monitor > Switch Monitor > Port

Table 1 Toolbar buttons (Continued)

Button	Name	Description	Menu equivalent
	Browse Home Page	Opens the Browser-Based Interface to the switch. To access the BBI, use the CLI command, `/cfg/sys/access/http e` to configure the switch to allow HTTP traffic.	Actions > Open Home Page
	Browse Secure Home Page [1]	Opens the secure home page to the switch. To access the secure home page, use the CLI menu: `/cfg/sys/access/https` to configure the switch to allow HTTPS traffic. Refer to *Alteon OS Command Reference* for detailed information on this menu.	Actions > Open Secure Home Page
	AAS 2424-SSL [2]	This button will launch your browser and bring up the home page of the SSL accelerator portion of Alteon Application Switch 2424-SSL using HTTPs.	Actions > Open AAS 2424-SSL
	Apply Configuration	The Apply Configuration operation causes the entire New Configuration to be copied to the Current Configuration. This causes the switch to operate with the new settings. At this point, the New and Current configurations are identical.	Actions > Apply Configuration
	Diff Config [3]	Displays the difference between the Active (Current) Configuration and the New Configuration	Actions > Diff Config

1. The Browse Secure Home Page button is available only on Alteon OS 22.0.1.0 and higher.
2. The AAS 2424-SSL button is available only on Alteon Application Switch 2424 - SSL.
3. The Diff Config button is available only on Alteon Application Switches.

EMS Window buttons

This section describes the buttons that appear specifically on EMS windows and tabs. Not all buttons appear in every window.

Button	Name	Description	Menu equivalent
	Set	The **set** operation causes the changed field values to be set into the New Configuration of the switch. These changes will not take effect until they are applied.	Not applicable
	Modify	When you select a row and select the modify button, the fields of an edit form are filled with the data of the selected row.	Not applicable
	Apply	The apply operation causes the entire New Configuration to be copied to the Current Configuration. This causes the switch to operate with the new settings. At this point, the New and Current configurations are identical.	Actions > Apply Configuration
	Refresh	Throws away all the data and retrieves the current data from the switch again.	Not applicable
	Insert	Inserts a new row of data in an Edit table. Clicking the Insert button opens a separate window in which you will enter data that will appear in the Edit table. Examples are tabs such as IP Routing Interfaces, VLANs, Gateways, and Layer 4 Filters.	Not applicable
	Delete Selected Rows	Lets you select and delete a single or multiple rows of a table.	Not applicable
	Filter	Lets you configure a filtered view (subset) of table data based on complex AND / OR operations are allowed. The filter has only an effect on the visual display of the table and no effect at all on the configuration.	Not applicable

Button	Name	Description	Menu equivalent
	Copy	Copies data to paste on similar section on any other table.	Not applicable
	Paste	Pastes the copied data. This is different from Drag and Drop. For example, you can copy a disabled string and select a column that accepts the disabled string and paste. All the selected rows of that column will be changed to disable.	Not applicable
	Reset Changes	Restores the original values since the last modified data.	Not applicable
	Export Table Data	Exports the table data in to a text file. Launches a window that lets you choose the name and location of this file.	Not applicable
	Print	Opens the Print dialog so that you can print the current page	Not applicable
	Close	Closes the window. If docked, closes and reopens. If torn off, closes dialog.	Actions > Close
	Help	In a specific window or tab, this button opens context-sensitive Help in a Web browser window.	Not applicable

Note: The field names and column names that are in italics on this page mean `apply` not needed to take effect for those fields.

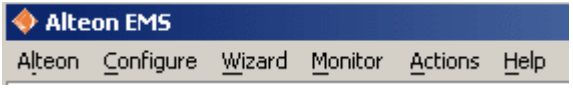
Menu Bar

The menu bar on the Alteon EMS window provides menus with commands that let you monitor a device.

Menu Bar on Alteon Application Switches:



Menu Bar on Alteon Link Optimizer (ALO) Switch:



Note: Configure and Monitor menu options are explained in details in EMS help documents.

Table 2 Alteon EMS Menu Bar Description

Menu	Description
Alteon	The Alteon menu lets you open a device, refresh the device view, and set polling and SNMP properties.This menu also allows you to set Tree preferences, refresh status, rediscover device, Telnet, open and view the Trap Log, Syslog, and Log, export, import, and clear preferences, and close the EMS application with the exit command.
Configure	The Configure menu allows you to configure the Switch. For details about configuration commands, select Help and Contents in the Alteon EMS menu bar.
Wizard	This menu will appear only if you are using Alteon Link Optimizer (ALO) switch. The wizard allows you to set up the switch configuration in one shot. The process is similar to the "Set Up" command in the Command Line Interface (CLI). The Wizard menu launches the initial configuration wizard. This is a one-time action that you can perform while installing a new ALO switch. You cannot use the Wizard to modify an existing Link load balance configuration. If you want to use the Wizard for the second time, you will need to revert the switch to factory default configuration.

Table 2 Alteon EMS Menu Bar Description

Menu	Description
Monitor	The Monitor menu allows you to monitor the performance of the Switch. For more information, see the Monitor section. For detailed information about the commands, select Help and Contents in the Alteon EMS menu bar.
Actions	The Actions menu allows you to perform actions such as opening the switch home page (browser-based interface), applying a configuration, saving a configuration with backup. For details, see the link to the Actions Menu options below.
Help	The Help menu allows you to access online help Contents, Online Support, and Legend. For details, see the link to the Help Menu options below.

To continue, go to:

- "Alteon Menu Options" on page 24
- "Actions Menu Options" on page 26
- "Help Menu Options" on page 29

Alteon Menu Options

Table 3 Alteon Menu Options

	Menu	Description
	Open	Brings up a box that allows you to change the IP address of the switch, the Read Community string, and the write community string. The four buttons at the bottom of this box allow you to open, ping, telnet and close the device.
	Open Last	Brings up a window that allows you to see and select the IP address of any of the switches you used in the last several days.
	Properties	Brings up a window that allows you to change polling and SNMP information. The three buttons at the bottom of this box allow you to save the changed information, close this window, and ask for help.
	Tree Preferences	Allows you to choose the Tree Node Sort Preferences namely: System name, Device Name, IP address, System Description, and the version, if any.
	Refresh Status	Refreshes the EMS window with the latest changes.
	Rediscover Device	Closes all open windows.
	Telnet	Opens the Telnet window where you can enter your password and Telnet into the switch.
	Trap Log...	Brings up the Trap Log window with four tabs: Node, Time, Type, and description. You can double-click on each cell to see its full description. Three buttons at the bottom of the window allow you to export the trap log, close the trap log window, and ask for help.
	Syslog...	Brings up the syslog window with five tabs: Node, Node time, Time, Severity, and Description. The three buttons at the bottom allow you to export the syslog, close the syslog window and ask for help.

Table 3 Alteon Menu Options

	Menu	Description
	Log...	Brings up the Log window. The four buttons at the bottom allow you to clear information, save information, view SNMP statistics and close the window.
	Export Preferences	Opens up the export preferences window. This window allows you to export all your preferences to a destination file that can be stored on your system. You can use this file copy your preferences on another system or just to have a backup copy.
	Import Preferences	Opens up the import preferences window. You can import preferences from another system using this window.
	Clear Preferences	Opens up a small message window asking if you are sure you want to clear all preferences. You can erase all the preferences from your system with this option.
	Exit	Closes the EMS application on your system.

Actions Menu Options

Table 4 Actions menu options

	Menu	Description
	Open Home Page	Opens the home page of the opened switch. The "home page" is the main page of the switch's Browser Based Interface (BBI). In order to view the home page, enable HTTP traffic on the switch from the command-line interface.
	Open Secure Home Page [9]	Opens the secure home page of the opened switch. In order to view the secure home page, enable HTTPS traffic on the switch from the command-line interface using the menu: `/cfg/sys/access/https`.
	Open AAS 2424 SSL Home Page	Opens the Home Page for Alteon Application Switch 2424-SSL only.
	Apply Configuration	Applies the configurations that have been set.
	Save Configuration (backup)	Saves the current configuration in backup memory, then saves the active configuration by overwriting the current configuration.
	Save Configuration (no backup)	Saves the current configuration in flash memory.
	Revert	Reverts the switch to the current active configuration. This is available if the new configuration settings were not applied.
	Revert Apply	Reverts the switch to the current saved configuration. This is available if the new configuration settings were applied but not saved.
	Reset Switch [1]	Reloads and saves the current RAM memory. This is similar to recycling the power of the switch.
	Cold Reset Switch [2]	Reloads and saves the current RAM memory. This is similar to recycling the power of the switch. Using this button, you can get the maintenance kernel option.

Table 4 Actions menu options

	Menu	Description
	Warm Reset Switch [3]	Reloads and saves the current RAM memory like a regular reset.
	Diff Config [4]	Brings up a window showing the pending configuration changes.
	Diff Flash [5]	Brings up a window showing the pending configuration changes, and the affected configuration stored in flash memory on the switch.
	Configuration Dump [6]	Dumps the current switch configuration to a separate console window. You can then choose to save the configuration to a text file, or print it.
	Clear SLB All SPs Non-Operational Statistics [7]	Clears all SPs non-operational SLB statistics on the Web switch, resetting them to zero. This command does not reset the switch and does not affect the following counters: • Counters required for Layer 4 and Layer 7 operation (such as current real server sessions). • All related SNMP counters.
	Clear Flash Dump [8]	Clears the dump region of the flash memory. Dump information contains internal switch data.
	Close	Closes the selected switch.
	Delete	Deletes the switch entry from the Alteon EMS tree.
	Tear-off	Tears off the selected window.
	Collapse All	Collapses the tree to show only the switch or Application root from the selected tree node.
	Expand All	Expands the tree to show all nodes and subnodes.

1. The Reset feature is available only on Alteon Application Switches.
2. The Cold Reset Switch feature is available only on Alteon 180 or AD series web switches
3. The Warm Reset Switch feature is available only on Alteon 180 or AD series web switches.
4. The Diff Config feature is available only on Alteon Application Switches.
5. The Diff Flash feature is available only on Alteon Application Switches.
6. The Configuration Dump feature is available only on Alteon Application Switches.
7. This feature is available only on Alteon Application Switches.
8. The Clear Flash Dump feature is available only on Alteon Application Switches.
9. This is applicable to the Alteon Application Switch running Alteon OS 22.0.1.0 or higher.

Help Menu Options

The Help drop menu provides access to Contents, Online Support, and Legend. The descriptions follow:

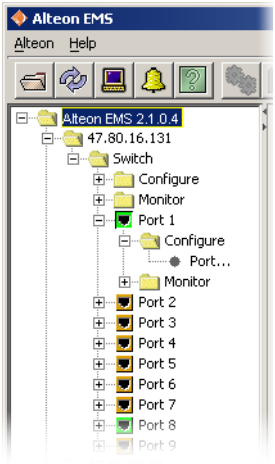
Table 5 Help menu options

Menu	Description
Contents	Opens *Using the Alteon Element Management System* (this document).
Online Support	Provides contact to technical support by connecting to the Nortel Networks Customer Support Web page.
Legend	Defines the colors of the ports. green: Up red: Down orange: No Link cyan: Standby blue: Testing gray: Unmanageable Pink: Loopback
About Alteon EMS	Brings up a window that displays information about the switch devices and minimum software versions that are supported.

Tree Control

The tree control displays all the devices you have opened in the past.The tree hierarchy is nearly identical to the menu system, to allow ease of navigation.

Each switch node is represented with a folder icon. Each port is represented with a port icon. A gray dot indicates a terminal node.



To navigate the Alteon EMS tree:

1. Left-click on any of the nodes to open and view its related window.
2. Right-click on any of the nodes to display a pop-up menu that allows you perform operations related to that node.

See also:

- "Application root pop-up" on page 32
- "Switch root pop-up" on page 33
- "Switch tree pop-up" on page 34
- "Port pop-up" on page 35
- "Tree Preferences" on page 36

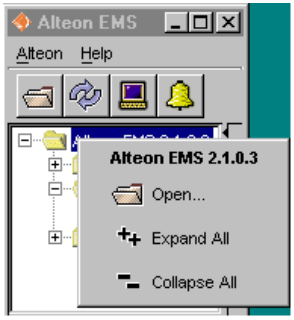
Pop-Up Menus

Pop-up menus are available by right-clicking on any of nodes or windows in Alteon EMS. The pop-up menus provide immediate access to commands for the switch or the ports.

To access functions for the switch, right-click any part of the front panel of the switch.

Application root pop-up

Right-click the application root to view the available pop-up menu choices for the Alteon EMS application.

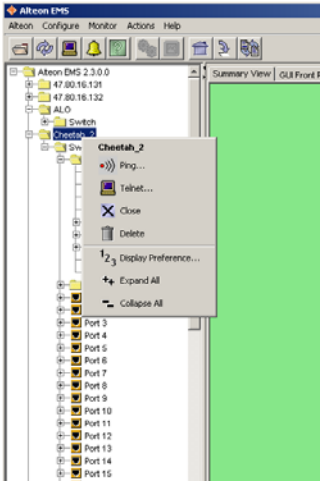


See also:

- "Expand All" on page 27
- "Collapse All" on page 27

Switch root pop-up

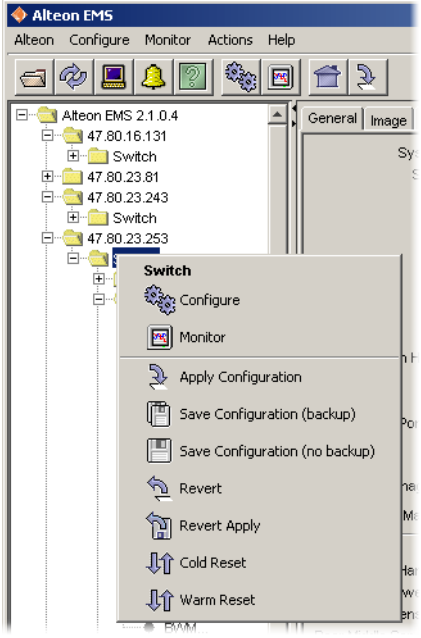
Right-click the switch root (the folder showing the switch IP address or name) to view the available pop-up menu choices.



- Ping: Sends an ICMP packet to the selected switch to see if it is reachable on the network.
- Telnet: opens a Telnet window to the selected switch.
- Close: Closes the switch and all associated windows.
- Delete: Deletes the switch entry from the Alteon EMS tree.
- Display Preferences: The user may also display preference for a single node by modifying the display preference of a node using the right-click pop-up menu.
- Expand All: recursively expands the tree contents to show all nodes and subnodes.
- Collapse All: recursively collapses the tree to show only the switch or Application root from the selected tree node.

Switch tree pop-up

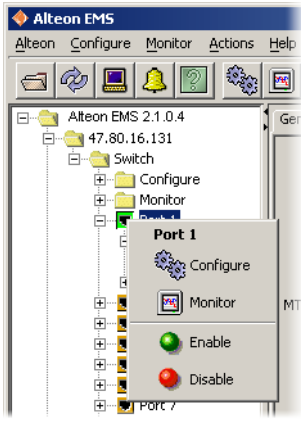
Right-clicking on the Switch tree node to view the available pop-up menu choices for the selected switch.



Port pop-up

To access functions for one port, right-click the desired port and select the desired function in the pop-up window.

- To select nonadjacent ports, hold the Control key down and select the desired ports with your mouse.
- To select adjacent ports, select the first port. Then hold the Shift key down and select the last port



Tree Preferences

This feature allows you to set the Tree Node preferences for sort and display functions and allows you to set the order of precedence in which the sort and display functions can be performed.

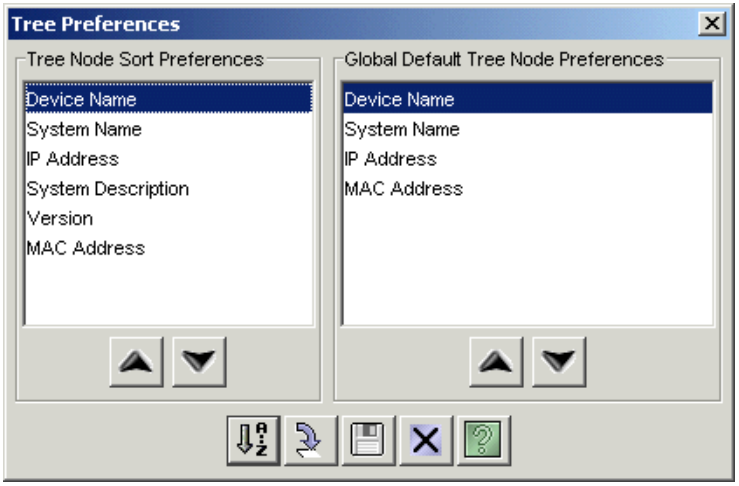


Select Tree Preferences from the menu bar and change the order of sort and display if you need to, using the up and down arrows.



Click on this button to sort the tree nodes and save the changes.

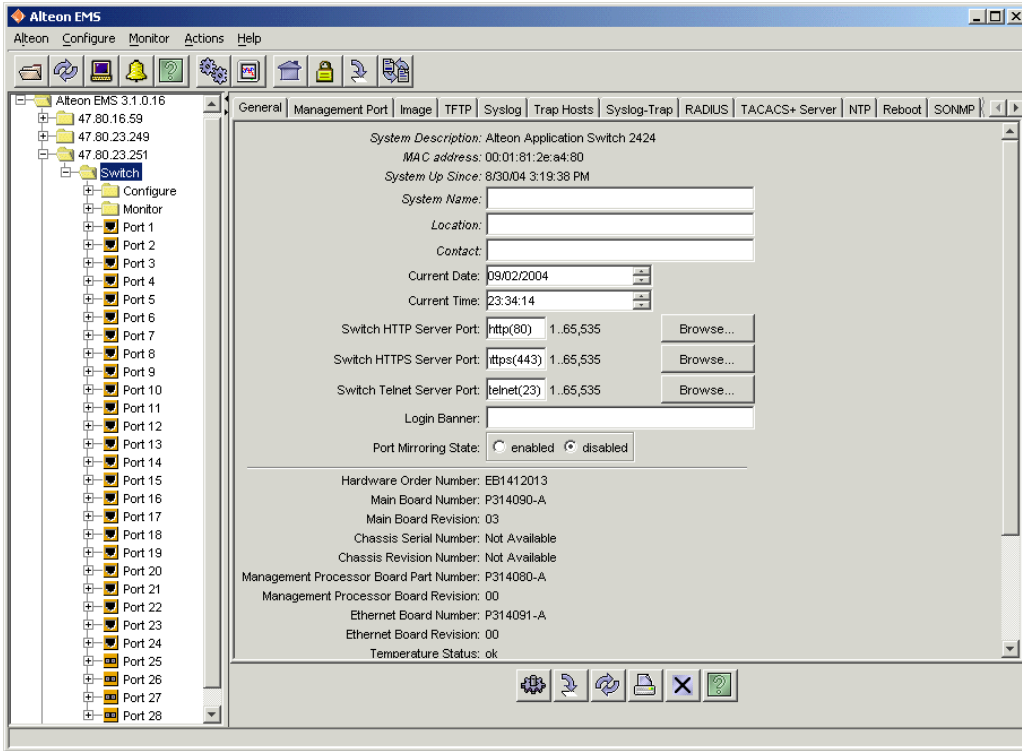
You can sort or display the tree node as and when required. The changes will not take effect unless the switch is re-opened or Alteon EMS is restarted.



Viewing a Dialog Panel in the Switch

To view a particular dialog panel in the switch:

1. Click on an object in the Tree Control window to view its contents in the panel on the right.
2. Select a tab to view a sub-topic window.



Understanding text and backgrounds

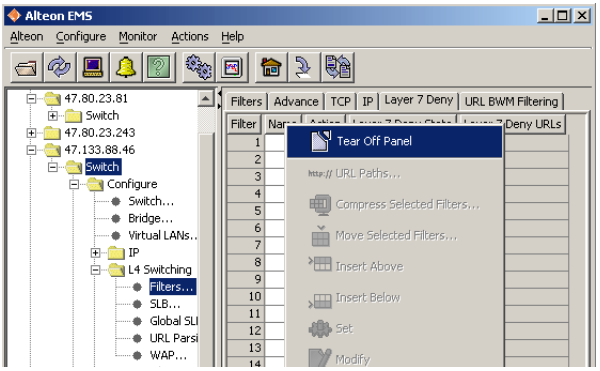
- Labels that are *italicized* indicate variables that take effect immediately on clicking on **set** and do not require an **apply** to update the configuration.
- Text appears in **boldface** when you enter or modify data in a field.
- Fields that appear with a white background can be edited.
- Fields that appear with a gray background are read-only (cannot be edited).

Tearing off a dialog panel

Right panels can be "torn off" from their windows and left in the foreground to keep the information visible and accessible when you open other windows. This feature is useful when you want to compare information between two or more switches, or if you want to keep a particular monitoring panel open.

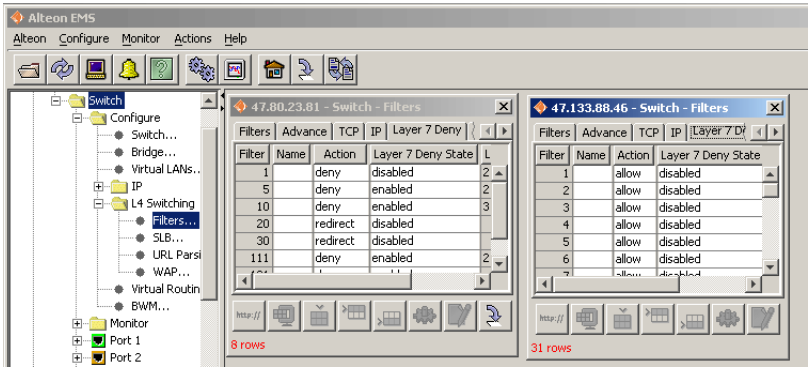
To compare a particular configuration on two switches, do the following:

1. Right-click in the right panel of the desired window and select **Tear Off Panel**.



2. Open another switch and tear off the same panel.

3. View the panels side-by-side to compare information.
   If desired, you may change the settings in one panel according to settings in the other panel.





Note: If a torn off window is left open when you quit the Alteon EMS, that window will be brought up with the same size and position the next time you open Alteon EMS.

To continue, go to:

- "Closing an undocked panel" on page 40
- "Docking a dialog panel" on page 41

Closing an undocked panel



To close an undocked panel, click on the Close button.

This button also functions as "Close and Re-Open" on docked panels. Clicking this button on a docked panel will reinitialize all entries in the fields.

Closing an undocked (torn off) dialog panel means that the dialog and all of its associated panels are closed and removed from memory.

For example, you have torn off the VLAN Memberships tab. If you close this panel, the dialog panel display on the right will be blank. To redisplay the VLAN Membership tab as "docked" in the dialog panel display on the right, simply click onto another tree node and then click back to the Virtual LANs... node. Or you can select this command from the menu.

When should I close a panel?

You may wish to close an undocked Monitor panel after you have made a configuration change on the switch. The data on a Monitor dialog will not show the current configuration until the panel is closed. To view the panel again, click on the tree node to display the panel in the docked position.

What happens when I hit on the apply button?



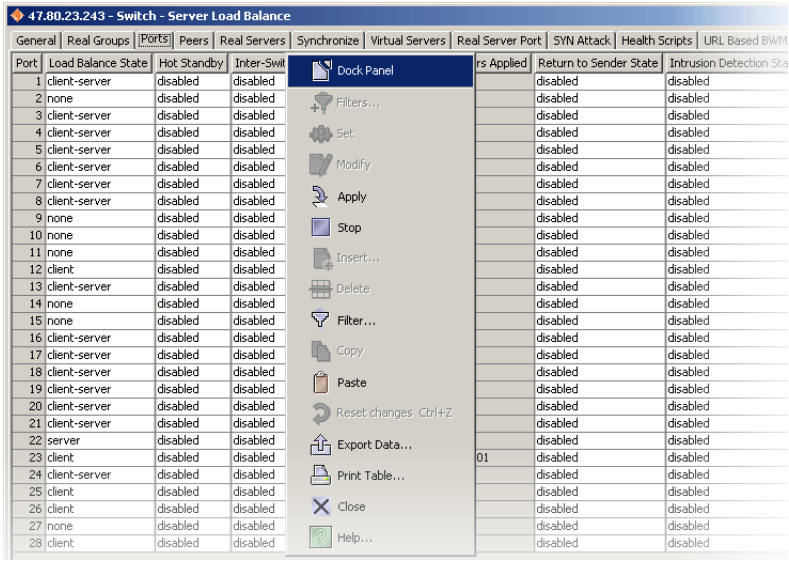
When you hit on the `apply` button, all dialog panels that are not displayed will close and the ones that are displayed will close and re-open. All torn off dialog panels will close. All monitor windows will close forcing re-synchronization. All associated graph windows will also close.

If you hit on the `apply` button from a wizard (from the Intelligent Traffic Management system or the Link Load Balancing system), all configure and monitor windows will close.

Docking a dialog panel

A torn-off panel may be docked back into its original window. To re-dock a panel, right-click in the panel and select **Dock Panel**.

If you mistakenly closed the panel using the Close button, read the instructions on page 40.



Configuring the Switch

This section provides an overview of configuration tools.

Information of how to access the device for configuration is available in the Pop-Up Menus, Menu Bar, and Tool bar buttons sections. For detailed information about configuration commands, select the Help button in the particular window.

Configuration Tools

Table 6 Configuration Tools

Function	Description
Browse buttons	Some fields in editable forms will have browse buttons associated with them. Click on a Browse button to help you configure the switch with a list of pre-defined or known parameters. For example, in the case of ports and protocols fields, the user is displayed with well-known ports and protocols. The user may modify this list by editing the ports.properties and protocols.properties files.
Set	The **set** operation causes the changed field values to be set into the New Configuration of the switch. These changes will not take effect until they are applied.
Apply	The **apply** operation causes the entire New Configuration to be copied to the Current Configuration. This causes the switch to operate with the new settings. At this point, the New and Current configurations are identical. Italicized labels indicate variables that take effect immediately. They do not require an **apply** to update the configuration.
Refresh	The refresh operation causes the panel to retrieve the data from the switch and update the display. Any changes made to the GUI that was not saved with a **set** are now gone. Also, any changes made to the configuration by another user are picked up and displayed.

Working with tables and forms

EMS displays five types of tables and forms:

- Edit Tables and Edit Forms
- Poll Tables and Poll Forms
- Graph tables

This section will discuss tables and forms that can be edited. Poll tables, poll forms, and graph tables are discussed in the section, "Monitoring Performance" on page 51.

Copy and Paste

You can copy manually entered data from one cell and paste the data to another cell. Use the following icons:



Copy

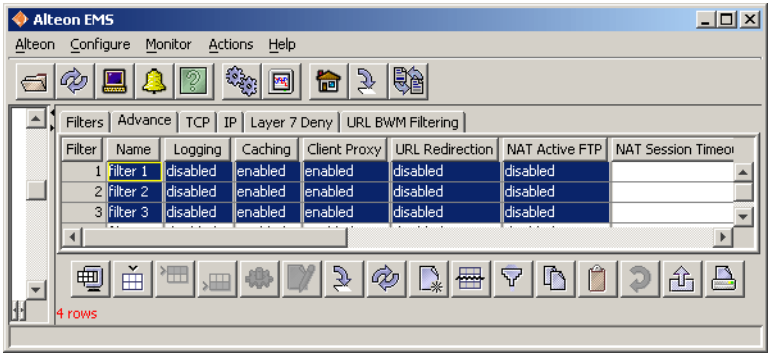


Paste

Pasting into multiple rows: You can copy a *disable* string and paste it in multiple rows that accepts the string with a single click. Simply select the rows of a single column and click the paste button. All the selected rows of that column will be changed to *disable*.

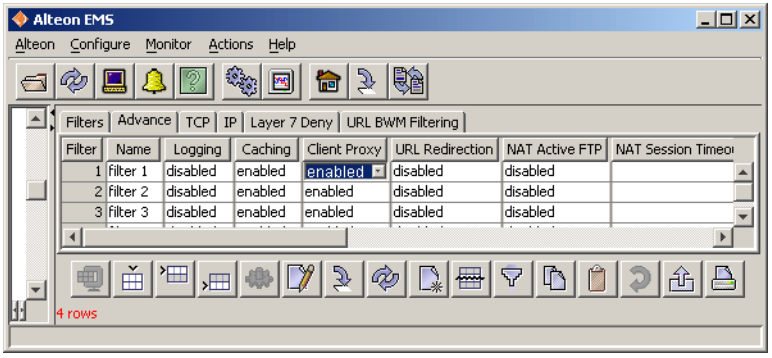
Selecting a group of cells with the Marquee

To edit a group of cells, use the Marquee selection. Hold the left mouse button and drag across the desired cells. The selected cells can be copied or pasted. The following screen shows data being copied from a group of cells.



Drop Down Menus

A drop-down menu is available for items that have a fixed set of parameters. The drop down menu appears when you click the cell. To configure the setting, select the desired feature. The following screen demonstrates how to enable Client proxy filtering.



Drag (ctrl-c) and Drop (ctrl-v)

Edit Forms

Using two similar editable forms on different switches, you can click and drag the form from one switch onto another switch. All the editable fields in the second form will contain changed data from the first form. You may then make changes and do a **set** and **apply**. If you drag the data to a text application the data from all the fields are copied as text into the application.

Edit Tables

Similarly, you can perform the drag and drop action on two similar editable tables on two different switches where only selected data is copied. The data of the new table will change to reflect the rows and columns that were dragged to it. If the dragged data contains four rows of information and the new table contains only three, then a new row with data is created in the second table. You may then make changes and do a **set** and **apply**. Note that if the dragged and dropped data is default, then the agent will not recognize the new row as a new row. Refreshing the window will cause the default rows to disappear. This feature is controlled by indexes. You may then make changes and do a **set** and **apply**. If you drag the data to another application the selected data is treated as text.

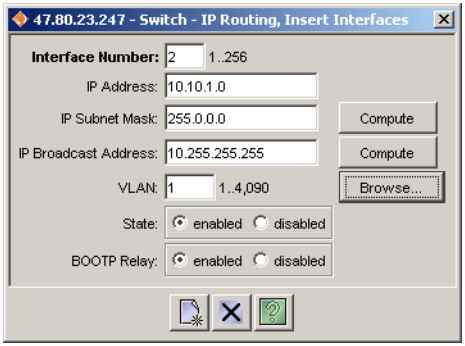
Insert button



Insert data by clicking the **Insert** button. Clicking the Insert button opens a separate window in which you will enter data that will appear in the Edit table. Examples are tabs such as IP Routing Interfaces, VLANs, Gateways, and Layer 4 Filters.

After entering the data, click the **Insert** button to save the configuration. If you do not want to save the changes, click the Close button.

The following figure is an example of an Insert Interface dialog:



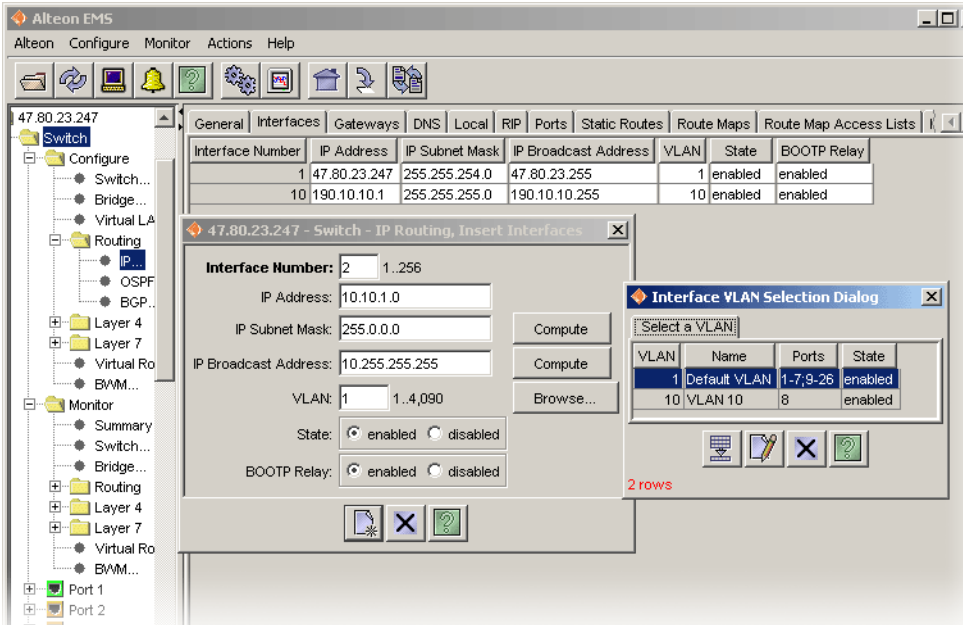
Browse and Modify buttons

In some Insert windows, **Browse...** buttons allow you to open a Selection Dialog window and choose which configured parameters you wish to enter into data fields.

Once you have selected the data in the Selection Dialog window, click on the **Modify** button to make the change active back in the Insert window.

For example, the following figure shows how you can select the **Browse...** button in the Insert Interface dialog to open the Interface VLAN Selection Dialog. Select the desired VLAN and click on the **Modify** button.

You can edit tables where a field has an attached browser. Double-click on the cell to open the browser.



Now click on the **Insert** button in the Insert window to save the configuration back to the table. If you do not want to save the changes, click **Close**.

Delete

Deletes a row of data by clicking the **Delete** button. Select the Index number(s) of the desired row(s) and click the **Delete** button.

Filtering table data

Click on the Filter... button to create a Table Filter, which allows you to view items in a table based on selected criteria.

Building a filtered view of table data

When a table contains multiple entries (such as 500 configured filters), you can set which items or parameters to view by building a filtered table. Click on the **Filter...** button on any table screen to open a Table Filter window.

To build a filtered table, perform the following tasks:

1. Select a field from the "Column" drop-down list.
2. Select an operator from the "which" drop-down list.
   The operators are "CONTAINS", "IS GREATER THAN", "IS LESS THAN", "EQUALS" and "DOES NOT EQUAL". "CONTAINS" always uses the string type.
   The operators depend on the column's variable type along with the value type. For example, if the column is an enumeration type that is based on an enumeration MIB type, entering a number in the value field will compare enumeration numbers instead of string types. If the value type is a string, it will use the label of the enumeration type for comparison, instead of the number.
3. Enter value into the "value" field.
4. Select "AND", "OR" or "END" from the last drop-down list.
   The "AND" or "OR" operations go in the order of the statements from top to bottom. Use these various operators with "AND"/"OR" to form more complex filters.
   An "END" operation will terminate the filter, even if it is not the last filter statement.
5. Click the **Add** button.
6. Add additional filter criteria statements to narrow the table.
7. Select a row in "Display rows where:" list, make a modification and select the replace button to modify a filter statement in the list.
8. Select the **Remove all** button and **Filter** to return to the unfiltered table.
9. Select a row in "Display rows where:" list, select "Remove" button to remove a filter statement from the list.

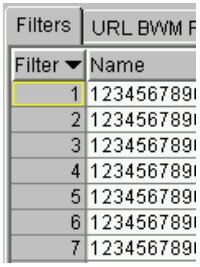
Modify

Opens an Insert/Modify dialog window that contains the row information as defaults.

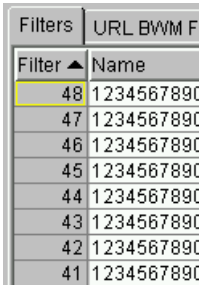
Sorting table data

EMS allows you to sort rows based on the columns you have selected. Initially, the rows are sorted by columns 1, 2, 3, and so on. But as the user sorts the columns, the sorting is changed by the last column sorted. For example, if the user clicks on column 1, 2, and 3 in that order, the sorting preference will be 3, 2, 1.

1 To sort a column of data, click the title of the desired column.
The following figure shows a table of filters that are sorted in ascending order.



2 To sort in descending order, click the column title again.



3 To sort on the second column, click column title 2.

Monitoring Performance

This section provides an overview of performance monitoring. For detailed information about commands, select *Help* and *Contents* in the Alteon EMS menu bar.

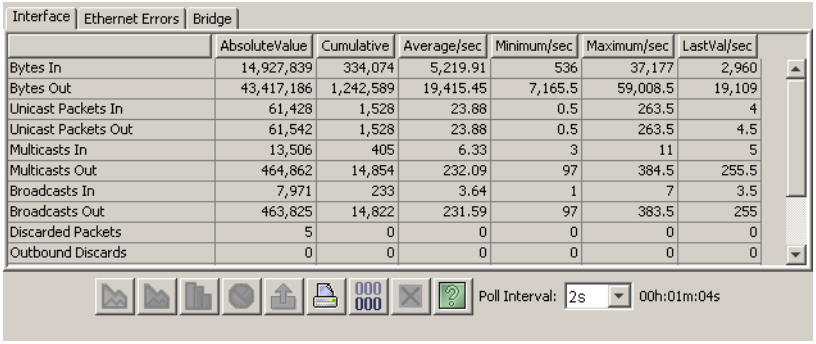
Information of how to access the device for performance monitoring is provided in Pop Up Menu, Menu Bar, and Tool Bar sections.

EMS allows you to view the monitored data in poll tables, poll forms, and graph tables. Monitoring data in poll tables and forms are discussed in the following section.

Polling Data

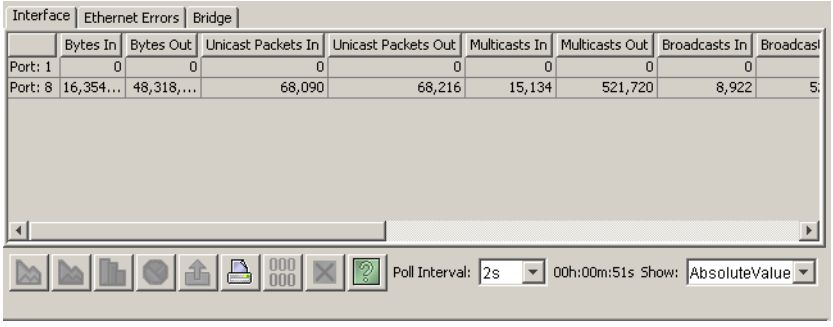
Monitored data is displayed in tables and forms. The data in the fields are updated and displayed at intervals determined by the Polling Interval setting. The polling intervals can be adjusted from 2 seconds to 60 minutes. Select the desired rate at *Poll Interval*, which appears on bottom panel of a monitoring screen.

The following screen shows the data of one selected port. In this example, the data is displayed as Absolute, Cumulative, Average, Minimum, Maximum, and Last Value.The table is updated every 2 seconds.



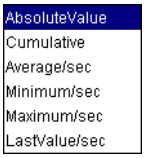
The close button on docked tables and forms will close and reopen. Closing a torn-off (undocked) window will free up resources.

1. To view data for multiple ports, hold down the Ctrl key and select the desired ports.
2. Right-click on the last selected port and choose Monitor.
   The following screen shows data for ports 1 and 8.



Rates

Because more than one element was selected, only one type of *average* value can be displayed. The averaging method can be selected in the *Show* drop down menu.



All values are listed as Absolute Value, Cumulative, Average/sec, Minimum/sec, Maximum/sec, and Last Value/sec.

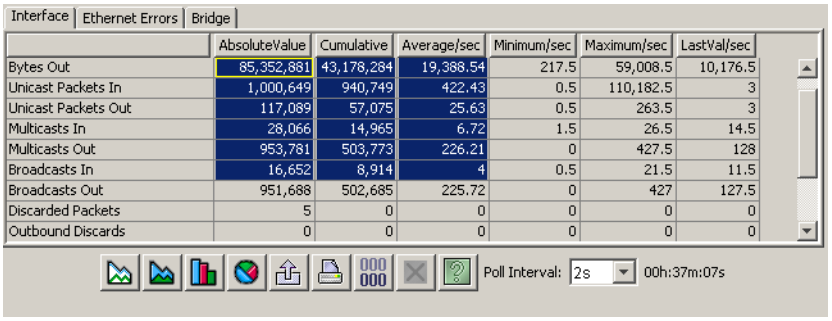
- Absolute Value is the value received from the switch.
- Average/sec, Minimum/sec, Maximum/sec are rates; i.e. the average of the cumulative divided by the number of seconds of the time in the button bar. These rates are collected based on the time interval the window was opened or since the last time clear counter was selected.
- Last Value/sec is the average of the current value and the last value received, based on the poll interval.

Graphing Data

The data can be viewed as a graph. Because the displayed data is real time, you can set the measurement interval. Graph table does not reflect the changed data.

To view data in a chart:

1 Select the desired data.
NOTE: After the data has been selected, the graph buttons on the bottom of the window are enabled -- they are no longer disabled.



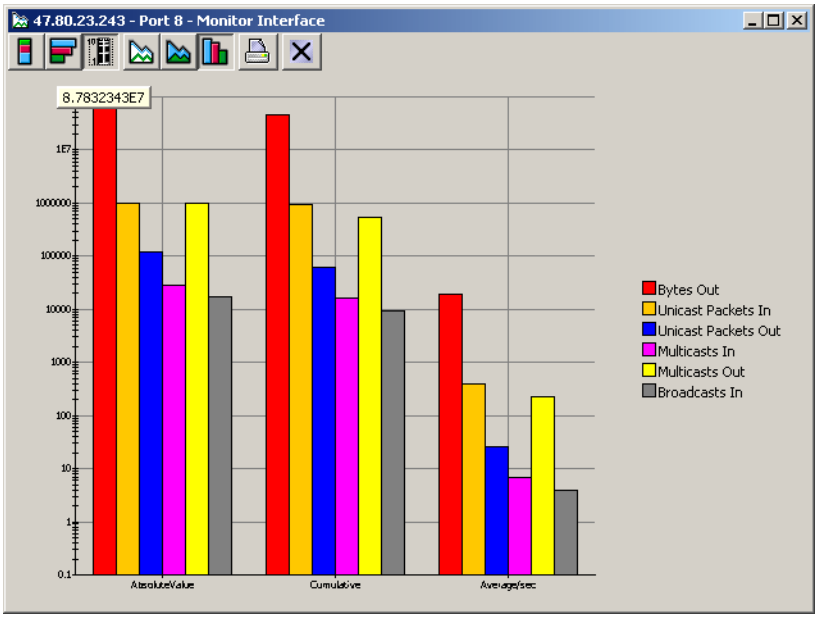
	AbsoluteValue	Cumulative	Average/sec	Minimum/sec	Maximum/sec	LastVal/sec
Bytes Out	85,352,881	43,178,284	19,388.54	217.5	59,008.5	10,176.5
Unicast Packets In	1,000,649	940,749	422.43	0.5	110,182.5	3
Unicast Packets Out	117,089	57,075	25.63	0.5	263.5	3
Multicasts In	28,066	14,965	6.72	1.5	26.5	14.5
Multicasts Out	953,781	503,773	226.21	0	427.5	128
Broadcasts In	16,652	8,914	4	0.5	21.5	11.5
Broadcasts Out	951,688	502,685	225.72	0	427	127.5
Discarded Packets	5	0	0	0	0	0
Outbound Discards	0	0	0	0	0	0

2 Select one of the chart styles and the graph will appear.
The available styles are Line Chart, Area Chart, Bar Chart, and Pie Chart. The following screen is an example of a vertical bar chart with a logarithmic scale.

Graph Table

Graph tables are allowed to graph whereas you can only sort and not graph the Poll tables.

Note: You cannot filter a graph table.



Altering the chart display

The options are Stacked, Horizontal, Log Scale, and Vertical (*Bar Chart*). The options available depend on the type of chart that has been selected.

Table 7 Types of chart display

Type of Chart	Options
Line Chart	Horizontal, Log Scale, Vertical
Area Chart	Stacked, Horizontal, Log Scale, and Vertical
Bar Chart	Stacked, Horizontal, Log Scale, and Vertical
Pie Chart	None: A Pie Chart can only accept one dataset, such as a single row or a single column of data.

Exporting Data



Data can be exported to a text file in tabular format. Select the desired data fields, click the **Export** button, then specify the location and the name of the file. The selected data will then be exported to the specified file.

Printing Data



To print the contents of any view, click the **Printer** icon.

Customizing the EMS Display

The Alteon EMS program is designed to be run as-is. However, you may customize the appearance of some fields and browser windows in Alteon EMS. Changes will not affect the functioning of the switch, only the *appearance* of the switch in the Alteon EMS program. The following **.properties** files, which are located in the properties directory under the AlteonEMS program directory, may be edited with a simple text editor.

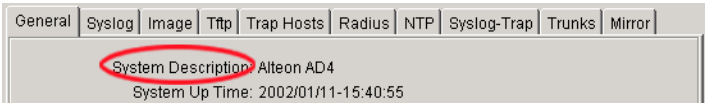


Caution: Make sure to save the original **.properties** files in a secure location before attempting to modify the settings in any of these files. You may restore the original **.properties** files and re-start Alteon EMS if you want to revert to the original configuration. If you perform modifications to **.properties** files other than those described below, you risk damaging the program.

Modifying Fields and Browser Windows

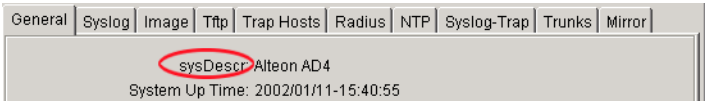
The **alias.properties** file shows the correspondence between MIB variables and the description that appear in fields and browser windows. To edit the fields, only change the description to the right of the equals sign, not the variable name on the left.

sysDescr=System Description



Altering the variable on the left will cause Alteon EMS to display the original variable name (e.g. `sysDescr:`) upon the next start-up of the program. This is because *aliasing* of the variable to the name has been broken, and the program uses its default value instead of the alias.

syssDescr=System Description



The **alias.properties** files are located in the AlteonEMS program folder in the following directories:

- Alteon 180 or AD series web switches: **AlteonEMS\properties\tigon**
- Alteon 2000 series application switches: **AlteonEMS\properties\aws24**

Modifying the list of well-known ports

The **ports.properties** file lists the well-known ports. You may add well-known ports to this list, or remove lines for those ports you never use. For a list of the Well-known ports that are used with Alteon switches, see the your *Alteon OS Command Reference*.



Note: Changing the port numbers in the ports.properties file is not recommended for most users. Modifying the port numbers will cause Alteon EMS to misrepresent the port. For example, if you change `http=80` to `http=443`, Alteon EMS will display actual SSL traffic on port 443 (HTTPS) as HTTP.

Modifying or adding Well-known Protocols

The **protocols.properties** file lists well-known protocols. You may add other well-known protocols to this list, or remove lines for those protocols you never use.



Note: Modifying the protocol numbers is not recommended for most users.

The **protocols.properties** file is located in the properties folder in the AlteonEMS program folder.

Altering the Default Browser

Alteon EMS has Netscape as the default browser. You can configure EMS to use a different browser other than Netscape if you are working in an environment other than Windows. If the desired browser is already in the path, then you only need to specify its name. But if there is no browser in the path, specify the full path and the application's name. Perform the following tasks to do this:

- Open the **dm_ui.properties** file located in the **<install directory>/properties** directory.
- Locate the line **`"#BrowserApp=netscape"`** towards the bottom of the file.
- Uncomment the line by deleting the # sign at the beginning of the line.
- Replace "netscape" with the name of the browser you intend to use and the path to the application on your system.

Localization of EMS

You can localize the EMS display to be more friendly to your local language. You need to save the alias.properties file in Latin-1 and/or Unicode-encoded (\udddd notation). Perform the following to configure EMS to your locale:

- Copy alias.properties file to **alias_<temporary name>.properties** file.
- Open **alias_<temporary name> .properties** file in a text editor such as notepad.exe on Windows platform.
  (Modify the string after the equals sign to the localized string. Do not modify the string before the equals signs.)
- Save the file in UTF8 format.
- Run: native2ascii -encoding UTF **alias_<temporary name>.properties alias_<language code>_<country code>.properties**

(native2ascii is a Sun JAVA Development tool that they can download from java.sun.com Website.)

Changing the MIB default values

The **mibDefault.properties** file allows you to enter default values for MIB variables. These defaults will override the factory defaults.



Note: Modifying the MIB default values is not recommended for most users.

The **mibDefault.properties** files are located in the AlteonEMS program folder in the following directory:

AlteonEMS\properties\tigon

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